

India Infrastructure Sector

An undeniable growth opportunity constrained by fiscal stress



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India Infrastructure sector

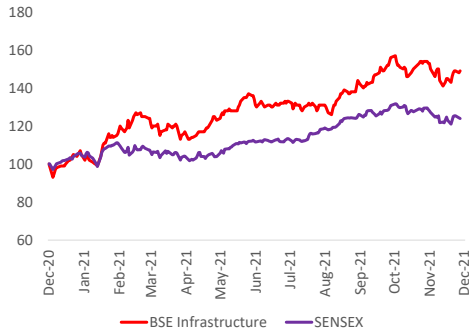
20 December 2021

SECTOR REPORT

Industry

Infrastructure

BSE Infrastructure v/s BSE Sensex



Source: Bloomberg, Systematix Institutional Research

Sector recommendations

	CMP (Rs)	TP (Rs)	Upside (%)	Reco
L&T	1,866	2,287	23	BUY
NJCC	75	132	75	BUY
KNRC	294	356	21	BUY
PNCL	295	356	21	BUY

Source: Systematix Institutional Research

An undeniable growth opportunity constrained by fiscal stress

Infrastructure development is the need of the hour for India to achieve its USD 5trn GDP target by 2025. While the government has spent heavily through budgetary allocations over the past few years, challenges on the fiscal front constrain an all-out infrastructure capex-driven stimulus. The centre has launched an ambitious plan of spending Rs 111trn through the National Infrastructure Pipeline (NIP). It has unfurled other initiatives such as 'Make in India' and the production-linked-incentives (PLI) scheme to boost India's competitiveness globally, which also calls for an infrastructure upgrade. We estimate the overall infrastructure capex to grow at a CAGR of 11.4% over FY21-26E – primarily due to spending on water supply, transport and urban infrastructure, against the 19.4% CAGR witnessed over FY13-19. Smaller niche players with specific exposure to these segments are a better play on the opportunity than larger diversified players that are more exposed to economy-wide slowdown. NCC Ltd (NJCC) is our top pick in the sector for its inexpensive valuations juxtaposed against a significantly improved balance sheet (0.25x net D/E as of Sep-21) and strong order backlog (4.5x TTM book: bill). We recommend BUY on Larsen & Toubro (L&T), KNR Construction (KNRC) and PNC Infratech (PNCL).

Infrastructure deficit directly impacts India's global competitiveness

India's ambitious growth targets depend heavily on its infrastructure upgrade. On the World Economic Forum's Global Competitiveness Index, India ranks 72 on road connectivity and 105 on electricity access. This implies that the infrastructure bottleneck is a primary constraint to improving its global competitiveness. Growing population and rapid urbanization further highlight the need for investment in infrastructure.

The government hopes to spend ~Rs 111trn over FY20-25 to meet this deficit

Against an annual run-rate of <Rs 5trn during the 11th Five Year Plan (FYP; FY08-12) and Rs 7.2trn during the 12 FYP (FY13-17), India swiftly ramped up infrastructure spending to ~Rs 10trn p.a. levels over FY18-19; a slowdown followed due to rising fiscal stress and pandemic impact. The centre hopes to spend ~Rs 111trn over FY20-25 through the NIP; this seems over-ambitious but still lays a solid foundation for a curated pipeline of projects to focus on.

Fiscal stress a concern but YTD FY22 trends on revenue buoyancy encouraging

Immediately after the COVID-19 pandemic, India's debt and interest levels (especially for the states) approached alarming levels last seen in 1999-2002 (as a % of government revenue collections). The worst now seems behind with strong revenue buoyancy in YTD FY22 led by robust GST collections and overall sentiment improvement. This is also reflected in a strong pick up in government spending YTD FY22 – centre and state TTM capex is up 40% YoY and above the FY19 levels. We estimate overall infrastructure capex to grow at a CAGR of 11.4% over FY21-26E vs. 19.4% CAGR over FY13-19.

We initiate coverage on L&T, NJCC, KNRC and PNCL with a BUY rating

L&T, NJCC, KNRC and PNCL have delivered exceptional performances consistently for an extended period in a sector difficult to survive and generate OCF/FCF. NJCC is our top pick as it has deleveraged significantly (to be almost debt-free by FY24E) and has a strong order backlog (4.5 TTM book: bill); it is also the most inexpensive stock in the pack.

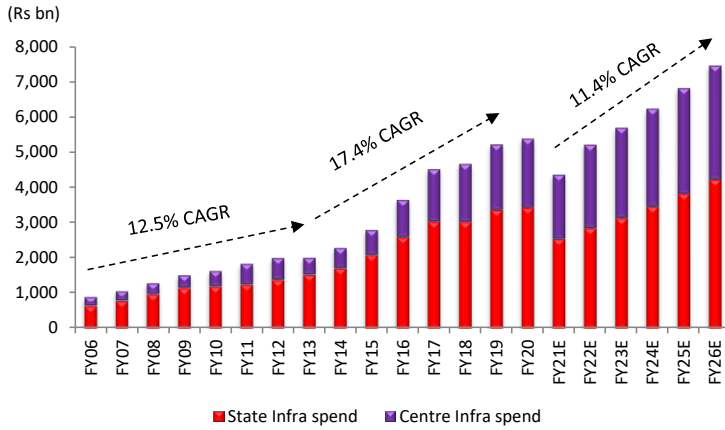
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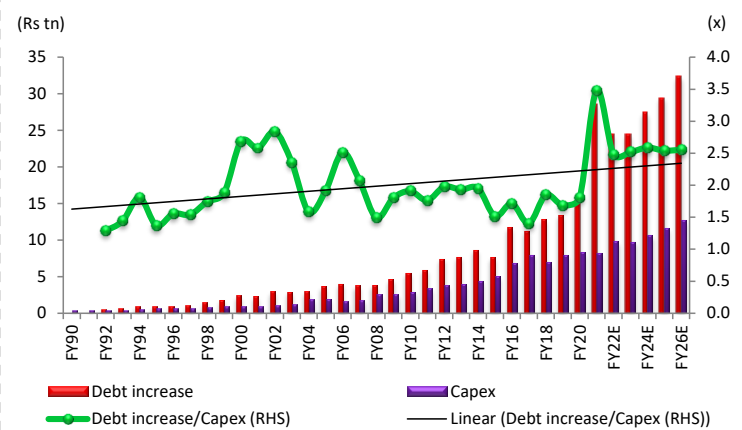
Story in Charts

Exhibit 1: Infrastructure spending trajectory likely to slow modestly over FY21-25E; 11.4% CAGR still reasonable



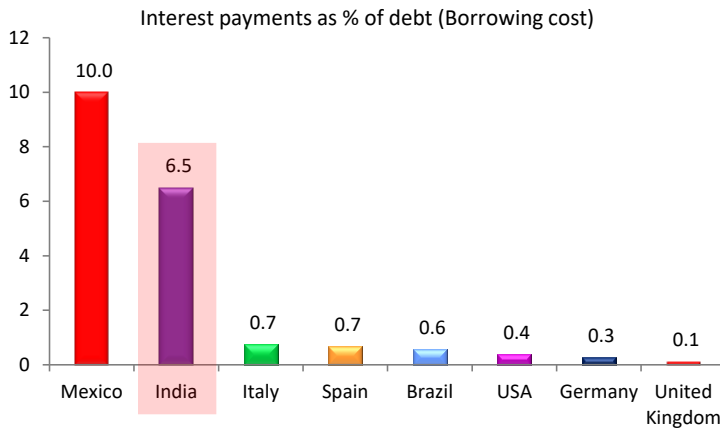
Source: CMIE, Systematix Research

Exhibit 2: ...as increasingly, debt is being used to fund government revenue deficit and capex



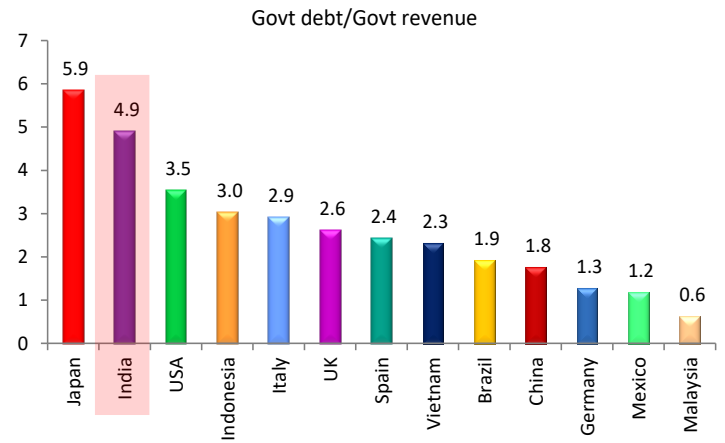
Source: CMIE, Systematix Research

Exhibit 3: A large part of India's revenues used to service debt...



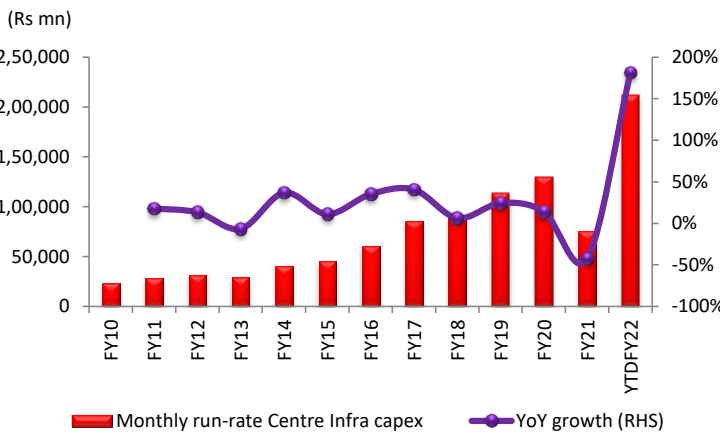
Source: CMIE, Bloomberg, Systematix Research

Exhibit 4: ...as its debt/revenue is amongst the highest globally



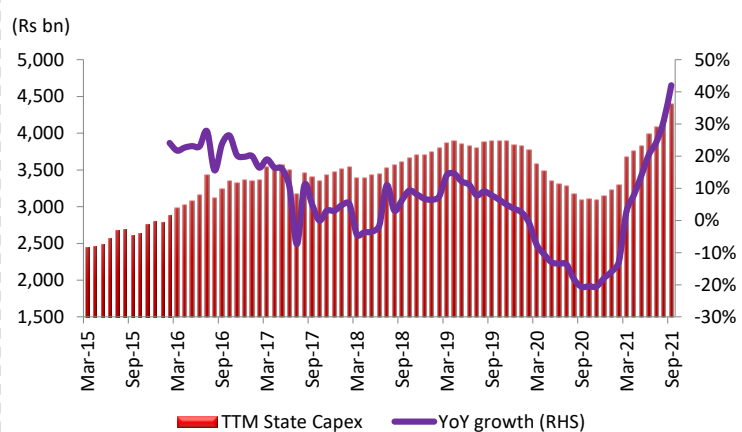
Source: CMIE, Bloomberg, State Budgets, Systematix Research

Exhibit 5: However, YTFY22 capex by the centre is up sharply on a low base as the government has chosen to spend



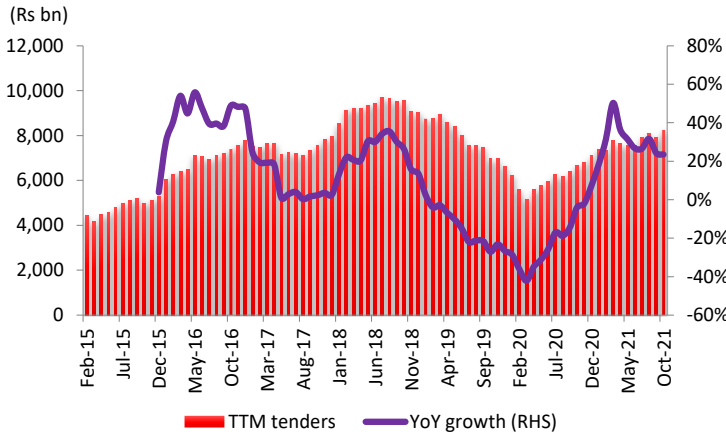
Source: CMIE, Systematix Research

Exhibit 6: State capex has also turned sharply positive on a TTM basis



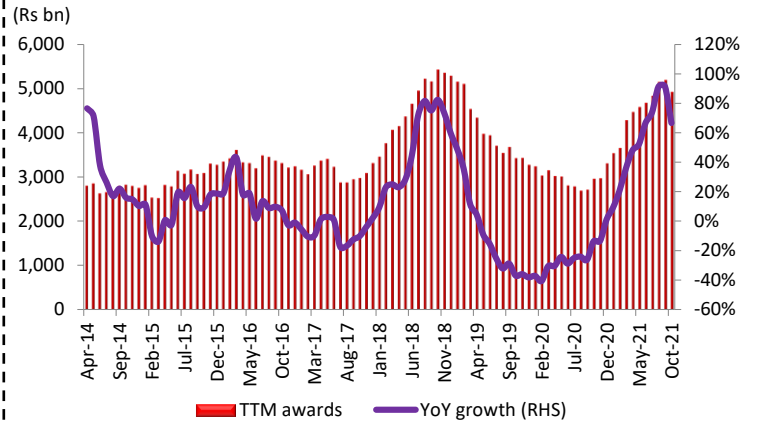
Source: CAG, Systematix Research

Exhibit 7: Tender data too suggests sharp pick up on a TTM basis...



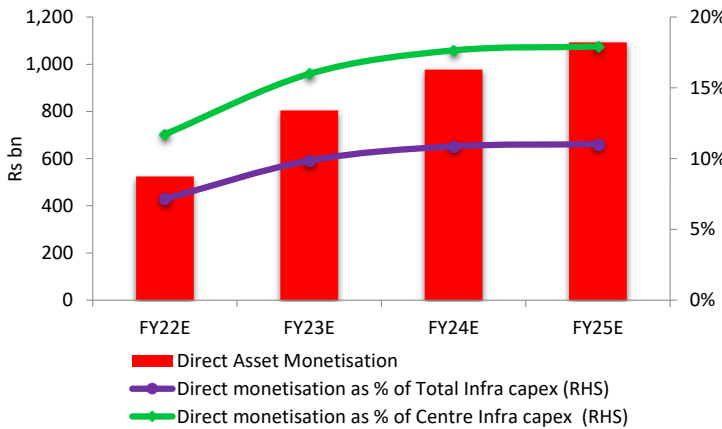
Source: Projects Today, Systematix Research

Exhibit 8: ...while award data is almost close to the previous peak



Source: Projects Today, Systematix Research

Exhibit 9: Asset monetization could fund 20% of centre's capex



Source: Niti Aayog, Systematix Institutional Research

Exhibit 10: Sector orderbook: bill ratio is on an uptrend



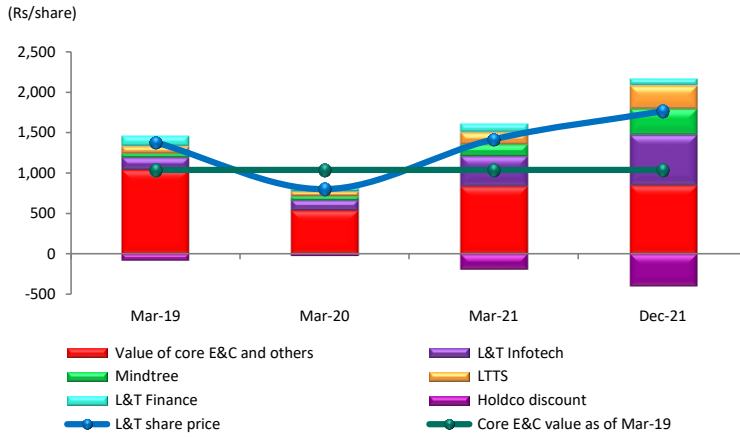
Source: Company, Systematix Institutional Research

Exhibit 11: Within the infrastructure sector, PNCL/KNRC/Ashoka/GR Infra standout for OCF/FCF generation and negligible interest cost

(Rs mn)	Market Cap (Rs bn)	Cumulative OCF-Interest		Cumulative FCF-Interest		Cumulative OCF as % of mkt cap		Cumulative FCF as % of mkt cap		Average Interest paid as % of EBITDA	
		FY12-21	FY18-21	FY12-21	FY18-21	FY12-21	FY18-21	FY12-21	FY18-21	FY12-21	FY18-21
NCC	46	(5,216)	2,608	(23,627)	(9,178)	-11%	6%	-51%	-20%	60%	42%
KNR Constructions	82	17,770	9,628	6,528	2,187	22%	12%	8%	3%	8%	7%
PNC Infratech	75	18,742	15,467	6,960	8,419	25%	21%	9%	11%	12%	10%
Dilip Buildcon	82	(30,432)	(18,210)	(68,983)	(34,723)	-37%	-22%	-84%	-42%	36%	36%
Ashoka Buildcon	27	18,704	11,090	12,562	7,241	69%	41%	46%	27%	13%	11%
GR Infra	169	20,036	15,025	227	(644)	12%	9%	0%	0%	9%	9%
HG Infra	41	7,737	6,599	(705)	718	19%	16%	-2%	2%	17%	15%
Sadbhav Engineering	7	4,562	4,495	(4,533)	2,452	62%	61%	-61%	33%	39%	43%
PSP Projects	19	2,946	1,634	99	(540)	16%	9%	1%	-3%	4%	4%

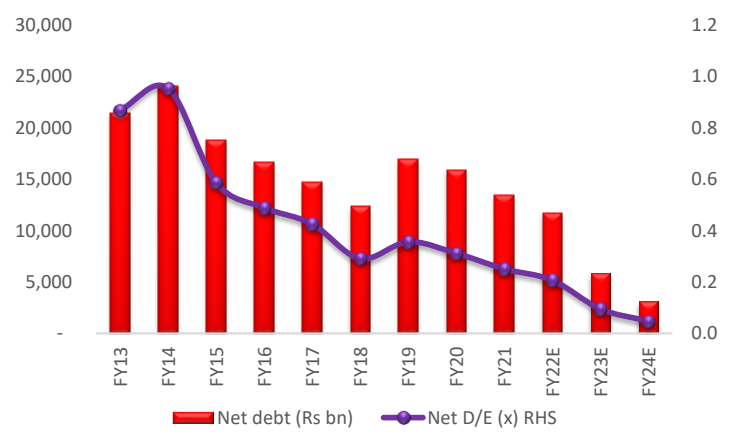
Source: Systematix Research, Company, Bloomberg

Exhibit 12: L&T – Core E&C value has declined in the past 2.5 years, while tech businesses have created value for its shareholders



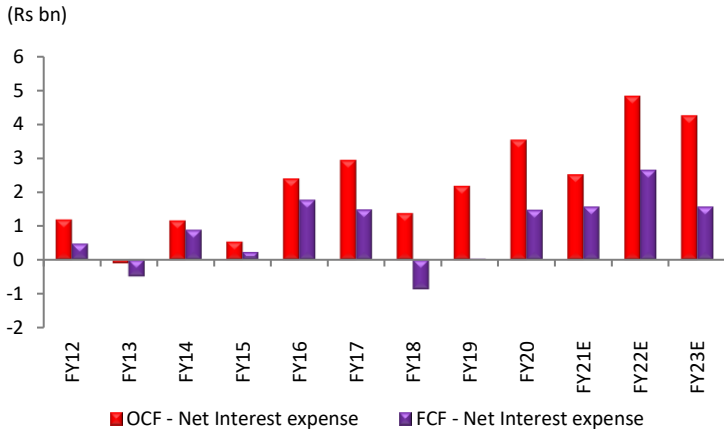
Source: Company, Systematix Research, Bloomberg

Exhibit 13: NJCC – worst seems behind as the company is on track to negligible debt by FY24E



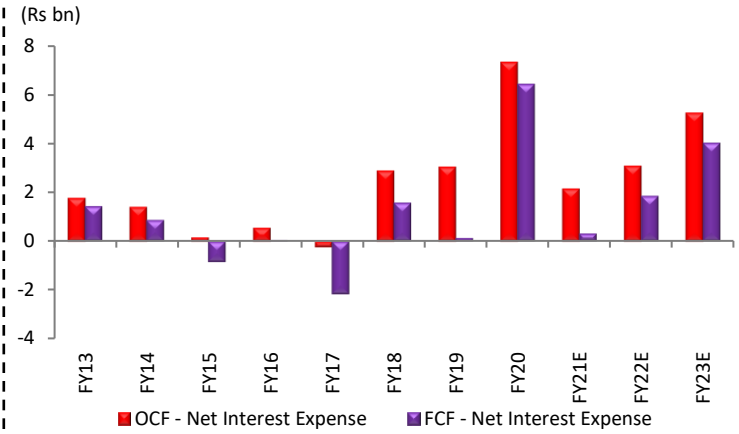
Source: Company, Systematix Research

Exhibit 14: KNRC is amongst the few to consistently generate positive OCF/FCF over the past 10 years



Source: Company, Systematix Research, Bloomberg

Exhibit 15: ...with PNCL being the other



Source: Company Systematix Research

Exhibit 16: Valuation comparison

Company	CMP (Rs)	Mkt Cap (Rs bn)	Rating	Target Price (Rs)	ROE (%)		P/E (x)		Dividend Yield (%)		FY21-23E CAGR	
					FY22E	FY23E	FY22E	FY23E	FY22E	FY23E	Sales	EBITDA
KNR Construction	295	83	BUY	356	18.7	19.1	21.6	17.6	0.2	0.3	23%	23%
Larsen & Toubro	1,866	2,621	BUY	2,287	12.5	14.9	26.3	19.9	1.7	2.3	18%	24%
PNC Infratech	289	74	BUY	347	13.3	13.9	18.0	15.2	0.4	0.7	14%	15%
NCC	75	46	BUY	132	7.0	8.9	11.8	8.7	1.7	2.3	21%	20%

Source: Bloomberg, Systematix Research

Infrastructure capex: Need of the hour for growth revival

Infrastructure is a growth enabler and critical for boosting the growth prospects

India has set a target of achieving USD 5trn in GDP by 2025. Supply-side reforms and investment in infrastructure are vital in achieving this target and increasing India's competitiveness in the global economy.

India's manufacturing competitiveness also critically depends on infrastructure development as it boosts the short-and-long-term potential rate of GDP growth, while at the same time it helps absorb labour, thereby boosting employment and income generation in the economy and further spurring domestic demand. Improved infrastructure capacities also create efficiency gains through advanced logistics and networks, which enhance the economy's competitiveness. This can help kick in a virtuous cycle of higher investments, growth and employment generation, which is much needed after the COVID-19-induced pause.

Historically, spending on transport, energy and water & irrigation has contributed to more than 80% of the infrastructure spending in the country. While these remain the key, future spending must consider the changing demographics and environment of the country. From housing provision to water and sanitation services & to digital and transportation needs, there is a compelling demand for increased and improved delivery across the entire infrastructure spectrum, which will ensure economic growth and improve ease of living as well as competitiveness across sectors.

Historical trend in infrastructure investment in India

Infrastructure investment in India over FY08-17 was estimated at ~Rs 60trn, with the 11th Five Year Plan period (FYP; FY08-12) accounting for Rs 24trn and the 12th FYP (FY13-17) accounting for Rs 36trn. However, as a share of GDP, infrastructure spending fell to ~5.8% during the 12th FYP from ~7% during the 11th FYP.

In comparison, during FY18 and FY19, India's infrastructure investment was ~Rs 10.2trn and ~Rs 10trn, respectively. During the same period, infrastructure investment was predominantly made by the public sector (i.e., centre and state governments with a share of ~70%), while the share of the private sector was ~30% (the share of the private sector during the last two years was ~25%).

Exhibit 17: India's year-wise investment trend in infrastructure

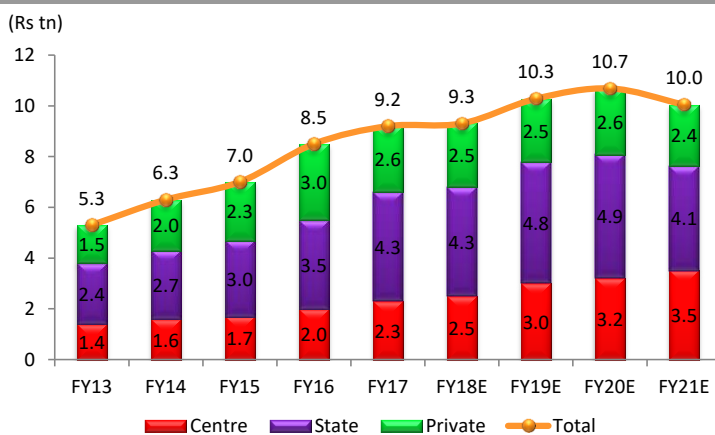
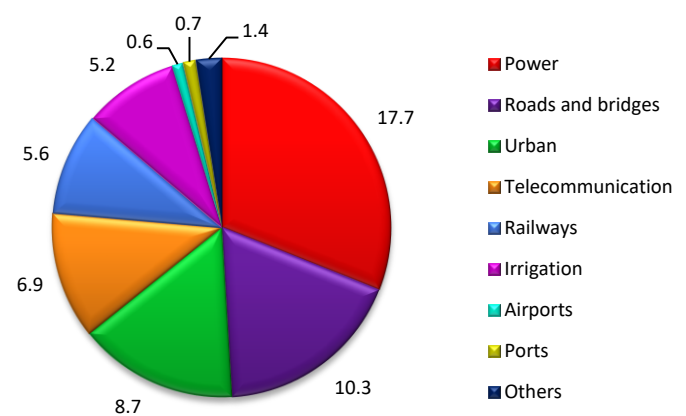


Exhibit 18: Sectoral share of India's infrastructure investment during FY13-19



Source: Report of the Task Force - Department of Economic Affairs, Ministry of Finance, GoI, Systematix Research

Exhibit 19: Infrastructure Vision 2025 by the GoI is aspirational and meeting this would call for substantial investment

Goals	Strategy
Affordable & clean energy	<ul style="list-style-type: none"> 24x7 power supply for all - reliable transmission and distribution infrastructure.
Digital services access for all	<ul style="list-style-type: none"> 100% population coverage for telecom and high-quality broadband services for socio-economic empowerment of every citizen. Digital payments and e-governance infrastructure for delivery of banking and public services.
Convenient & efficient transportation and logistics	<ul style="list-style-type: none"> Enhanced road connectivity to remotest areas with extensive charging and on-road traction infrastructure for e-vehicles. World-class stations and fully integrated rail network with connectivity to remote regions & focus on safety. Airport and related infrastructure to enable international and regional connectivity to achieve passenger and cargo traffic, in line with the National Civil Aviation Policy 2016 vision. Ports and waterways infrastructure focused on reducing logistics time and cost for foreign and domestic trade as per the Sagarmala National Perspective Plan 2016. Urban mobility-mass rapid transit system (MRTS) and bus connectivity within 800m homes in more than 50 cities.
Housing and water supply	<ul style="list-style-type: none"> Housing for All by 2022 – Pradhan Mantri Awas Yojana; negligible slum population. All households to have piped water supply, meeting national standards by 2024.
Doubling farmers' income	<ul style="list-style-type: none"> Increased irrigation and micro-irrigation coverage. Integrated agri-logistics systems from farm-gate to end consumers – storage, processing and packing, transportation, market and digital infrastructure for agriculture produce.
Quality education	<ul style="list-style-type: none"> World-class educational institutes for teaching and research, technology-driven learning meeting gross enrolment ratio target as per draft National Education Policy 2019.
Good health & well-being	<ul style="list-style-type: none"> Superior accessible primary, secondary and tertiary healthcare infrastructure facilities across India to meet the National Health Policy 2017 goals. Medical, para-medical education infrastructure meeting manpower needs by 2025 as per Indian Public Healthcare Standards.
Sustainable and smart cities	<ul style="list-style-type: none"> Waste-water collection, treatment/recycling to national standards in all towns across India. Smart city infrastructure for mobility, entertainment, business, high-quality river-front and safety.
Disaster resilience	<ul style="list-style-type: none"> Design and construct public infrastructure to meet disaster resilience standards in infrastructure.
Leverage technology for public good	<ul style="list-style-type: none"> Use data generated by infrastructure services in enhancing quality, safety and efficiency of operation and maintenance of infrastructure services. Leverage technology to enhance cost efficiency, access, durability and resilience of public infrastructure projects.

Source: Report of the Task Force - Department of Economic Affairs, Ministry of Finance, GoI, Systematix Research

Infrastructure deficit in India directly impacts India's global competitiveness

India's ambition of sustaining its relatively high growth depends on one important factor: infrastructure. The country, however, is plagued with weak infrastructure, incapable of meeting the needs of a growing economy and growing population.

Infrastructure bottleneck is a primary constraint to improving its global competitiveness, as measured by the World Economic Forum's Global Competitiveness Index.

Exhibit 20: India ranks poorly on the Global Competitiveness Index in Infrastructure

Parameter	India's rank
Transport infrastructure	28
Road connectivity	72
Quality of road infrastructure	48
Railroad density	39
Efficiency of train services	30
Airport connectivity	4
Efficiency of air transport services	59
Liner shipping connectivity	25
Efficiency of seaport services	49
Utility infrastructure	103
Electricity access	105
Electricity supply quality	108
Exposure to unsafe drinking water	106
Reliability of water supply	96

Source: Report of the Task Force - Department of Economic Affairs, Ministry of Finance, GoI, Systematix Research

Exhibit 21: Infrastructure investment over FY13-19 has remained rangebound at ~6% of GDP

Sector	FY13	FY14	FY15	FY16	FY17	FY18P	FY19P	Total
Power	2.3	2.5	2.5	2.7	3.2	2.6	1.9	17.7
Roads and bridges	1	1.1	1.2	1.4	1.8	1.9	1.9	10.3
Urban	0.7	0.9	1.1	1.2	1.3	1.7	1.8	8.7
Telecom	0.4	0.7	1.1	1.6	1.1	1	1	6.9
Railways	0.4	0.4	0.4	0.8	0.9	1.3	1.4	5.6
Irrigation	0.5	0.5	0.5	0.7	0.8	1	1.2	5.2
Airports	0	0.1	0.1	0.1	0.1	0.1	0.1	0.6
Ports	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.7
Others	0.1	0.1	0	0.1	0.1	0.5	0.5	1.4
Total infrastructure investments (A)	5.3	6.3	7	8.5	9.2	10.2	10	56.7
Nominal GDP (B)	99.4	112.3	124.7	137.6	153.6	171	190.1	988.7
Infra investment as % of Nominal GDP (A / B)	5.50%	5.60%	5.60%	6.20%	6.00%	6.00%	5.30%	5.70%

Source: Report of the Task Force - Department of Economic Affairs, Ministry of Finance, GoI, Systematix Research

National Infrastructure Pipeline comes to the fore with plans of over Rs 100trn in infrastructure capex over FY20-25

The Finance Ministry in mid-2020 revealed an online dashboard showcasing 6,633 projects worth Rs 128trn under the National Infrastructure Pipeline (NIP). Since then, the dashboard has kept updating to reflect new additions/deletions, with broad sector-level data remaining mostly the same. As of Dec'21, the revised number of projects stands at 9,078 for a total value of Rs 111trn. Despite an appreciable attempt towards transparency, the dashboard lacks easy access and requires painstaking efforts to collate and analyze project information.

We took the plunge and collated details of the Top-1,000 projects (~80% by value) to identify opportunities within the various sub-segments. As per the data, <20% of the overall pipeline is close to being tender-ready. **We see opportunities for regional road EPC companies and metro rail contractors in the near term, while water, railways and affordable housing segments offer longer-term opportunities.**

Key highlights from our analysis of NIP projects

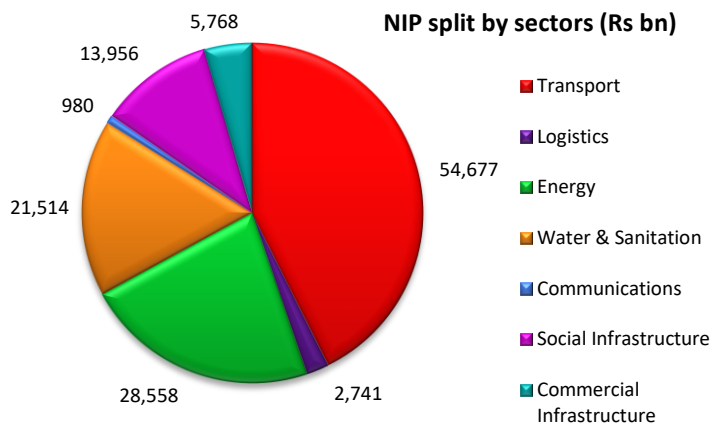
- Out of Rs 104trn of projects data that we collated (remaining cost outlay of ~Rs 95trn), ~Rs 37trn is in the development stage and ~20% of the overall pipeline is at the tender-ready stage, with the remaining in either the idea/nascent stage or already ordered out.
- Key transport segments with a DPR (detailed project report) approved pipeline: 1) **roads** with land-ready projects in Tamil Nadu, Andhra Pradesh and Madhya Pradesh even as the overall DPR-approved pipeline is just 0.5x of FY20 capex and 2) **metro rail** with Rs 2.2trn of DPR-approved pipeline.
- Amongst other segments, **longer-term opportunities exist in water, railways and affordable housing**. However, most of the larger core schemes such as Jal Jeevan Mission, river inter-linking and new DFC corridors suffer from a top-down enumeration of opportunities without concrete plans and project details.
- Energy has the largest share in development-stage projects but consists of thermal and renewable power generation projects that may face viability hurdles.
- Funding remains the biggest challenge, even more than execution and land acquisition.
- While the NIP provides visibility for the future pipeline, we believe ~60% of this capex is feasible assuming business-as-usual scenario.
- Our estimate of Rs 73.17trn of capex under the NIP does not assume any adverse impact from the further worsening of the macroeconomic situation, leading to a further cutback of infrastructure spending by the centre or states. At the same time, we are not assuming any major policy change or infrastructure push by the government by foregoing the fiscal deficit targets and risking a sovereign rating downgrade.
- If NIP is considered the potential demand pipeline, we estimate ~Rs 60trn of infrastructure investment over FY22-25 against Rs 45trn over FY15-19.
- If government funding is considered the supply side bottleneck, the likely infrastructure investment will be Rs 35trn over FY22-25 vs. Rs 26trn over FY15-19.
- The reality will be somewhere in between, subject to the government monetizing some of its existing infrastructure/other assets (National Monetization Pipeline).

Exhibit 22: Sector-wise investment plan as per NIP; we estimate ~60% achievement

(Rs bn)	Value of projects		Historical trend							Future run-rate	
	NIP	Our est	FY16	FY17	FY18	FY19	FY20P	FY21E	FY22E	NIP	Our est
Transport	54,677	39,778								10,415	7,264
Roads	28,300	20,386	1,552	1,920	2,115	2,585	2,769	2,607	2,912	5,695	3,717
Railways, of which	15,001	14,908	935	1,099	1,020	1,334	1,480	1,608	2,099	2,824	2,800
Railway Tracks	11,900										
Railway Rolling Stock	3,010										
Rail Terminal Infra	91										
Urban public Transport	8,890	3,962	217	300	312	358	396	215	303	1,482	660
Ports	635	168								106	28
Airports Infrastructure	1,600	239								267	40
Inland Waterways	232	100								39	17
Shipyards	19	15								3	3
Logistics	2,741	1,919								457	320
Energy	28,558	14,237								4,760	2,373
Electricity Distribution	3,780	2,646								630	441
Generation (Non Renewable)	9,300	1,860								1,550	310
Electricity Transmission	3,960	2,772								660	462
Generation (Renewable)	11,030	6,618								1,838	1,103
Oil/ Gas/ LNG storage	488	341								81	57
Water & Sanitation	21,514	8,131								4,803	1,480
Irrigation	12,890	5,378	686	834	826	929	929	697	767	2,857	979
WTP	7,740	2,134	188	228	287	320	336	252	290	1,800	398
Sewage collection	645	452								108	75
Solid Waste Management	129	90								21	15
Storm Water Drainage	110	77								18	13
Communications	980	882								163	147
Social Infrastructure	13,956	9,769								2,326	1,628
Commercial Infrastructure	5,768	3,461								961	577
Grand Total	128,194	78,178								23,885	13,789

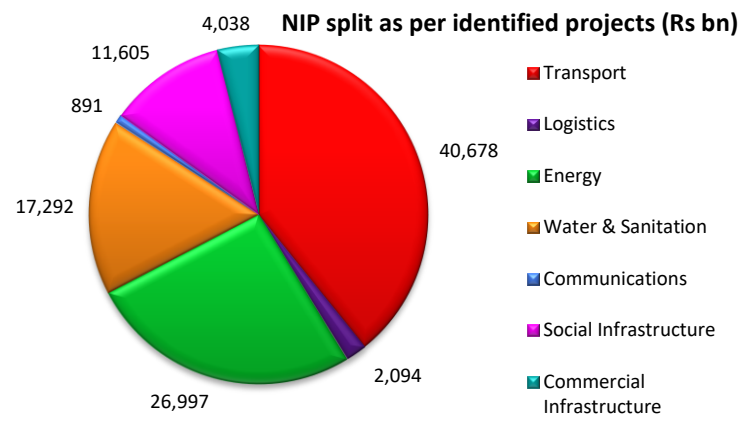
Source: Systematix Research, India Investment Grid

Exhibit 23: Transport, energy and water are the largest sectors proposed under NIP followed by affordable housing (social infra)



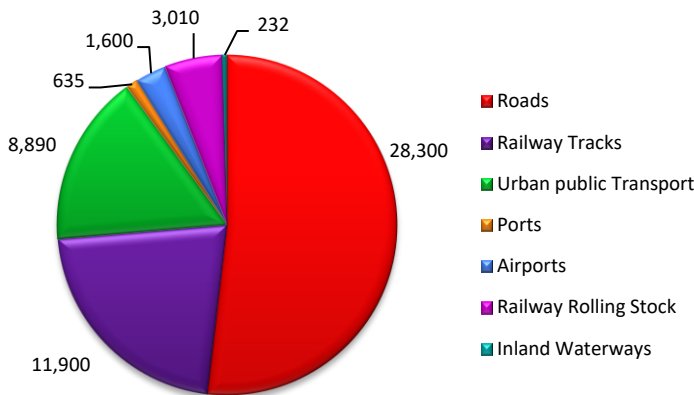
Source: Systematix Research, India Investment Grid

Exhibit 24: Projects comprising 80% of those listed under NIP



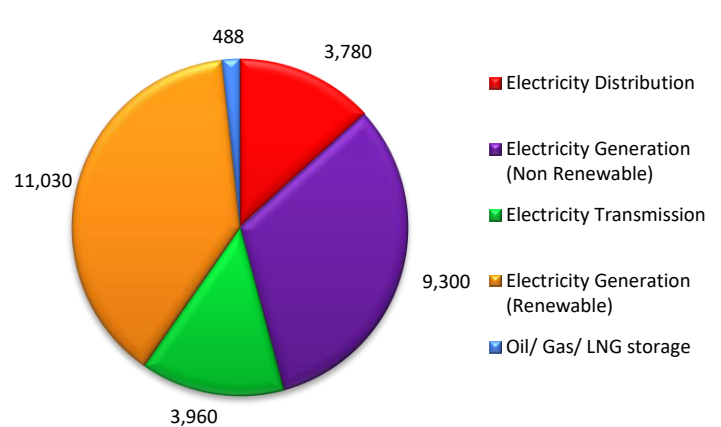
Source: Systematix Research, India Investment Grid

Exhibit 25: Roads, railways and metros constitute the bulk of the opportunity in the transport segment (Rs bn)...



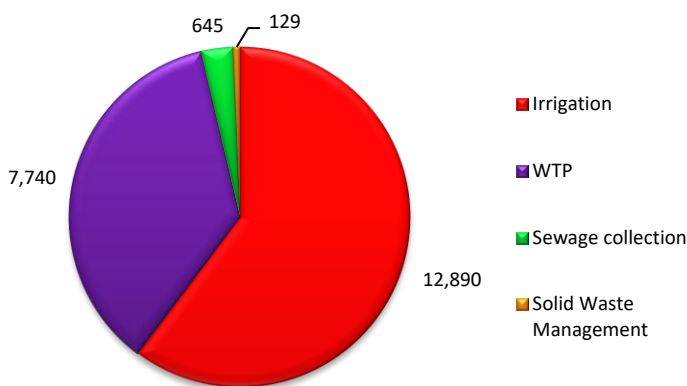
Source: Systematix Research, India Investment Grid

Exhibit 26: ...while energy is dominated by renewables, thermal generation and T&D capex in that order (Rs bn)



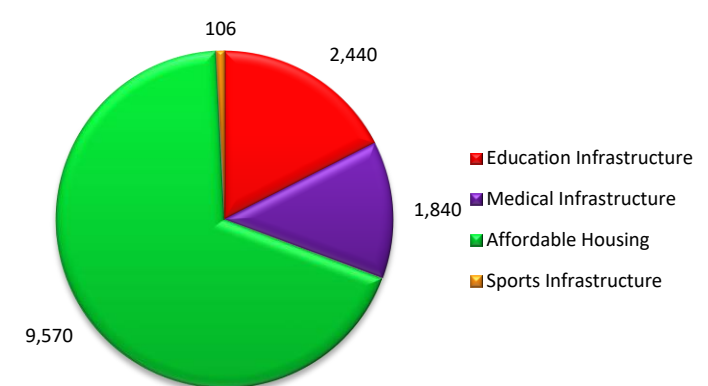
Source: Systematix Research, India Investment Grid

Exhibit 27: Irrigation (including river linking) and water supply & treatment drive the water & sanitation segment capex (Rs bn)



Source: Systematix Research, India Investment Grid

Exhibit 28: Social infrastructure capex is largely driven by affordable housing and some amount of education/medical infra (Rs bn)



Source: Systematix Research, India Investment Grid

Transport is the largest driver of infrastructure spending but more needed

Transport is the largest segment, with 43% of all projects by value as a share of the total NIP capex plan. Almost 60% of the projects are proposed under the EPC (engineering, construction, procurement) route, while 20% (mostly roads) come under the Hybrid Annuity Model (HAM).

As per the NIP, Rs 54.7trn is likely to be spent in the transport segment over FY20-25E. On an annualized basis, this would mean that the spending run-rate for some of the key segments within transport such as roads, railways and urban public transport will have to almost double to meet the targets. While our estimates are relatively conservative, they still call for a more than 50% jump in spending during FY21-25E over the previous five years.

Exhibit 29: We estimate 57% achievement of the transport sector projects under the NIP, but there is still a good opportunity in the metros and railways space while the roads segment is likely to continue at the current pace

(Rs bn)	Value of projects		Historical trend					Future annual run-rate	
	NIP	Systematix est	FY16	FY17	FY18	FY19EE	FY20BE/EE	NIP	Systematix est
Transport	54,677	30,995						9,113	5,166
Roads	28,300	16,359	1,552	1,920	2,115	2,611	2,697	4,717	2,727
Railways, of which –	15,001	9,594	935	1,099	1,020	1,334	1,534	2,500	1,599
Railway Tracks	11,900								
Railway Rolling Stock	3,010								
Railway Terminal	91								
Urban public Transport	8,890	3,962	217	300	312	404	465	1,482	660
Ports	635	265						106	44
Airports	1,600	700						267	117
Inland Waterways	232	100						39	17
Shipyards	19	15						3	3

Source: Systematix Research, India Investment Grid

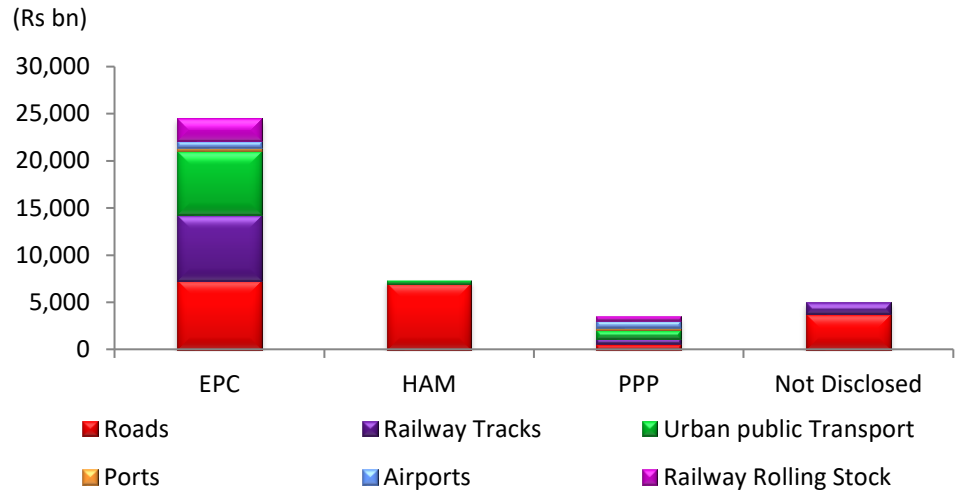
Exhibit 30: However, most of the projects in the transport segment are in the implementation or conceptualization stage (Rs bn)

Stage	Status	Transport	Roads	Railway Tracks	Urban public Transport	Ports	Airports	Railway Rolling Stock	Inland Waterways
Implementation	Partially Commissioned	279		279					
	Notice to Proceed	11,786	3,484	2,287	3,402	7	183	2,423	-
	Financial Closure Achieved	878	73	118	86	50	59	492	-
	Tender Awarded	1,202	1,049	-	81	18	-	-	54
	Tender Invited	1,080	-	1,080	-	-	-	-	-
	Not Disclosed	3,770	3,621	43	48	47	-	-	10
Conceptualization	Idea Stage	13,811	6,954	4,504	1,875	15	445	15	4
	Not Disclosed	407	-	89	-	318	-	-	-
Development	Design work	337		-	337				
	Tender Awarded	109		-	109	-	-	-	-
	DPR Approved	3,769	1,017	304	2,168	26	255	-	-
	DPR/Feasibility Study in Progress	2,508	2,157	98	-	123	102	-	28
	Not Disclosed	734	203	-	-	10	384	-	137
Completed		7				7			

Source: Systematix Research, India Investment Grid

Exhibit 31: Bulk of the new transport segment opportunities are planned under the EPC/HAM route

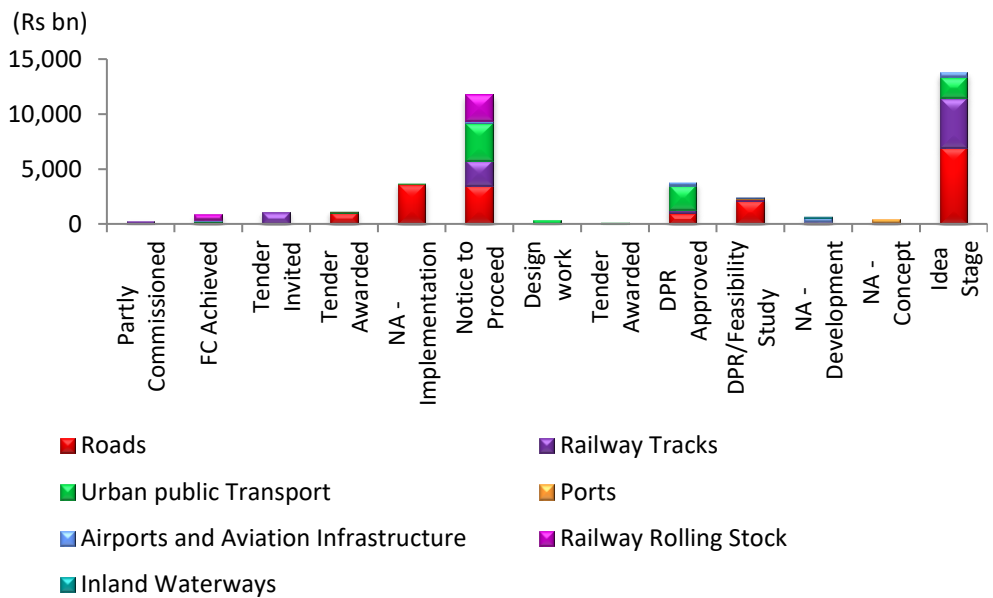
While more EPC opportunities are good from a sector perspective, it also means higher funding needs for the government



Source: Systematix Research, India Investment Grid

Exhibit 32: Large projects in roads and railways either under implementation or in idea stage

Roads and metros have a reasonable DPR-approved project pipeline; railways projects largely in idea stage



Source: Systematix Research, India Investment Grid

The roads segment has witnessed the bulk of the action

India has the second-largest road network globally. Roads can be classified into – national highways, expressways, state highways, major district roads and rural roads. The total road network in India was ~5.9mn km as of Mar-19. Of this, national highways and expressways comprised just 132,500 km, while state highways were at 156,694 km. Major district roads and rural roads accounted for the remaining 5.6mn km. There is a need to further boost connectivity as national and state highways constitute only 4.7% of the surfaced roads in India.

Exhibit 33: Infrastructure deficit in roads sector - Road connectivity score (1-100)

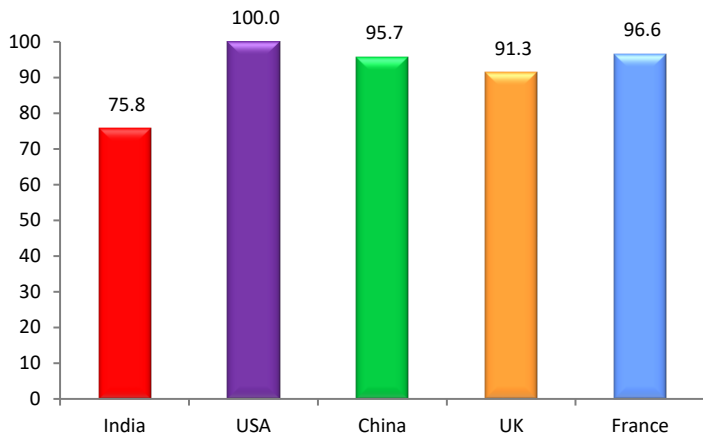
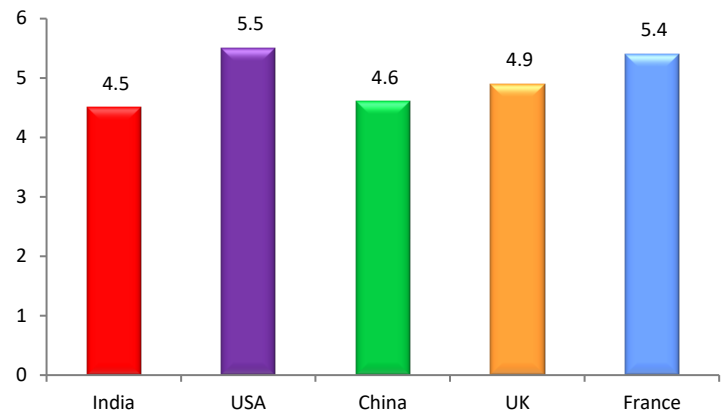
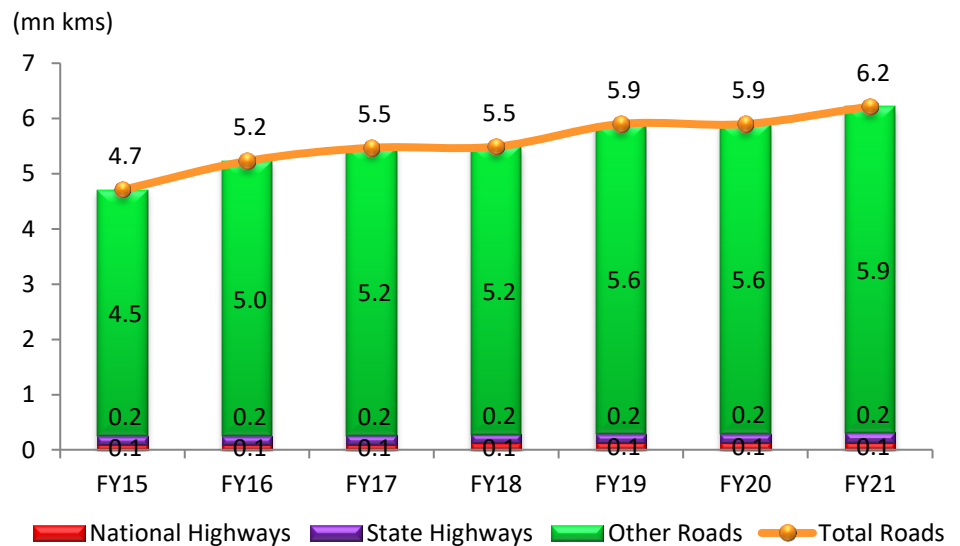


Exhibit 34: ...India fares poorly in connectivity and quality of roads Quality of road infrastructure (Score: 1 – 7)



Source: WEF Global Competitiveness Report, Transport Competitiveness Report

Exhibit 35: Trend in road network in India

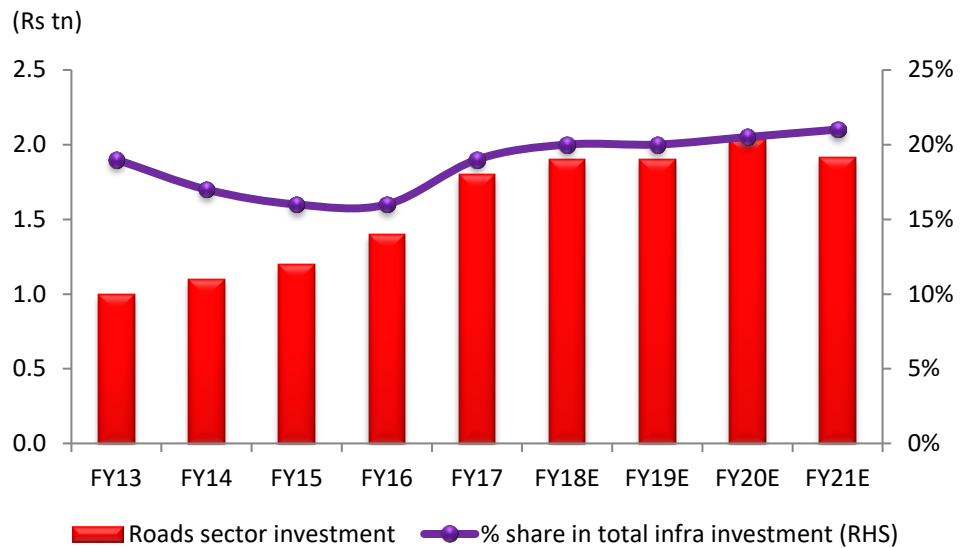


Source: MoRTH annual reports

The sector itself has attracted significant investment over the past two decades. At the start of the century, the sector pioneered several innovative public-private partnership (PPP) models, which led to significant investments from private players. Private sector participation, however, declined towards the end of the 12th Five Year Plan owing to land acquisition and utility clearance hurdles, inadequate dispute resolution mechanism and poor project preparation resulting in frequent change of scope and aggressive bidding by developers.

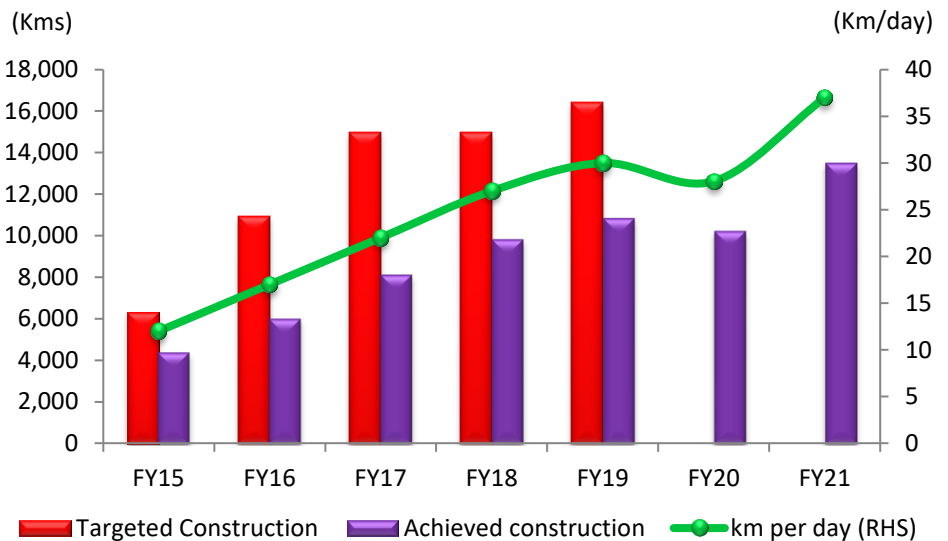
This has led to a significant increase in direct allocation of central government funds to the roads sector, as EPC and HAM models were preferred over BOT (build, operate, transfer)-Toll by the industry in recent times. The share of roads sector investment in the overall infrastructure investment was ~17% between FY13-17, rising at a ~16% CAGR. The rate of construction of national highways has more than doubled since FY15.

Exhibit 36: Roads sector investment and share in total infrastructure investment



Source: Appraisal documents for five-year plans, CRIS estimates

Exhibit 37: Achievement targets set by MoRTH



Source: MoRTH annual reports

Exhibit 38: Total planned capex on roads by the centre over FY20-25

Category	No. of projects	Length (km)	Capex over FY20 – FY25 (Rs bn)
National highways	1,815	87,162	12,806
Expressways	5	2,142	1,017
Total	1,820	89,304	13,824

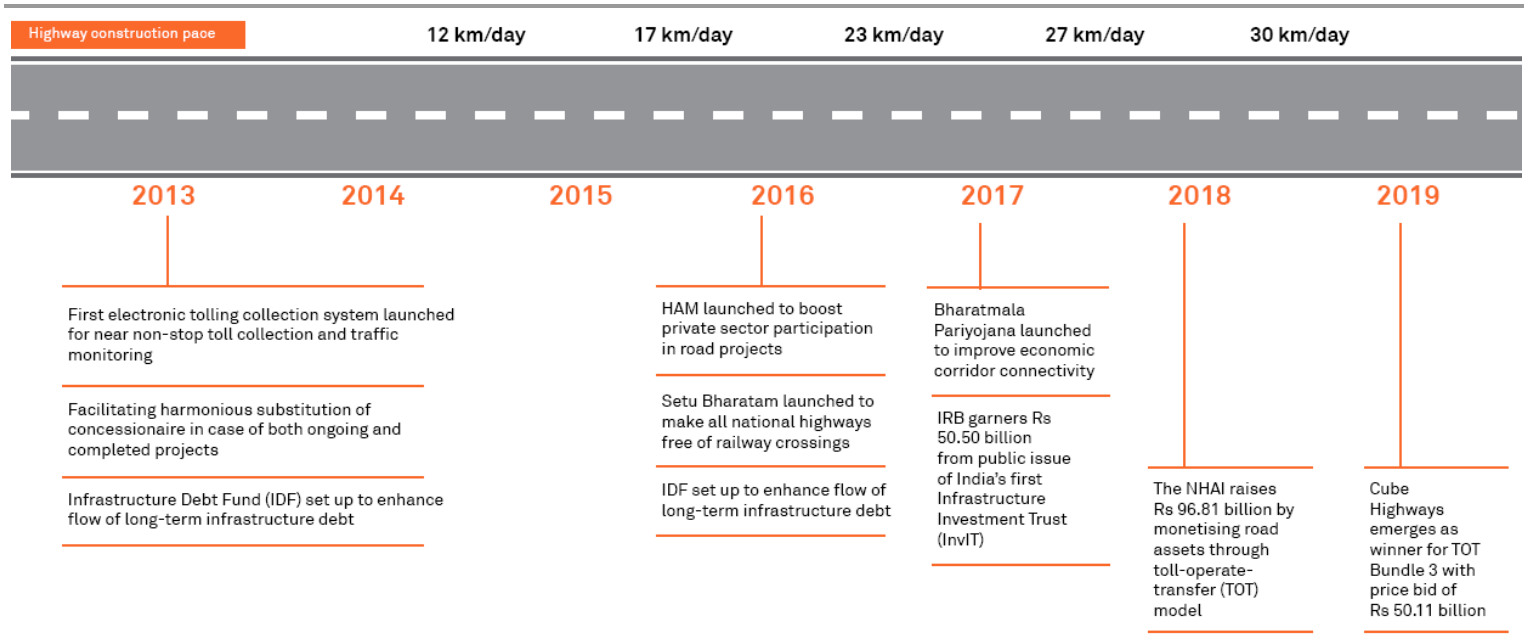
Source: Report of the Task Force - Department of Economic Affairs, Ministry of Finance, GoI

Exhibit 39: Total planned capital expenditure in roads over FY20-FY25

(Rs bn)	FY20	FY21	FY22	FY23	FY24	FY25	Total
Centre	2,478	2,597	2,517	1,725	1,702	2,804	13,824
States	847	1,236	1,053	803	705	522	6,514
Total	3,326	3,833	3,570	2,528	2,408	3,327	20,338

Source: Report of the Task Force - Department of Economic Affairs, Ministry of Finance, GoI

Exhibit 40: Roads sector reform timeline

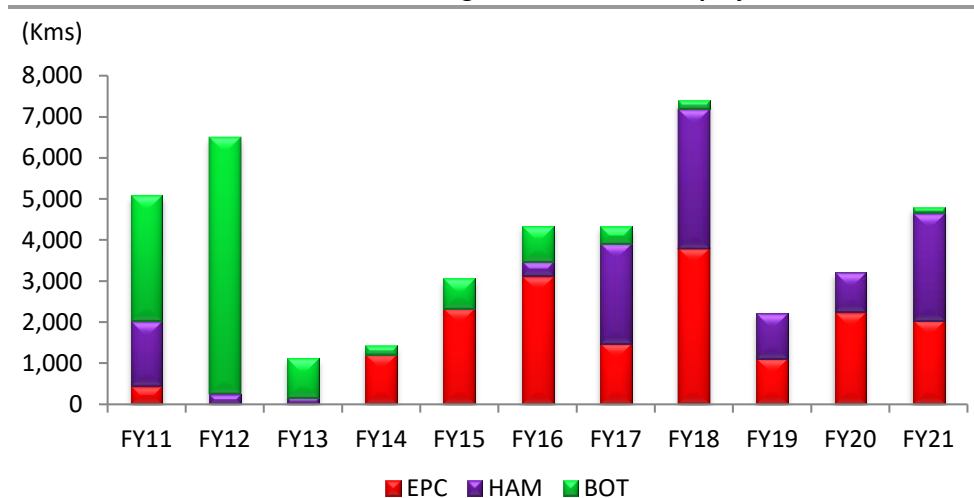


Source: Report of the Task Force - Department of Economic Affairs, Ministry of Finance, GoI

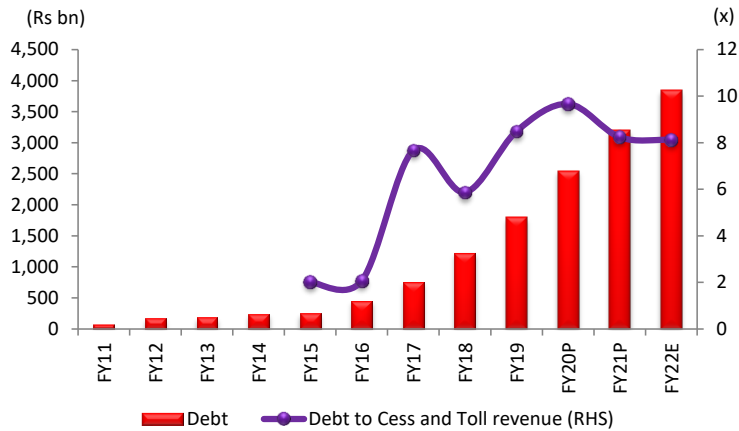
NHAI has been awarding more HAM projects than EPC

NHAI has actively awarded road projects over FY15-18 under both the EPC and HAM routes. We expect the EPC share to increase as the industry's capacity to absorb more HAM projects seems restricted. As such, there are concerns that the NHAI may again have to seek help from the government for funding.

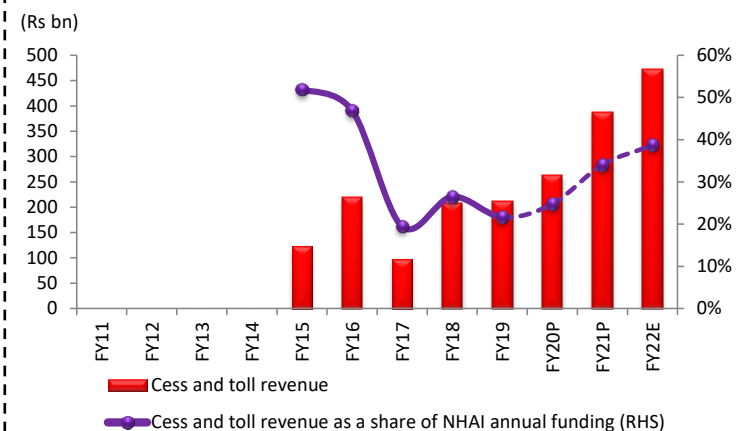
Exhibit 41: FY18 and FY21 witnessed a significant rise in HAM projects versus EPC



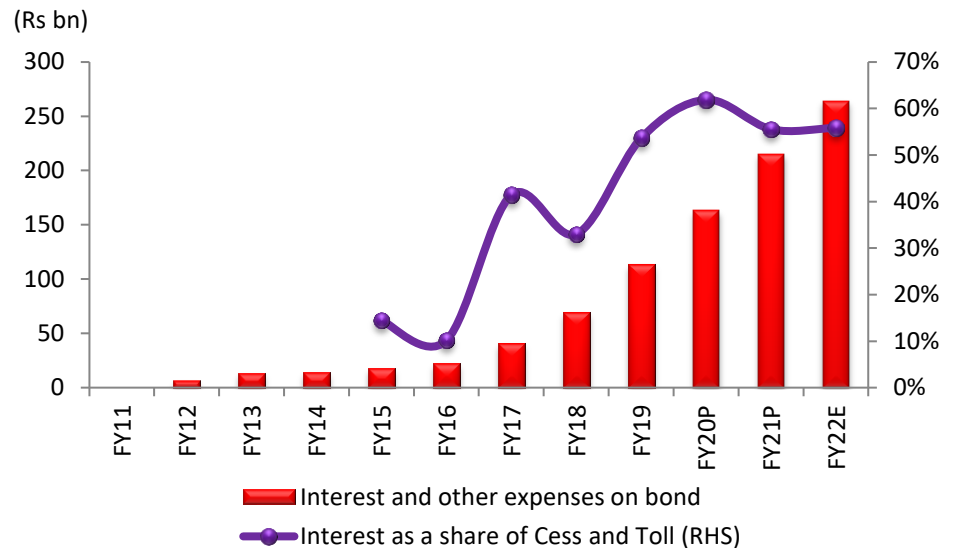
Source: NHAI, Systematix Research

Exhibit 42: NHA's debt has ballooned while cess and toll revenue have stagnated

Source: NHA, Systematix Research

Exhibit 43: FY20-22 revenue projections unlikely to materialize, thereby necessitating recourse to budgetary support

Source: NHA, Systematix Research

Exhibit 44: Interest outgo for NHA has risen sharply and is now as high as 60% of cess and toll revenue

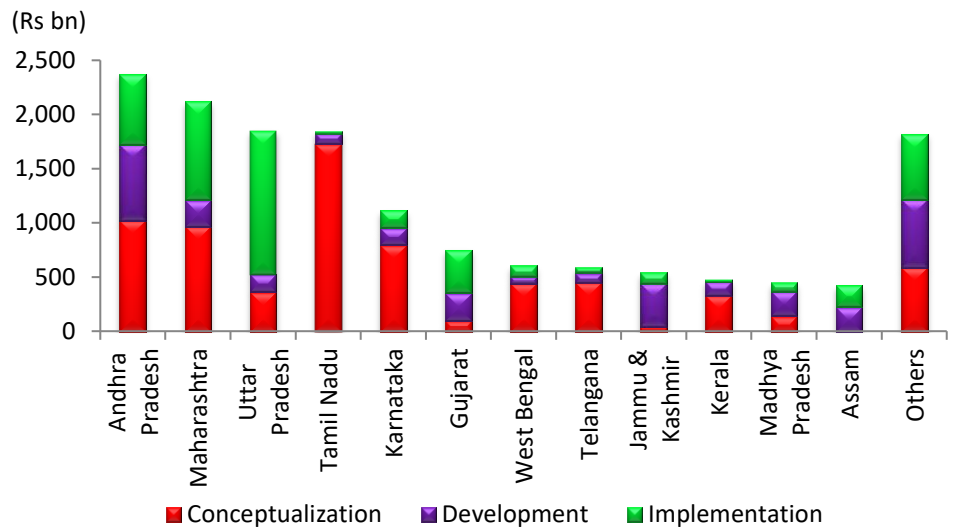
Source: Systematix Research

- Compared to an annual spend of Rs 2.5trn on roads in FY20, the total NIP roads pipeline is ~Rs 28.3trn, of which ~10% was spent by Mar-19. Assuming another Rs 2.5trn was spent in FY20, about Rs 22.5trn worth of remaining pipeline is in roads, or 9x FY20 spending, providing strong visibility from a pipeline perspective.
- Of the Rs 18trn worth of road projects we identified (66% of total), Rs 8trn is already under implementation while Rs 7trn is in the concept stage, leaving only ~Rs 3.2trn in the development stage.
- Further, only about Rs 1trn worth of road projects have their DPR approved, which is <50% of the FY20 spending. A strong DPR-approved pipeline is required for road spending to pick up fast, which is currently lacking.
- We thus expect road capex to pick up only gradually from the current high levels, due to weak orders in the recent past and a weak DPR-approved pipeline. In the longer-term though, road capex can pick up due to an overall strong pipeline in place, if land acquisition, DPR work and funding are done quickly.

- An analysis of the geographical mix of development-stage projects and land acquisition progress suggests that most of the orders can happen in TN, AP and MP in the near term.
- Longer term, AP, MH, UP, TN and Karnataka hold potential due to an overall large pipeline in these states.
- For our analysis, we are not focusing on the Pradhan Mantri Gram Sadak Yojana (PMGSY), which has an overall capital outlay of Rs 3.6trn (of which ~Rs 1.5trn is not spent), as it primarily focuses on rural roads and does not benefit listed players much.

Exhibit 45: Development-stage road projects – mostly in AP, J&K, Maharashtra, Gujarat, Madhya Pradesh, UP and Karnataka – benefit players like PNCL, KNRC and Dilip Buildcon (Rs bn)

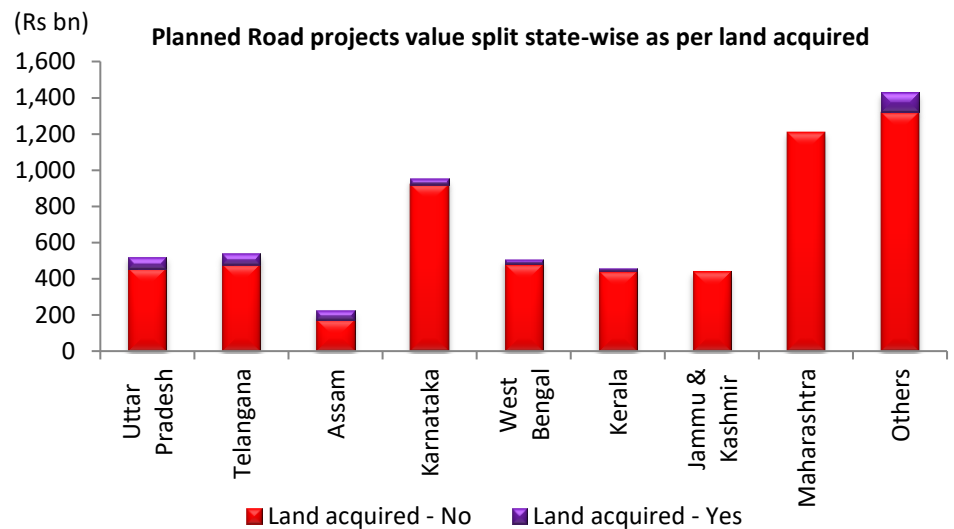
PNCL, KNRC and Dilip Buildcon to benefit as most DPR-ready road projects are in their core focus geographies



Source: Systematix Institutional Research, India Investment Grid

Exhibit 46: For projects under development/concept stage, most land-ready projects are in TN, AP and MP; Maharashtra and Karnataka are big opportunities but not land-ready

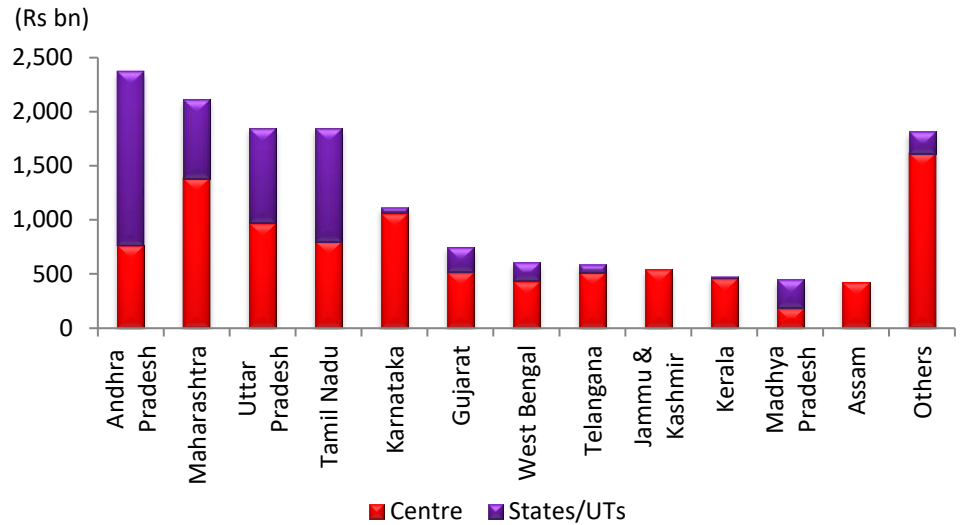
KNRC and Dilip Buildcon to benefit as most land-ready road projects in TN, AP and MP



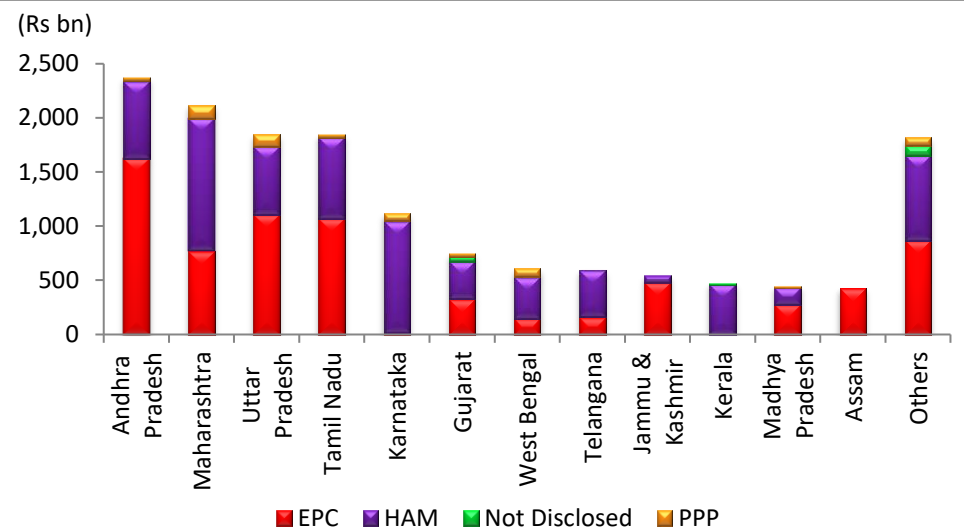
Source: Systematix Institutional Research, India Investment Grid

Exhibit 47: States with a larger opportunity basket in roads have a fair mix of centre and state-funded projects

AP and TN have higher state-funded road projects coming up, while MH and UP have a fair mix of centre and state-funded projects.



Source: Systematix Research, India Investment Grid

Exhibit 48: EPC/HAM is the preferred route


Source: Systematix Research, India Investment Grid

Key road projects in the NIP where ordering opportunity may come up
• Implementation stage:

- PMGSY (Rs 1.5trn unspent opportunity mostly relating to rural roads)
- **Ganga Expressway (Rs 415bn; UP)**
- Mukhya Mantri Gram Sadak Yojna, Gujarat (Rs 153bn opportunity mostly relating to rural roads)
- Multiple road upgradation programs in Andhra Pradesh totaling over Rs 700bn

- **Development/Conceptualization stage:**

- Maharashtra/Karnataka border to Bengaluru road (HAM project worth Rs 312bn; land yet to be acquired)
- Amravati-Mydukur Road in AP (HAM project worth Rs 232bn; land yet to be acquired)
- GVMC & VMC Road in AP (EPC project worth Rs 195bn; land acquired)
- Jharkhand/West Bengal border to Kolkata road (HAM project worth Rs 167bn; land yet to be acquired)
- Chennai-Trichy road in TN (HAM project worth Rs 145bn; land yet to be acquired)
- Hyderabad to Telangana/Maharashtra border road (HAM project worth Rs 141bn; land yet to be acquired)
- Telangana/AP border to AP/Karnataka border road (HAM project worth Rs 134bn; land yet to be acquired)
- Dhule-Thane road in Maharashtra (HAM project worth Rs 127bn; land yet to be acquired)

Railways has strong potential but needs to act fast

Even as the Indian Railways has been investing significantly to enhance the safety & speed of trains, improve freight efficiency & passenger amenities and ensure better connectivity, overall investments in the segment have remained subdued compared to the power and road sectors. The investment trend in railways has picked pace only since 2016 with the key focus areas being decongestion of over-utilized rail network, construction of new lines, doubling, tripling, quadrupling of rail lines and purchase of rolling stock such as wagons, locomotives and coaches.

To remain competitive vis-à-vis other transportation modes, there is an urgent need to further upgrade and expand the railway infrastructure.

Between FY13-17, the share of the railways sector in the overall infrastructure investment was ~8%, growing at a CAGR of ~23%. Historically, capital investment in railways has been mainly from the government, with little private sector investment.

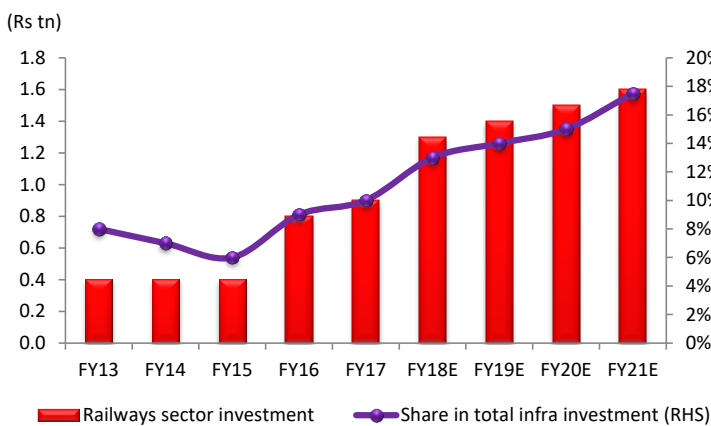
The gross revenue receipts of the Indian Railways have risen at a slow pace of ~6% CAGR over FY14-18, while the operating ratio has been very high at 90-98% levels. Higher operating ratio in the railways curtails the ability to make fresh investments through internal accruals.

Freight traffic growth for Indian Railways has been impacted by high freight rates, a decline in coal traffic for thermal power plants, slowdown in container traffic and low volumes of cement traffic (together comprising 60-65% of rail freight). Freight revenue is the major contributor to Indian Railways' revenue with ~64% share, vis-à-vis ~27% share of passenger revenue, and the rest coming from non-fare revenue and indirect earnings.

Over 1954-2016, while overall freight loading grew ~13x and passenger kilometres ~16x, route kilometres rose only 23%. Of the 247 sections operated by Indian Railways, 161 sections are running at 100% or above line capacity.

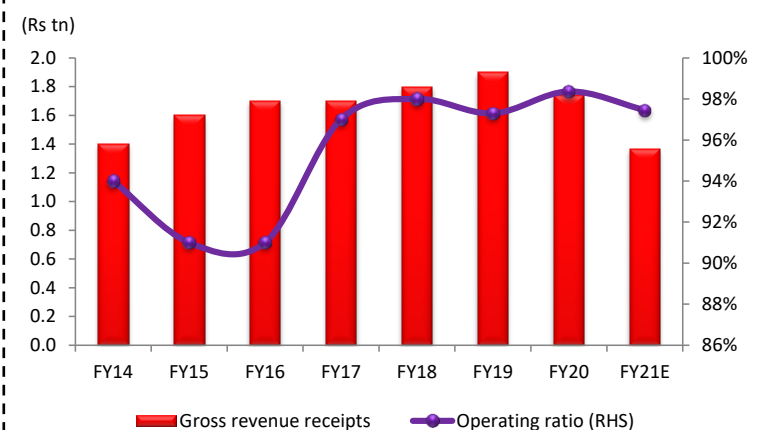
Due to low fares, passenger traffic uses two-thirds of the capacity but generates only one-third of revenue. High freight tariff is thus getting out-priced in the market. As a result, railway finances with over 98% operating ratio (operating cost/ operating revenue) leave no surplus for capital investment.

Exhibit 49: Railways' infrastructure investment and share in total infrastructure investment was on an uptrend pre-COVID...



Source: Appraisal documents for five-year plans, CRIS estimates

Exhibit 50: ...fueled by rising gross revenues and an improving operating ratio



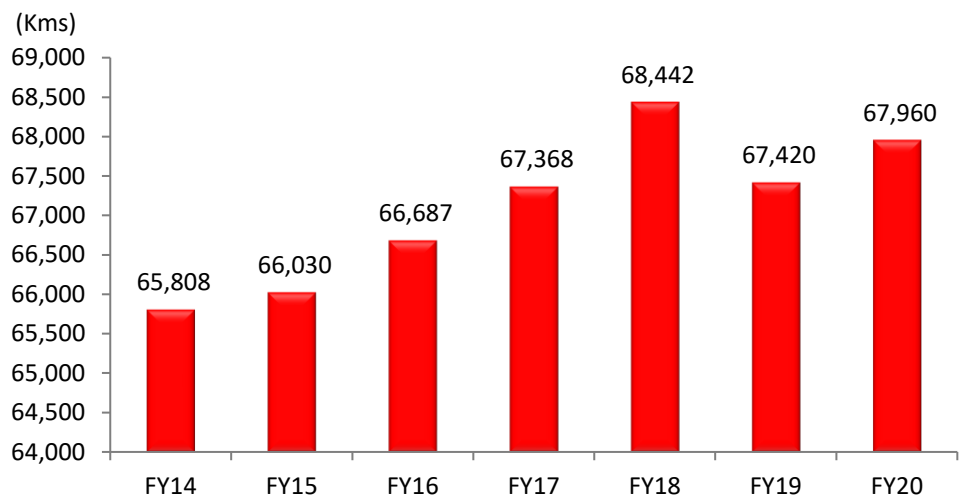
Source: Indian Railways Statistical Summary

Exhibit 51: Indian Railways is primarily dependent on freight traffic for its overall revenues



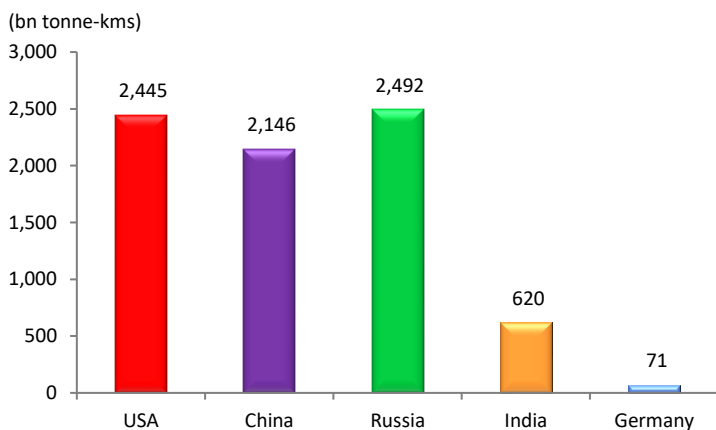
Source: Indian Railways Statistical Summary

Exhibit 52: Route km for Indian Railways has been nearly stagnant for several years despite high dependency on both freight and passenger traffic



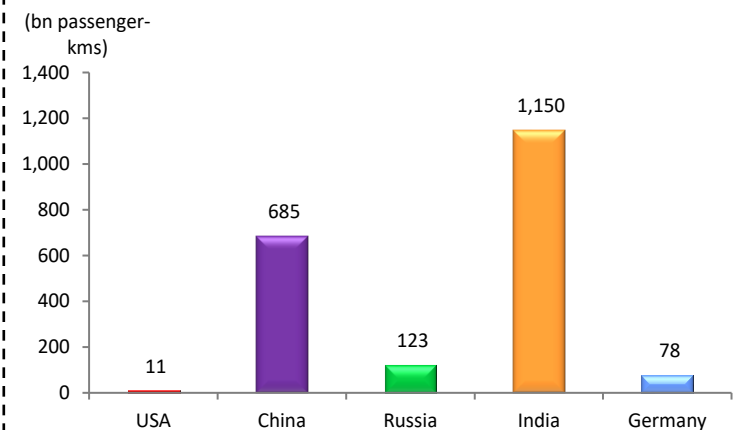
Source: Indian Railways Statistical Summary

Exhibit 53: Infrastructure deficit in Indian Railways – Freight throughput in India significantly lags...



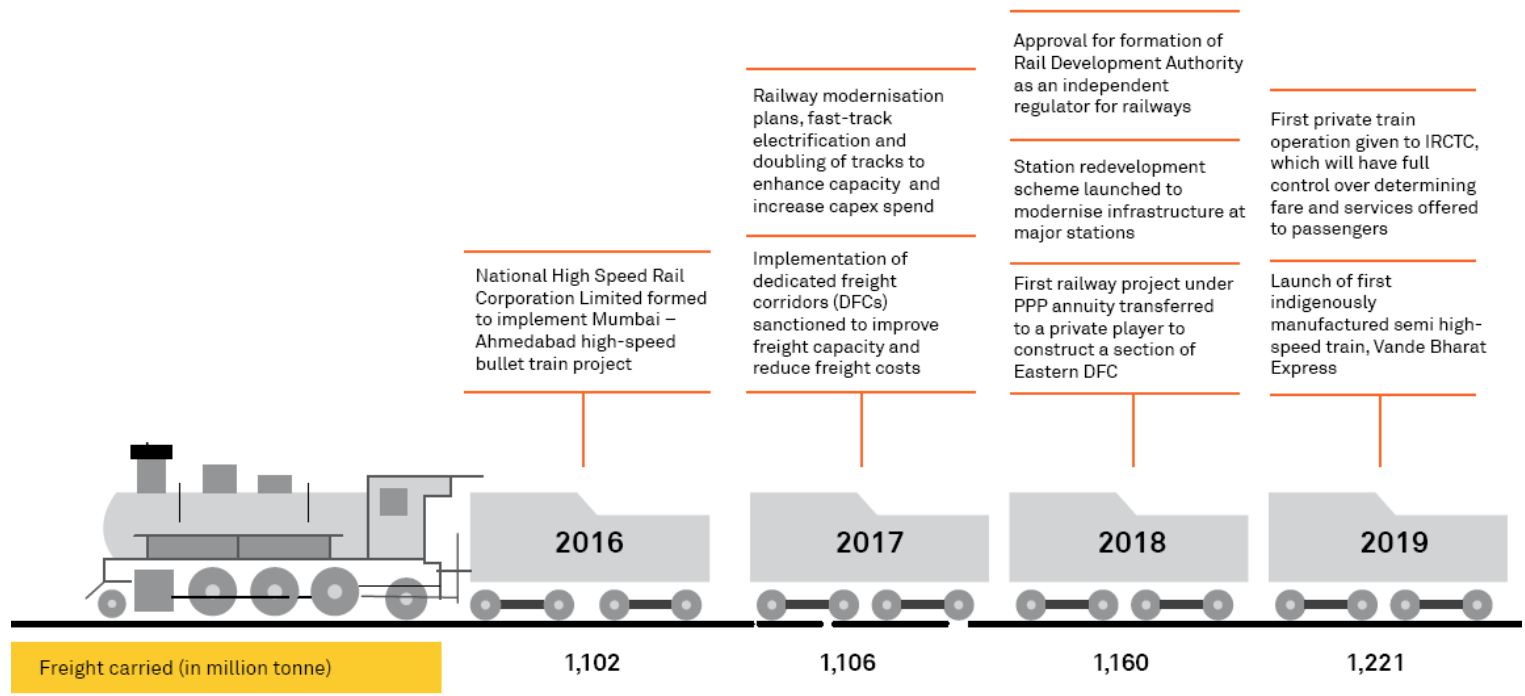
Source: World Development Indicators-World Bank, IR Yearbook 2018

Exhibit 54: ...passenger throughput on absolute basis as well as relative to peers



Source: World Development Indicators-World Bank, IR Yearbook 2018

Exhibit 55: Indian Railways reform timeline



Source: Systematix Research, India Investment Grid

- As compared to an annual spend of Rs 1.5trn on railways in FY20, the total NIP pipeline in railways is about Rs 15trn, of which about Rs 1.15trn was already spent by Mar-19. Assuming that another Rs 1.5trn was spent in FY20, about Rs 12.35trn worth of remaining pipeline is in railways, or 8x of FY20 spending, thus providing strong visibility at least from a pipeline perspective.
- Despite a promising pipeline, Indian Railways has among the lowest share of projects in a tender-ready stage. It lacks an immediate development pipeline in tracks/electrification segment since most of the large projects listed, such as the new DFC corridors, are in the conceptual stage.
- Of the Rs 8.8trn worth of projects identified by us in railway tracks (74% of total), 43% is already under implementation while 52% is in the concept stage, leaving very little in the development stage.
- We thus expect railway orders to remain subdued, due to the weak near-term pipeline. Longer term, since most of the opportunities identified under railway tracks relate to upcoming DFCs (dedicated freight corridor) such as North-South, East-West, East Coast, we believe ordering will remain muted. Other key opportunities in this space relate to high-speed rail (Mumbai-Ahmedabad), a few rail corridor upgradation projects & Bengaluru suburban line upgradation project.

Exhibit 56: Year-wise planned capital expenditure in railways over FY20 to FY25

(Rs bn)	FY20	FY21	FY22	FY23	FY24	FY25	Total
Centre	1,325	2,608	3,075	2,720	2,197	1,663	13,588
State governments	9	17	13	18	15	16	87
Total	1,334	2,625	3,088	2,738	2,212	1,679	13,676

Source: Report of the Task Force - Department of Economic Affairs, Ministry of Finance, GoI

Exhibit 57: Segment-wise total planned capex on railways by the centre over FY20-25

Category	No. of projects	Capex over FY20–FY25 (Rs bn)
New lines/gauge conversion	259	4,401
Capacity augmentation	266	2,480
Dedicated Freight Corridor	7	1,662
Rolling stock	31	2,755
High-speed rail	2	1,106
Others	159	1,184
Total	724	13,588

Source: Report of the Task Force - Department of Economic Affairs, Ministry of Finance, GoI

Exhibit 58: Most of the proposed projects in railway tracks are either in the implementation or concept stage, where the DFC is the single largest focus; new DFC projects are all in the concept stage and will take more than a decade to show results

(Rs bn)	Current Status	Completion	Total Project Cost	Spent till Mar-19	Proposed Capital Outlay	Mode of Implementation	Project Status	Project Type
North South DFC	Conceptualization	NA	1,090	-	300	Not Disclosed	Idea Stage	Track
Mumbai-Ahmedabad High Speed Rail	Implementation	Dec-23	1,080	24	1,060	EPC	Tender Invited	Track
East West DFC	Conceptualization	Mar-28	1,060	-	390	EPC	Idea Stage	Track
Signaling System Modernization	Conceptualization	Apr-30	779	-	427	EPC	Idea Stage	Signaling
JNPT-Rewari WDFC	Implementation	Dec-21	609	283	327	EPC	Notice to Proceed	Track
East Coast DFC	Conceptualization	Mar-28	490	-	170	EPC	Idea Stage	Track
Construction of ROBs/RUBs on GQ/GD	Conceptualization	Dec-22	456	-	455	EPC	Idea Stage	Track
EDFC Ludhiana-Sonnagar	Implementation	Dec-21	337	202	135	EPC	Notice to Proceed	Track
Udahmpur-Baramulla via Srinagar Rail Link	Implementation	Jun-22	279	180	99	EPC	Partially Commissioned	Track
Bangalore Suburban Line Capacity Upgradation	Conceptualization	Mar-25	186	-	186	PPP	Idea Stage	Track

Source: Systematix Research, India Investment Grid

Exhibit 59: Out of Rs 8.8trn opportunity, only Rs 0.4trn is in the development stage, split between new tracks and upgrades; signalling that the opportunity is entirely in the concept stage

(Rs bn)	Signalling	Technology	Track	Grand Total
New Track	-	-	7,595	7,595
Conceptualization	-	-	3,814	3,814
Development	-	-	267	267
Implementation	-	-	3,513	3,513
Upgradation	779	63	365	1,208
Conceptualization	779	-	-	779
Development	-	-	135	135
Implementation	-	63	230	294
Grand Total	779	63	7,960	8,802

Source: Systematix Research, India Investment Grid

Ports and Airports

- Ports offer a small opportunity of just Rs 635bn, of which we have identified 98% of the projects by value.
- Unfortunately, of the Rs 621bn worth of projects we identified in this space, only 25% is in the development stage.
- Key projects in the development stage are Vadhvan Port, Transshipment Port at South Bay, Andaman, Machilipatnam Deep Water Port, Prakasam Ramayapatnam Port, Bhavanapadu Greenfield Port and JNPT Terminal 4 - Phase 2.
- Airports offer a reasonable opportunity pipeline of about Rs 1.6trn as per NIP, of which we have identified 89% of the projects by value.
- Of the Rs 1.43trn worth of projects we identified in this space, a good 50% is in the development stage but post COVID-19-related travel disruption and potential delay in normal air travel resumption, we fear there may not be an urgency in the development or expansion of airports.
- Key projects in the development stage are Pune, Navi Mumbai, Bengaluru Airport Expansion, Jewar Airport, Mopa, Bhogapuram and Nagpur upgrade.

Exhibit 60: Navi Mumbai, Pune and Bengaluru are the key airport opportunities lined up in PPP; bunch of new projects planned in TN

(Rs bn)	EPC			PPP		Grand Total
	Capacity Expansion	New Unit	R&M	Capacity Expansion	New Unit	
Andaman & Nicobar	-	50	-	-	-	50
Andhra Pradesh	-	-	-	-	30	30
Assam	-	11	-	-	-	11
Bihar	-	10	-	-	-	10
Delhi	98	-	-	-	-	98
Goa	-	-	-	-	30	30
Gujarat	-	48	-	-	-	48
Haryana	-	16	-	-	-	16
Karnataka	-	-	-	162	-	162
Lakshadweep	-	15	-	-	-	15
Maharashtra	-	-	-	-	369	369
Odisha	-	9	-	-	-	9
Rajasthan	-	121	-	-	-	121
Tamil Nadu	60	180	50	-	-	290
Telangana	-	-	-	59	-	59
Uttar Pradesh	-	23	-	-	86	110
Grand Total	158	484	50	221	516	1,429

Source: India Investment Grid, Systematix Research

Urban Infrastructure

Close to one-third of India's population resides in urban areas, which could increase to 50% in the next two decades. Historically, investments in the urban sector have been close to 1% of the GDP.

While the urban population in India increased rapidly, there was no commensurate supply of quality basic urban services. Between FY13-FY17, the share of urban sector investment in overall infrastructure investment was ~14%.

In recent years, the importance of urban infrastructure has grown owing to its link with economic growth, poverty reduction and quality of life. However, the lack of funds at the urban local body level has generally constrained development in this sector.

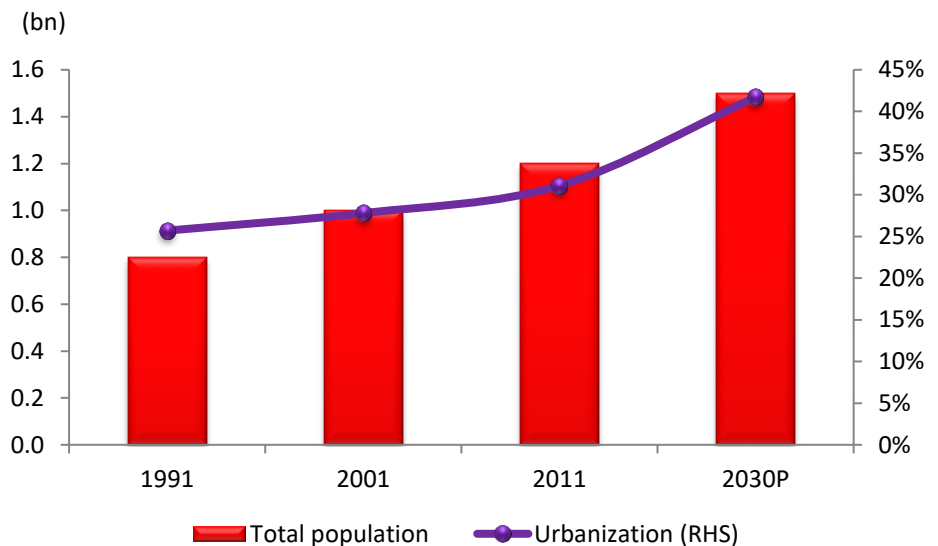
Investments in the urban sector have traditionally been undertaken by public sector entities through budgetary allocations until recently, when some projects were also undertaken through the private sector route.

There has been a steep rise in state investments from FY13 due to the launch of flagship schemes such as Smart Cities, Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Heritage City Development and Augmentation Yojana (HRIDAY), and Swachh Bharat Mission.

In recent years, the importance of housing infrastructure has also grown due to its link with economic growth, poverty reduction and quality of life. To achieve the long-term goal of Housing for All by 2022, the Government of India launched Pradhan Mantri Awas Yojana (PMAY) in June 2015.

PMAY envisaged construction of ~11.2mn affordable houses in the urban areas and ~19.5mn affordable houses in the rural areas. Over FY16-9MFY20, a cumulative investment of Rs 1.51trn has been made under PMAY (Urban).

Exhibit 61: India's rising urbanization trend calls for massive infrastructure upgrade



Source: CRIS estimates, McKinsey Global Institute, Report of the Task Force - Department of Economic Affairs, Ministry of Finance, Gol, Systematix Research

Exhibit 62: Segment-wise urban infrastructure capex plan by the centre over FY20-25

(Rs bn)	No of projects	Capex over FY20-25
Affordable Housing	98	5,407
Urban Transport / MRTS	50	5,734
Street Lighting / Solid Waste Management (Smart City Mission)	809	1,315
Water Supply and Sanitation / Green Parks / Sewage Treatment Plant (AMRUT)	405	474
Water supply, rejuvenation of water bodies, waste water collection and treatment (Jal Jeevan Mission)	-	2,795
Total	1,362	15,724

Source: Report of the Task Force - Department of Economic Affairs, Ministry of Finance, GoI

Exhibit 63: Year-wise urban infrastructure capex plan over FY20-25

(Rs bn)	FY20	FY21	FY22	FY23	FY24	FY25	Total
Centre	2,717	4,214	3,621	1,946	1,838	1,388	15,724
States	265	408	420	403	334	211	3,469
Overall Total	2,982	4,622	4,041	2,349	2,172	1,599	19,193

Source: Report of the Task Force - Department of Economic Affairs, Ministry of Finance, GoI

Exhibit 64: Urban sector reforms timeline

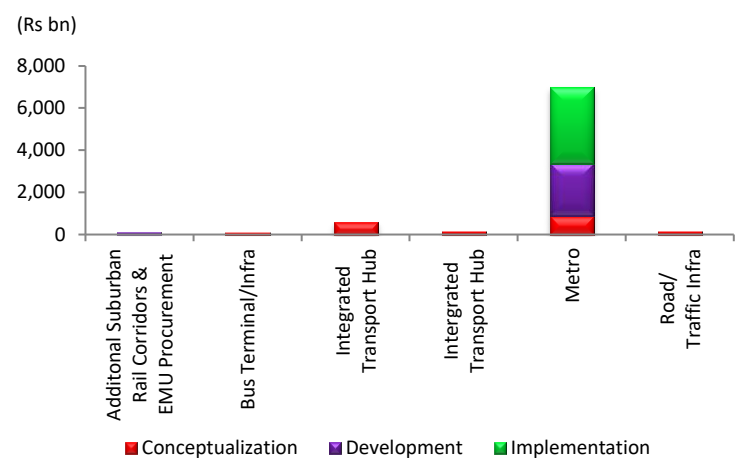
Source: Report of the Task Force - Department of Economic Affairs, Ministry of Finance, GoI

Urban Public Transport

- Within urban infrastructure, the urban public transport segment is the largest, with several metro projects planned across key cities pan-India and few public transit/integrated transport hub opportunities.
- Of the Rs 8.1trn worth of projects we identified in this space (91% of total), 32% is in the development stage and 45% in the implementation stage, while most of the projects are planned under the EPC mode.
- Interestingly, as much as Rs 2.2trn worth of projects have their DPR approved, thus paving the way for a strong tender pipeline over the near to medium term.

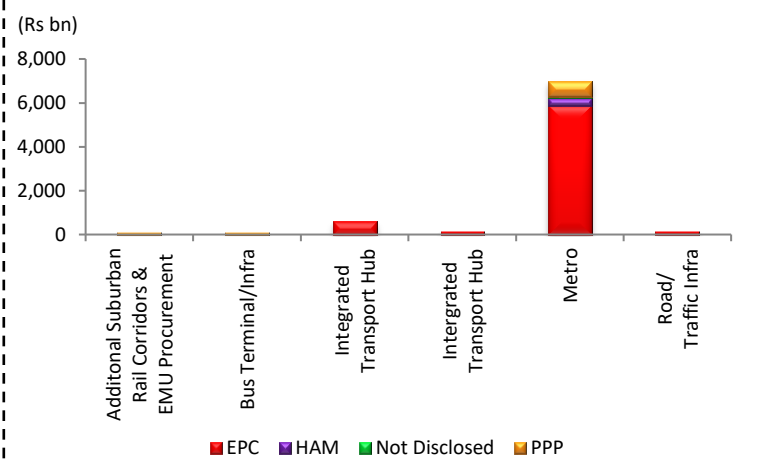
- Key metro rail projects where DPR is approved are Chennai Phase II, Delhi-Gurugram SNB NCRTC, Navghar-Balavali Multi Modal Corridor in Maharashtra, Thane, Delhi Phase-IV, Bangalore Phase-3, Vijayawada, Hinjewadi-Shivajinagar in Pune, Visakhapatnam, Nagpur Phase II and Bangalore Phase 2A.

Exhibit 65: Metro projects are the most-ready from an ordering perspective



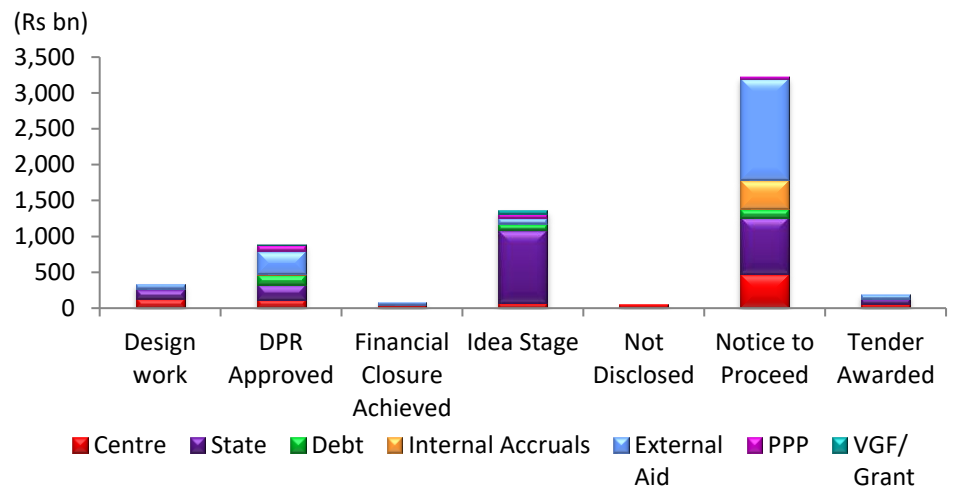
Source: Systematix Research, India Investment Grid

Exhibit 66: Most metro projects are on the EPC mode



Source: Systematix Research, India Investment Grid

Exhibit 67: Rs 0.8trn worth of tender-ready metro projects await with a reasonable mix of state and external funding



Source: Systematix Research, India Investment Grid

Water segment has been the current government's focus area

As of Mar-17, while 96% of the urban population in India had access to basic drinking water services, only 56% of the urban population had access to safely managed drinking water services.

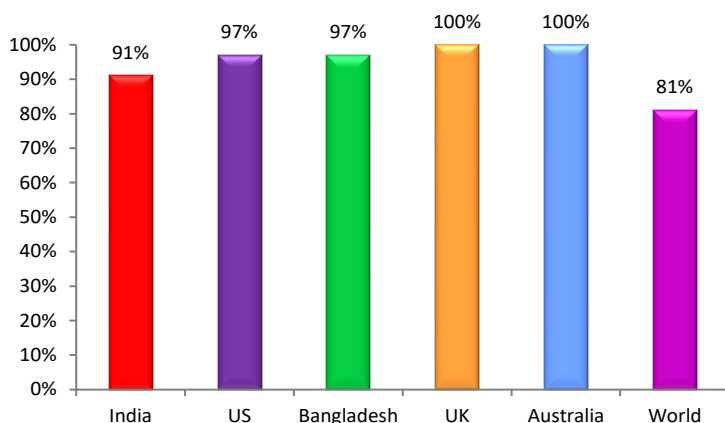
The National Rural Drinking Water Programme (NRDWP) was initiated in 2009 to assist states in providing adequate and safe drinking water to the rural population. The scheme envisaged funding for components such as coverage of habitations, quality of water provided and O&M of projects etc., with a centre-state fund sharing pattern of 90:10 for the northeast Himalayan states and 50:50 for all remaining states.

As of July-19, 1.39mn habitations were fully covered, while 269,465 habitations were partially covered under the NRDWP programme, making up ~97% of the total rural households. However, only 18% of the households had access to piped water supply out of this.

In 2019, the GoI restructured the ongoing NRDWP, which was subsumed into the Jal Jeevan Mission (JJM) to provide functional household tap connection (FHTC) to every rural household, i.e. Har Ghar Nal Se Jal, by 2024. The estimated project cost for the mission is Rs 3.6trn, through which around 146mn rural households will be provided with FHTCs. The funding pattern for the JJM scheme between centre and state is 90:10 for Himalayan and northeastern, 100:0 for Union Territories and 50:50 for the rest of the states.

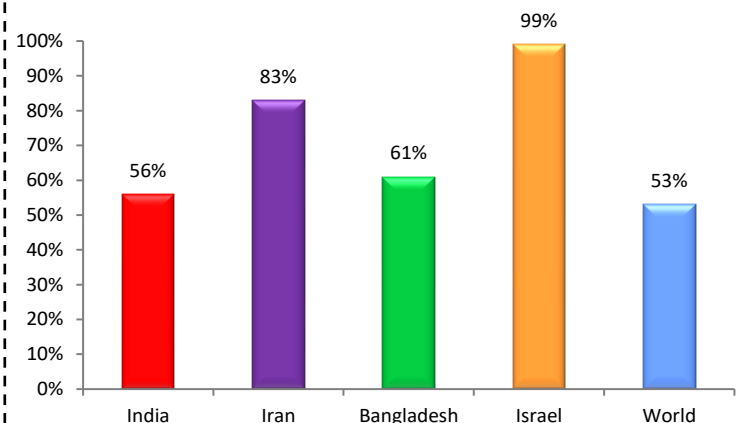
JJM aims to improve the quality of life of the rural population and assist in ensuring open defecation free (ODF) sustainability. In the rural areas, this will also help generate employment and boost the economy.

Exhibit 68: Access to basic drinking water (as a % of rural population)



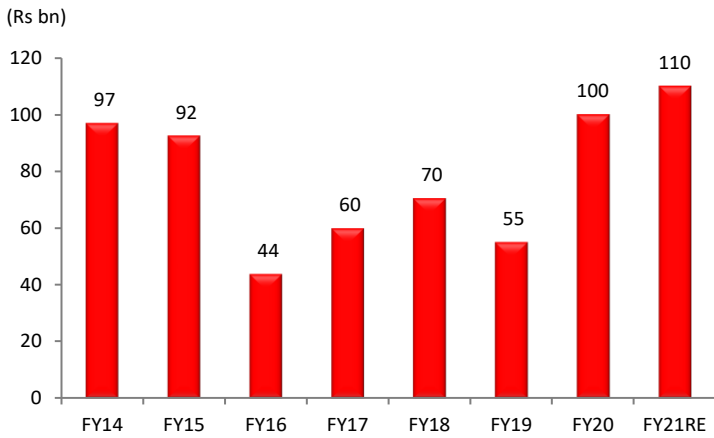
Source: World Bank Data (2017)

Exhibit 69: Access to safely managed drinking water



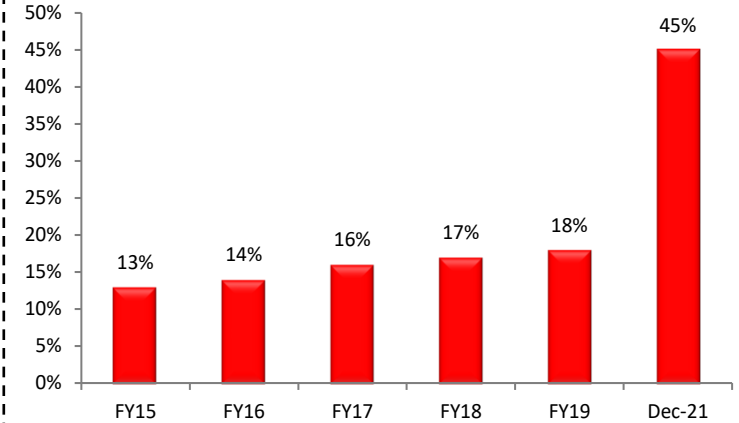
Source: World Bank Data (2017)

Exhibit 70: Expenditure under NRDWP



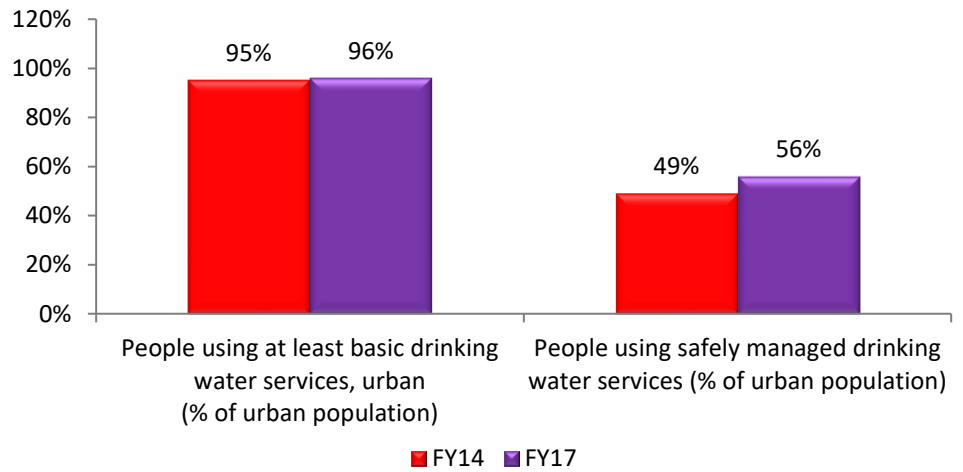
Source: NRDWP website

Exhibit 71: Rural households with piped water supply (% of total)



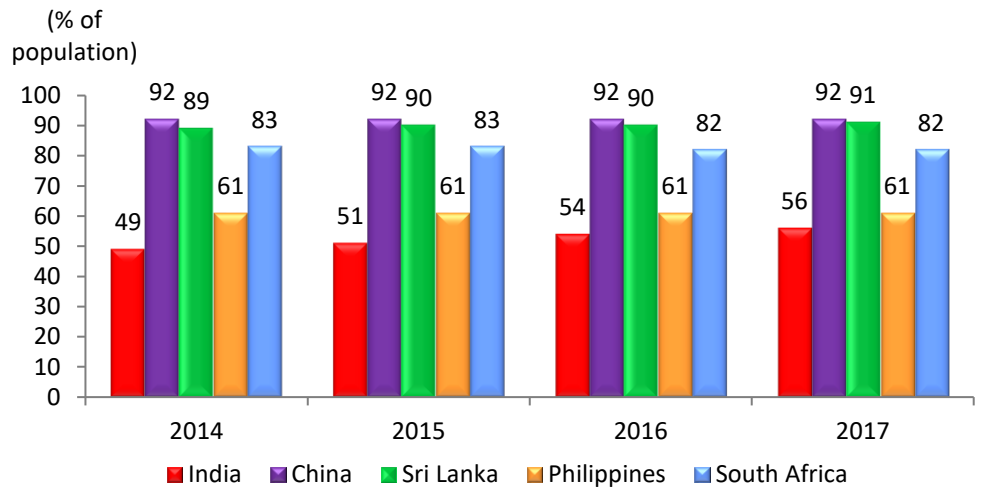
Source: NRDWP website

Exhibit 72: Urban population's access to drinking water services



Source: World Bank

Exhibit 73: Urban population using safely managed drinking water (% of population)

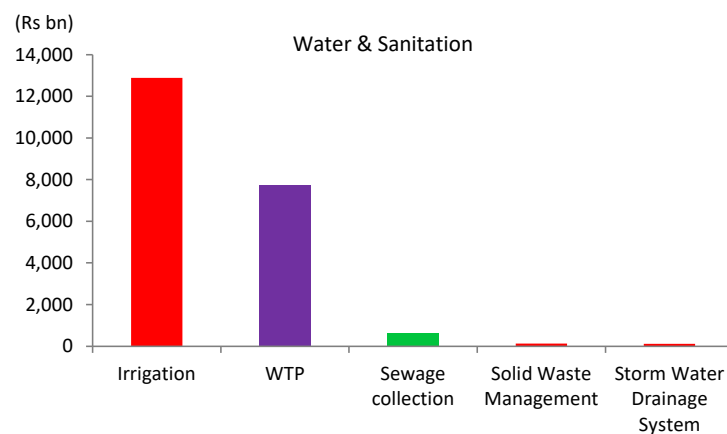


Source: World Bank

Water & sanitation makeup over 17% of NIP projects by value and is the third-largest segment after transport and energy.

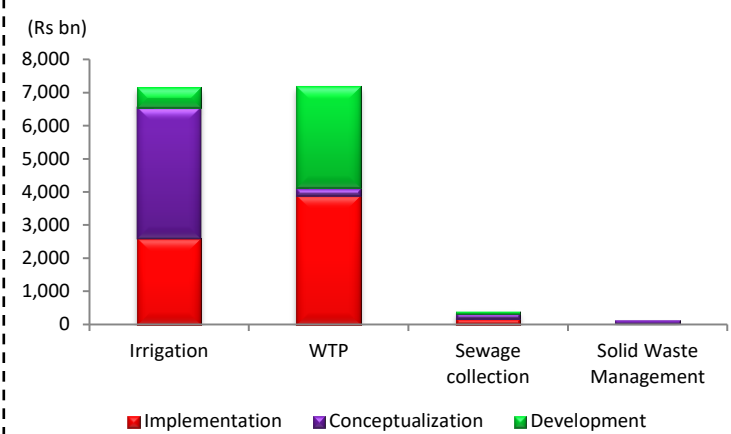
- Within water & sanitation, irrigation is the largest segment with planned spending of Rs 12.89trn. Almost Rs 5trn of the irrigation projects are already under implementation (with 50% of project cost already spent), while many remaining projects are in the conceptual stage.
- Water treatment projects is the second largest area with planned spending of Rs 7.74trn. Almost the entire spending here is dominated by the pet scheme Jal Jeevan Mission where work is already under implementation/development.
- As compared to capital spending of ~Rs 0.35trn in FY20 on water supply projects, the total NIP pipeline in water treatment projects (WTP) is about Rs 7.74tn, of which almost the entire amount was yet to be incurred as of Mar-19.
- Since then, we have seen a fair amount of progress relating to Jal Jeevan Mission projects in the country but assume overall spending to be in-line with FY20 levels. Assuming that another Rs 0.7trn was spent over FY20-21, about Rs 7trn worth of remaining pipeline is in WTP, or 20x of FY20 spending, thus providing strong visibility at least from a pipeline perspective.
- Despite the ambitious pipeline in the WTP segment, the bulk is through just two different schemes of Jal Jeevan Mission (JJM) – Rural and Urban. JJM-Rural is the priority area for the Government; JJM-Urban may be taken up later.

Exhibit 74: Irrigation and water supply (WTP) - key segments where spending is planned



Source: Systematix Research, India Investment Grid

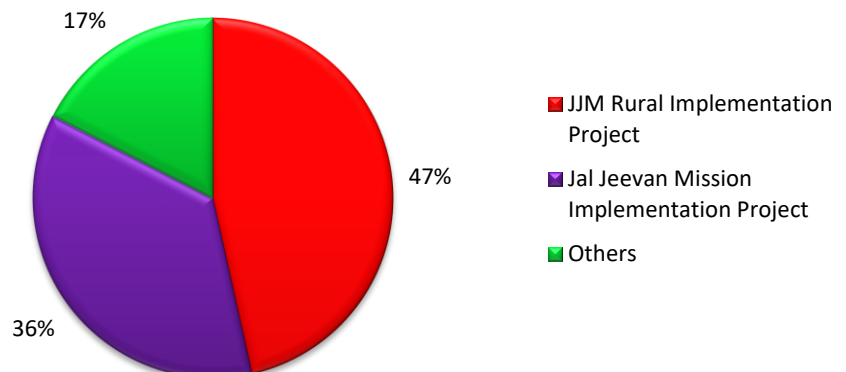
Exhibit 75: Water segment opportunity segregated as per remaining identified capital outlay



Source: Systematix Research, India Investment Grid

Exhibit 76: Almost 83% of Rs 7.7trn spending on water treatment projects outlined for the Jal Jeevan mission; much of the remaining spending is for piped water supply planned by individual states and may merge with JJM eventually

Jal Jeevan Mission is a pan-India project; most of the larger EPC players have said that JJM projects tend to be small and are not a focus area for them.



Source: Systematix Research, India Investment Grid

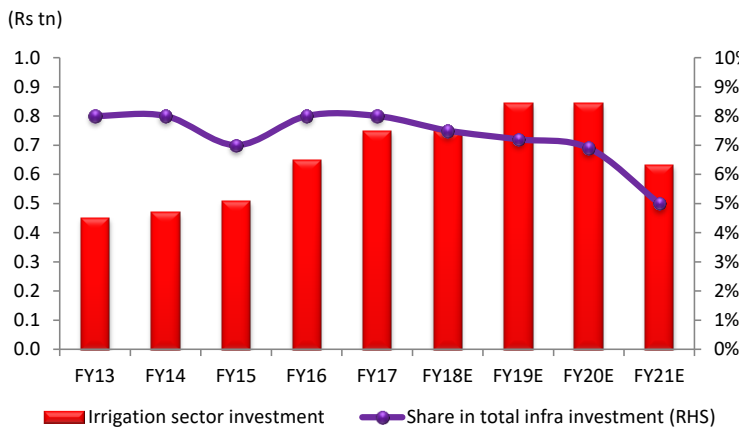
Irrigation

Investment in the irrigation sector is critical as it directly impacts agriculture and the rural economy in India. Over FY13-17, the irrigation sector investment in the overall infrastructure investment was ~9%, having grown at a ~5% CAGR. Investments in irrigation are mainly driven by respective state governments.

The overall net irrigated area (NIA) in India has barely increased between FY15 and FY19 (CAGR of ~2%); in comparison, the area under micro-irrigation grew at a ~10% CAGR during the same period, owing to the government's continued focus in the form of targeted, centrally-sponsored schemes and initiatives. However, the share of sprinkler irrigation declined from 56% to 53% during this period, with a commensurate increase in the share of drip irrigation.

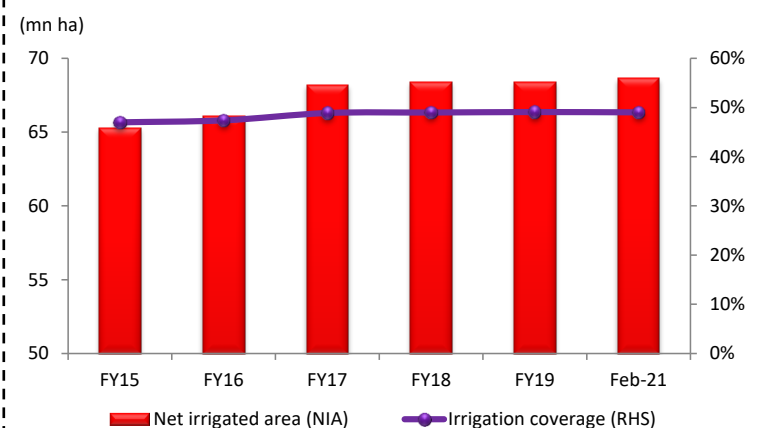
Agriculture accounts for 80% of the current water consumption. Of the country's 140mn ha of the net sown area, net irrigated area is about 68mn ha and the remaining 72mn ha is rain-fed. Of the net irrigated area, about 40% is irrigated through canal systems and 60% through groundwater. Groundwater is being overexploited in large areas of the country. With declining per capita water availability, over-exploitation and inefficiencies cause alarm.

Exhibit 77: Irrigation sector investment and share in total infrastructure investment



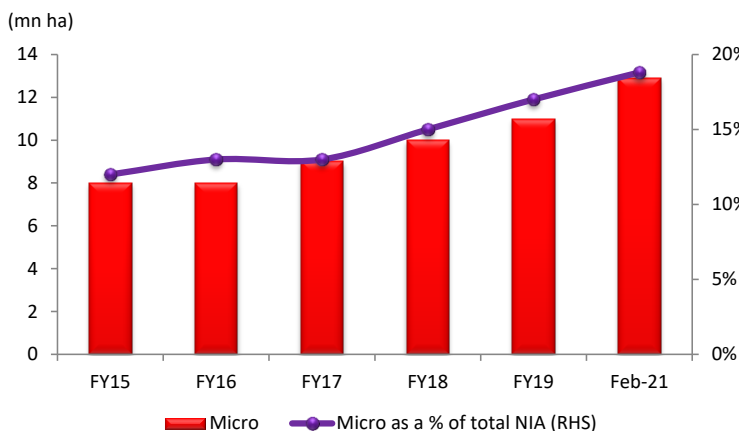
Source: Appraisal documents for five-year plans, CRIS estimates

Exhibit 78: Net irrigated area in India has barely increased over FY15-19



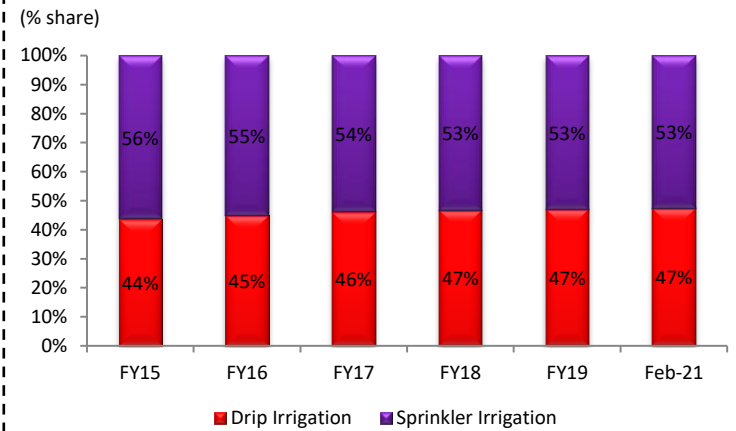
Source: Ministry of Agriculture Annual Reports

Exhibit 79: Micro-irrigation in India has grown at an 8%+ CAGR over FY15-21...

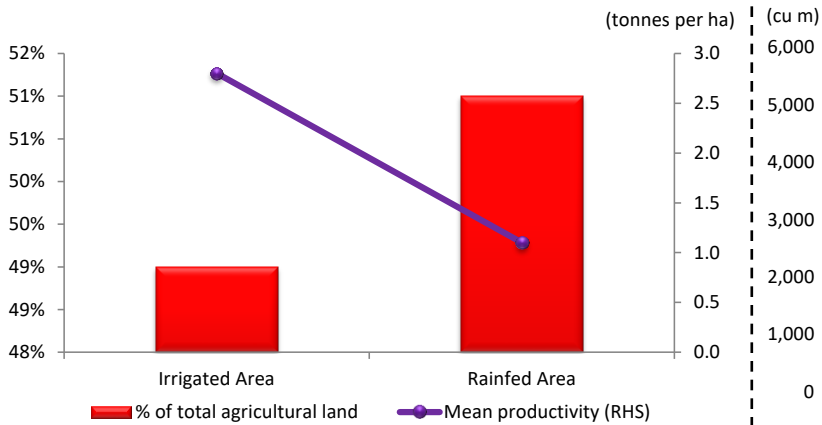


Source: Pradhan Mantri Krishi Sinchai Yojana

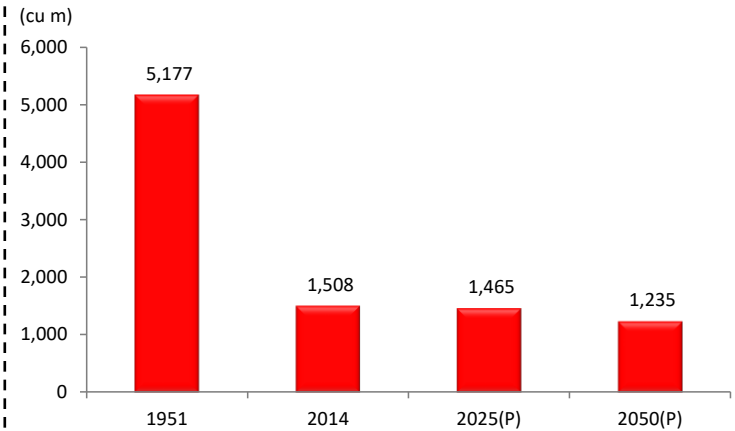
Exhibit 80: ...led by drip irrigation



Source: Pradhan Mantri Krishi Sinchai Yojana

Exhibit 81: Rain-fed agriculture dominates in India despite low irrigation efficiency

Source: ICAR, PIB

Exhibit 82: Concerns of water scarcity rising as per capita water availability is declining due to groundwater over-exploitation

Source: ICAR, PIB

Exhibit 83: Segment-wise break-up of irrigation capex planned by the centre

Category	No of projects	Capex over FY20-FY25 (Rs bn)
SPR, ISBIG, CADWM	47	1,264
NWDA	4	1,027
NMCG, NRCD	44	201
Total	95	2,492

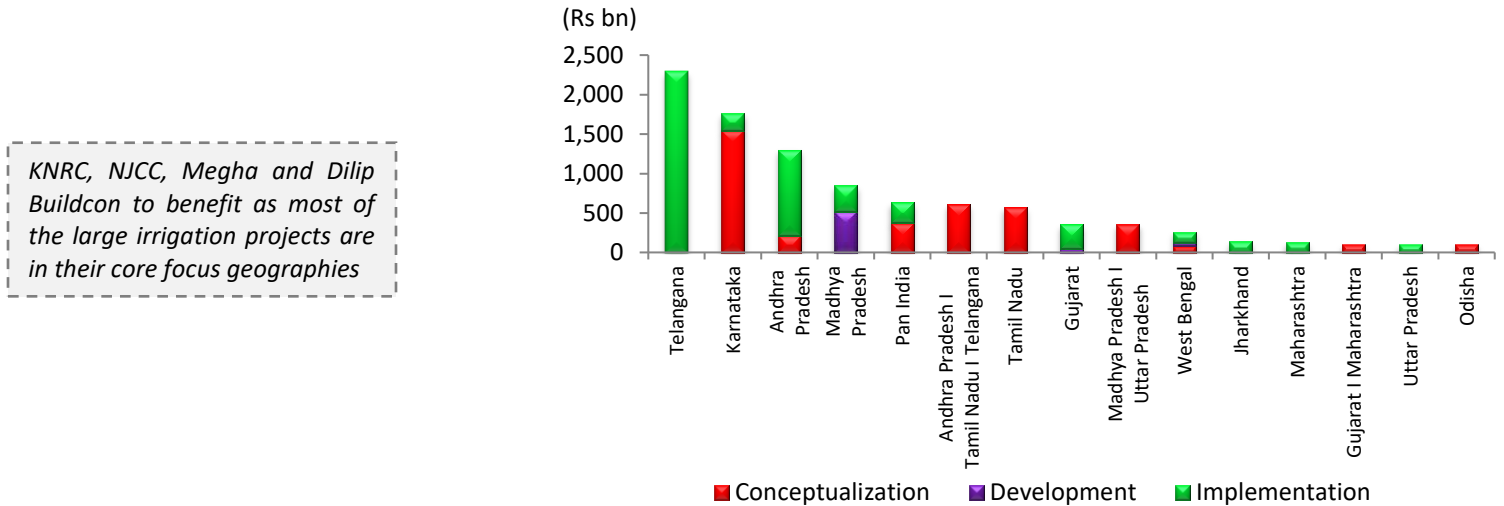
Source: Report of the Task Force - Department of Economic Affairs, Ministry of Finance, GoI

Exhibit 84: Year-wise break-up of total irrigation capex planned over FY20-25

(Rs bn)	FY20	FY21	FY22	FY23	FY24	FY25	Total
Line ministry	398	618	541	454	284	197	2,492
States	721	1,386	1,219	929	875	516	6,453
Overall total	1,145	2,006	1,757	1,374	1,153	705	8,945

Source: Report of the Task Force - Department of Economic Affairs, Ministry of Finance, GoI

- Compared to a spend of ~Rs 1trn on irrigation projects in FY20, the total NIP pipeline in the irrigation sector is about Rs 12.89trn, of which about 20% was already spent by Mar-19. Assuming that another Rs 2trn was spent over FY20-21, about Rs 8.4trn worth of remaining pipeline is in irrigation, or 8x of FY20 spending, thus providing strong visibility at least from a pipeline perspective.
- However, upon drilling down into the specifics of the irrigation projects, we find that irrigation pipeline can broadly be divided into two kinds 1) projects under implementation (about Rs 5trn) and 2) projects in the idea stage worth about Rs 4trn. Of the projects under implementation, over 50% of the work had been completed as of Mar-19, and we assume over FY20-21, a large part of the remaining work too would have been completed.
- On the other hand, for the projects in the idea stage, the list comprises mostly ambitious projects such as the river inter-linking projects, which may not see the light of the day for several years.
- An analysis of the geographical mix of the proposed irrigation projects unsurprisingly suggests that most of the large projects are in Telangana, Karnataka and Andhra Pradesh, which will benefit EPC players like KNRC, NJCC and Megha Engineering that are active in these geographies.

Exhibit 85: Telangana, AP, Karnataka and MP have most of the upcoming irrigation projects – to benefit players like KNRC, NJCC, Megha and Dilip Buildcon (Rs bn)

Source: Systematix Research, India Investment Grid

Exhibit 86: Most of the large irrigation projects are in AP, Karnataka and Telangana; large value of centre-funded projects are in the conceptualization stage

(Rs bn)	Conceptualization	Development		Implementation	Promoter		
	Idea Stage	DPR Approved	DPR/ Feasibility Study in Progress	Notice to Proceed	Centre	States/UTs	Grand Total
Andhra Pradesh	213	-	-	1,084	952	345	1,297
Andhra Pradesh Tamil Nadu Telangana	606	-	-	-	606	-	606
Gujarat	-	42	-	315	315	42	358
Gujarat Maharashtra	102	-	-	-	102	-	102
Jharkhand	-	-	-	140	140	-	140
Karnataka	1,549	-	-	218	108	1,659	1,768
Madhya Pradesh	-	225	298	327	-	850	850
Madhya Pradesh Uttar Pradesh	351	-	-	-	351	-	351
Maharashtra	-	-	-	128	128	-	128
Pan India	374	-	-	261	635	-	635
Tamil Nadu	575	-	-	-	-	575	575
Telangana	-	-	-	2,294	175	2,119	2,294
Uttar Pradesh	-	-	-	101	101	-	101
West Bengal	82	-	48	129	-	259	259
Odisha	100	-	-	-	-	100	100
Grand Total	3,952	268	346	4,998	3,614	5,950	9,564

Source: Systematix Research, India Investment Grid

River inter-linking: Huge EPC opportunity but lengthy execution timeline and challenges on land, environment, R&R

The National Perspective Plan (NPP) prepared by the Ministry of Water Resources, River Development and Ganja Rejuvenation (MoWR, RD, and GR) envisage development through the inter-basin transfer of water from water surplus basins to water-deficit basins. As part of the NPP, the National Water Development Agency (NWDA) has identified 30 links under various phases of project preparation.

Further, four priority links (of 30) have been identified under NPP – Ken-Betwa link project (KBLP) Phase I and II, Damanganga – Pinjal link project, Par – Tapi – Narmada link project and the Godavari - Cauvery link project. The detailed project reports (DPRs) of Ken-Betwa, Damanganga-Pinjal, Par-Tapi-Narmada link projects have been completed. All statutory clearances have been accorded for Phase-I components and most of the clearances for projects under Phase-II of the Ken-Betwa link project have also been obtained. The clearances for the Damanganga-Pinjal and Par-Tapi-Narmada link projects are being obtained from concerned ministries/departments. The draft DPR of the Godavari-Cauvery link project has also been completed and sent to party states for concurrence.

The completion of the identified 30 links will increase overall area under irrigation by 35 MHa; the supply of industrial and domestic water will increase by 14,000 million cubic metres (mcm) and these will also be used for hydropower generation of ~34 GW.

- Part of the irrigation opportunity is through river inter-linking projects, which is a 40-year plan with a projected cost of Rs 10.6trn (at 2015-16 base price) to be incurred between 2021-2050. The project aims to create 30 links of rivers through a network of reservoirs and canals across India.
- The original National Perspective Plan (NPP) for water resource development was prepared in 1980, which identified these 30 links (16 under Peninsular Component and 14 under Himalayan Component). From this, a sub-set of four priority links have been identified under the Peninsular river component to be completed on a priority basis for an estimated cost of Rs 1.14trn to be incurred over 2021-30.
- River inter-linking is proposed to create additional irrigation potential of 17.7mn hectares and generation of 32.3GW hydropower, benefiting inland navigation, fisheries development, flood control and water supply.
- This large-scale engineering project is expected to benefit a wide range of sectors directly - EPC players, pump manufacturers, pipe manufacturers, cement manufacturers, construction equipment players, steel manufacturers. Indirectly it would benefit agrochemical and fertilizer players due to increased farm produce.
- The government has identified the below key linking projects to be completed on a priority basis.

Exhibit 87: Priority river-linking projects planned for completion by 2030

Name of the Project	Estimated Cost (Rs bn)	Status	Proposed timeline
Ken - Betwa Link Project	437	DPR prepared	2021-28
Damanganga - Pinjal Link Project	38	DPR prepared	2021-27
Par - Tapi-Narmada Link Project	128	DPR prepared	2022-27
Godavari – Cauvery	564	DPR under preparation	2023-30

Source: Report of the Task Force - Department of Economic Affairs, Ministry of Finance, GoI

The funding plan for river inter-linking projects is over-ambitious, with 85% expected from banks/ multi-lateral agencies

- According to the minutes of the meeting of the task force set up for river inter-linking projects, even as the project cost is estimated at a massive Rs 10.6trn (USD 150bn) over CY21-50, the government support for this is targeted to be kept extremely low at 15-17% of the overall project cost.
- Domestic commercial banks are expected to fund 24-44% of the cost, while other financial institutions, including multilateral agencies, are expected to fund the remaining 39-59% of the cost.
- Such optimistic assumptions about external/bank funding for the project would be a non-starter, especially given that there is no established and proven cost-recovery option.
- Even with 15% government's share of financing estimate, as per the task force's estimates, the cumulative impact over 2021-50 on India's fiscal deficit (as a % of GDP) will be 42bps.
- The existing DPRs prepared for the three (out of four) priority projects may require further review of their comprehensiveness and validity on social and environmental impact assessments. Economic and financial appraisals of the projects also need to be revised because they are based on a methodology that differs from the multi-lateral funding agencies.
- The ILR program also involves certain unique risk factors such as –
 - Inter-state issues of specified links/groups where a river may cross two or more states, resulting in water sharing disputes.
 - International and inter-state issues of specified links/groups where a river may cross two or more countries/states, resulting in even more complex water sharing disputes.

Base-case capex phase out over 2021-50, leaving the annual opportunity to a trickle

- We highlight the base-case capex phase-out of the river inter-linking project below. Albeit ignoring the challenges associated with the project, we note that the capex from these projects peaks out at Rs 712bn in 2026 and before that, it is <Rs 200bn per annum.
- As compared with the annual spend of Rs 700-800bn on water supply and Rs 1trn+ on irrigation, these numbers do not look exciting at least until 2026.
- Given the significant social pushback along with environmental and execution challenges associated with these projects, it is likely that the actual capex will be even lower than that estimated by the task force in the base-case as below.

Exhibit 88: Planned capex phasing as per river link over 2021-50

(Rs bn)	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY 31-35	FY 36-40	FY 41-45	FY 46-50	Total cost	Cost with 25% adj.
Ken-Betwa	16	29	51	76	67	53	38	20	-	-					349	437
Par-Tapi-Narmada	9	9	15	15	19	19	15	-	-	-					102	128
Damanganga-Pinjal	-	3	8	7	6	4	2	-	-	-					30	38
Godavari (Akinepalli) - Cauvery	-	-	23	36	64	97	86	68	50	26					451	564
Rest of Group 4						35	35	35	35	35	627				803	1,004
Group 1						114	114	114	114	114	568				1,136	1,419
Group 2						75	75	75	75	75	375				750	938
Group 3						168	168	168	168	168	840	840	840	840	4,200	5,250
Parbati-Kalisindh-Chambal						4	4	4	4	4	20				39	49
Bedti-Varda											11	11			22	27
Netravati-Hemavati											6	6			12	15
P.A.V Link												24	24	24	73	91
Equivalent irrigation from BP water dropped into Mahanadi											158	158	158		474	592
Total Cost: FY16 prices	26	41	96	134	157	569	537	484	445	422	2,605	1,039	1,022	864	8,441	NA
Cost with technical adj. @25%	32	51	120	167	196	712	672	605	557	527	3,256	1,299	1,278	1,080	10,552	NA

Source: Systematix Research

Energy segment capex lacks a clear roadmap

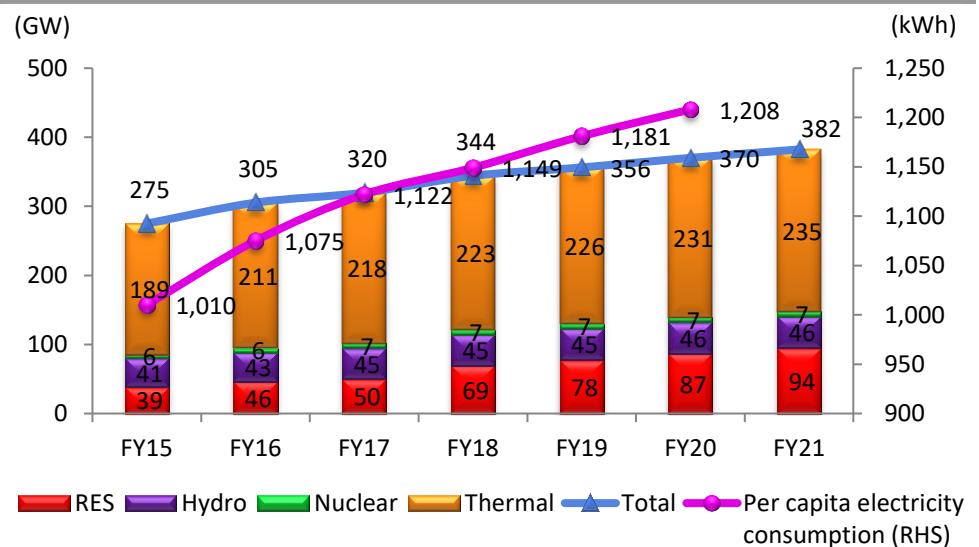
The energy sector includes conventional power, renewable energy (RE), petroleum and natural gas. The power sector accounted for the largest share of infrastructure investments in the past cycle (2003-10). Even as the energy use is projected to snowball to fuel economic development and urbanization, India's per capita energy consumption remains low vis-à-vis even other developing countries. The poor financial health of the state-owned distribution companies (Discoms) is the key reason for the continued under-investment in the sector.

Over FY13-17, the share of power sector investment in the overall infrastructure investment was ~37%, growing at an ~8% CAGR. For the 12th Five-Year-Plan, the share of various segments in power sector investment was generation (61%), transmission (20%) and distribution (19%). During the plan period, private sector investment declined due to the cancellation of allocated coal blocks and financial stress in Discoms, leading to stressed assets and non-performing loans. It is critical to address these challenges to facilitate continued private sector contribution to the power sector.

Even as there remains uncertainty on generation capex (especially thermal), there is a strong case for continued investment in transmission and distribution capex in India. As of Mar-19, the transmission lines in India aggregated to a total length of 413,407 circuit kilometres (ckm), growing at a CAGR of 7% since FY15. The share of the centre, states and private sector in the overall length of the transmission lines was 38%, 54% and 8%, respectively.

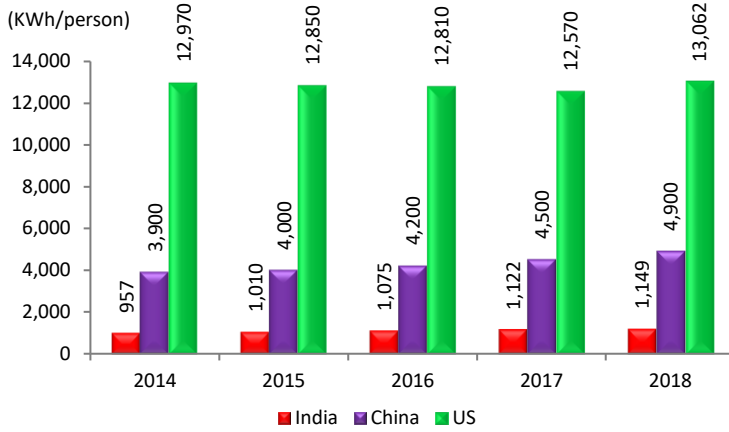
Distribution is the most critical link in the entire value chain of the power sector. The distribution sector has seen many reforms recently with some improvement in operational efficiency and power accessibility for the masses, but financial health remains weak. Most of the distribution network is still managed by state distribution companies with little participation from the private sector.

Exhibit 89: Per capita electricity consumption growth in India is still lags generation capacity addition growth



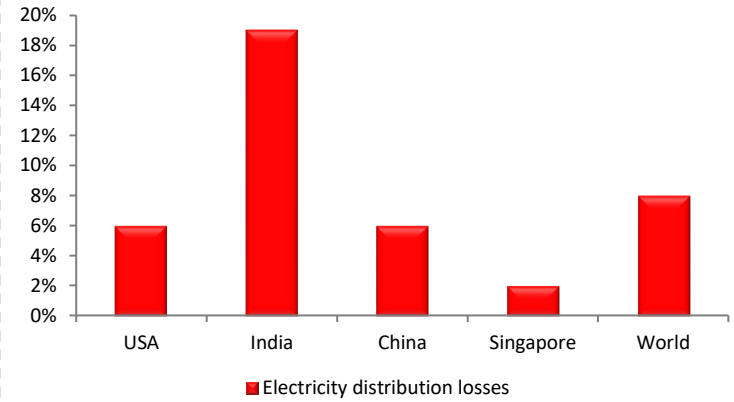
Source: Central Electricity Authority

Exhibit 90: Per capita consumption in India is still relatively low



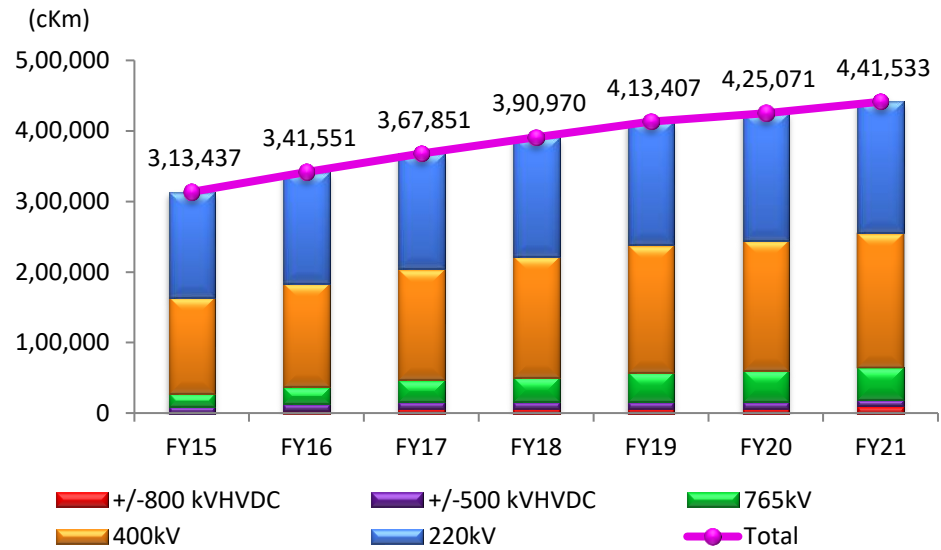
Source: International Energy Agency, CEIC, Energy Information Administration, CEA

Exhibit 91: ...while distribution losses are amongst the highest



Source: IEA Energy Atlas (2018)

Exhibit 92: Power transmission lines addition in India has slowed and has room to grow



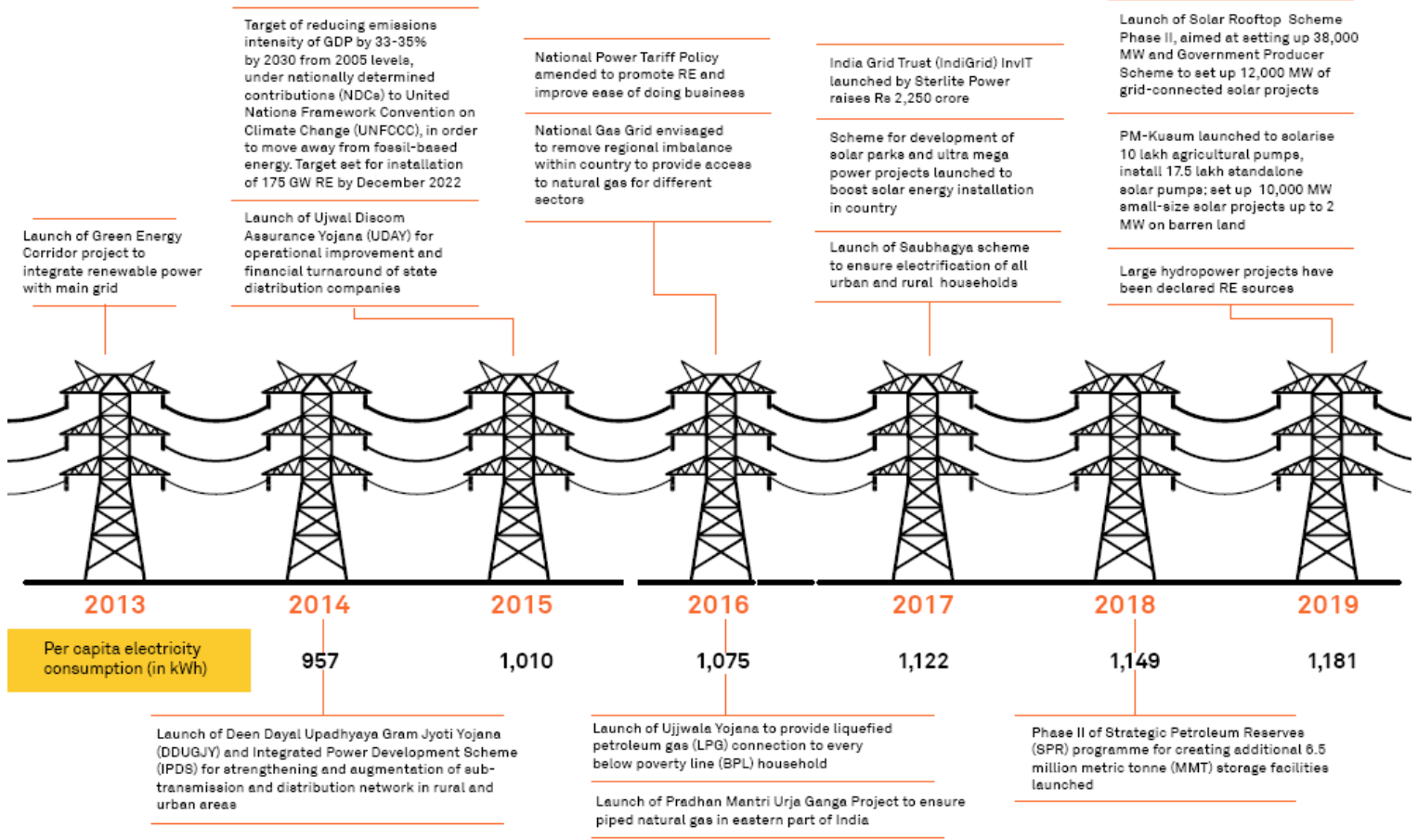
Source: Central Electricity Authority

Exhibit 93: Year-wise planned capital expenditure in the power sector over FY20 to FY25

(Rs bn)	FY20	FY21	FY22	FY23	FY24	FY25	Total
Generation	301	538	638	635	650	507	3,268
Distribution	211	420	442	600	700	857	3,230
Transmission	549	539	507	515	515	415	3,041
Total	1,061	1,497	1,587	1,750	1,865	1,779	9,539
States	581	758	630	485	387	331	4,565
Overall total	1,641	2,256	2,217	2,235	2,252	2,110	14,104

Source: Report of the Task Force - Department of Economic Affairs, Ministry of Finance, GoI

Exhibit 94: Energy sector reforms timeline



Source: Report of the Task Force - Department of Economic Affairs, Ministry of Finance, GoI

Exhibit 95: Over Rs 9.3trn of proposed capex is in renewable power

Category	Target by Dec 25 (in GW)	Actual achievement till Oct 19 (in GW)	Capacity to be added by FY25 (in GW)	Capex over FY20-FY25 (Rs bn)
Solar power	150	32	118	4,720
Wind power	97	37	60	4,193
Small hydro power	7	5	2	235
Bio power	12	10	2	147
Total	266	83	182	9,295

Source: Report of the Task Force - Department of Economic Affairs, Ministry of Finance, GoI

Exhibit 96: Total energy sector capital expenditure to be incurred from FY20 to FY25

(Rs bn)	FY20	FY21	FY22	FY23	FY24	FY25	Total
Power	1,641	2,256	2,217	2,235	2,252	2,110	14,104
Renewable energy	305	1,510	1,440	1,700	2,170	2,170	9,295
Atomic Energy	116	215	283	331	327	283	1,555
PNG	273	435	483	415	229	105	1,946
Total	2,336	4,415	4,424	4,681	4,978	4,668	26,900

Source: Report of the Task Force - Department of Economic Affairs, Ministry of Finance, GoI

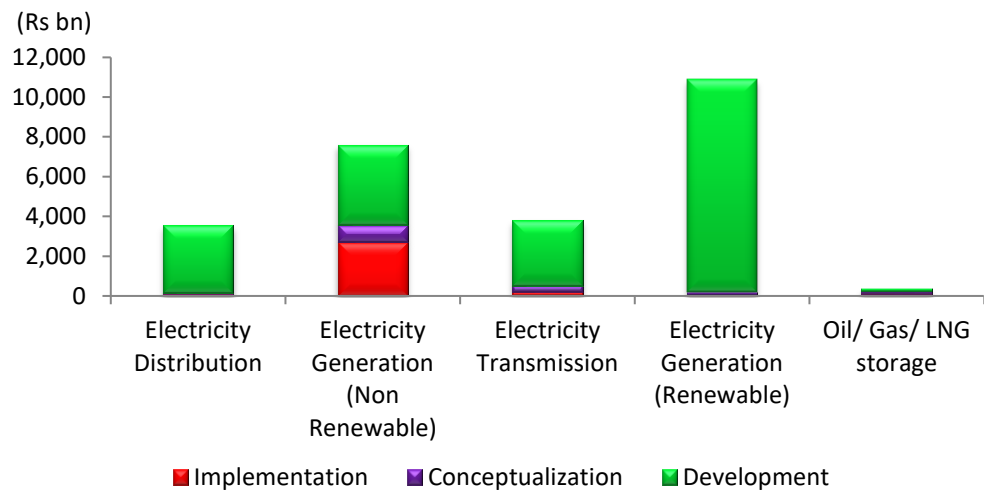
Exhibit 97: Entity-wise breakdown of planned power sector capex

Category	Capex over FY20–FY25 (Rs bn)
Generation	3,268
NTPC	1,200
NHPC	440
THDC	104
SJVN	103
DVC	28
State (Hydro)	754
Private (Hydro)	638
Distribution	3,230
DDUGJY, IPDS, Proposed New Scheme	3,230
Transmission	3,041
PGCIL	655
DVC	5
State	1,900
Private	480
Total	9,539
States	4,565
Overall total	14,104

Source: Report of the Task Force - Department of Economic Affairs, Ministry of Finance, GoI

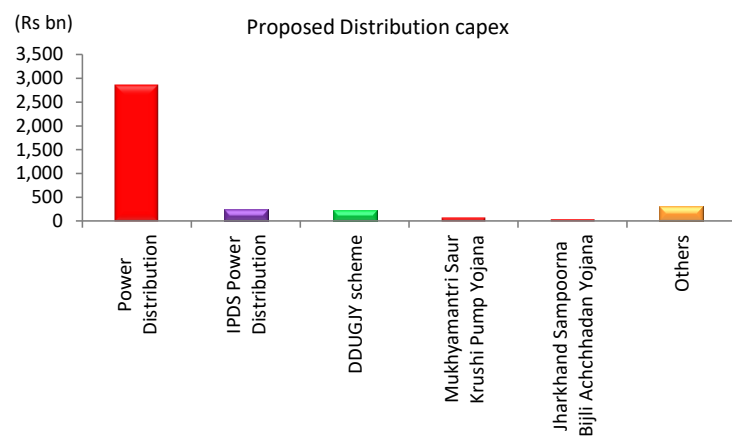
- Energy is the second-largest segment in the overall NIP plan with proposed spending of Rs 27trn (now revised to Rs 35.7trn). Almost 46% of the total proposed spending is planned for the renewables sector alone.
- The renewable capex target of Rs 16.28trn seems more of a top-down ambition than a concrete plan for how that will materialize. In any case, energy generation projects are driven mainly by market demand-supply factors and usually taken up by private players and as such, the final number will depend on several factors beyond the government's control.
- In the non-renewable generation space, while the planned spending of Rs 6.4trn looks rosy in the current environment, there are hardly any new thermal power projects being set up either by NTPC or by private players. NTPC has publicly said that it doesn't plan to set up any new thermal power projects.
- Transmission and Distribution together have about Rs 10.25trn worth of capex planned almost equally divided between the two. Of this, we are more hopeful of transmission capex going through than the distribution part. A large part of distribution capex will either be state-driven or dependent on the privatization of discoms materializing, both of which look challenging in the short term.

Exhibit 98: Most projects in the energy space are categorized as under development despite limited clarity on progress and ownership; a large chunk of generation capex may not materialize (Rs bn)



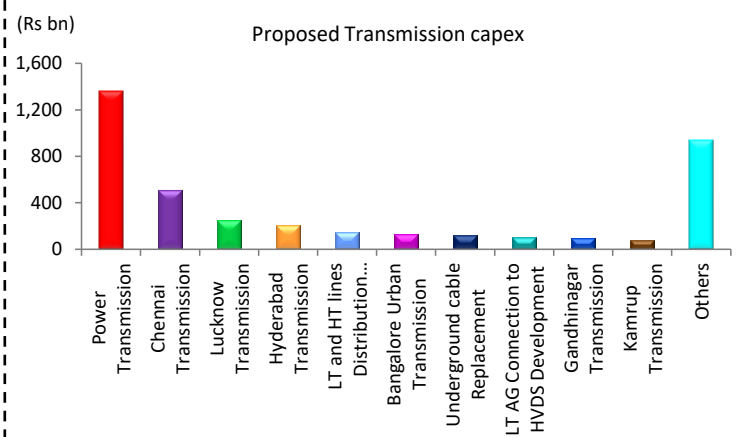
Source: Systematix Research, India Investment Grid

Exhibit 99: Over 75% of the proposed distribution capex is still unidentified



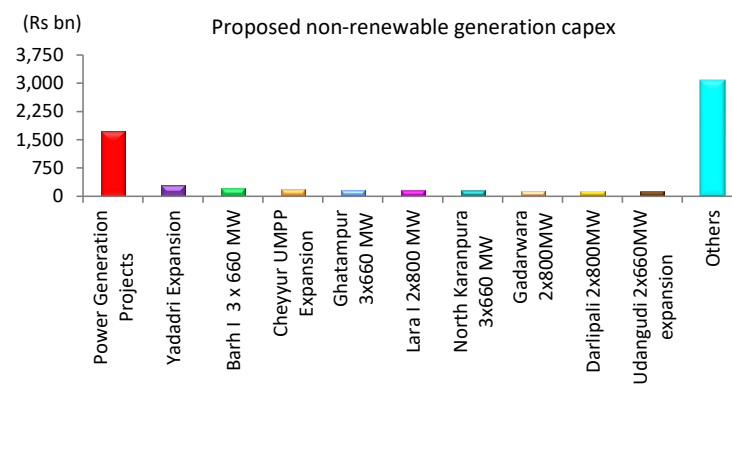
Source: Systematix Research, India Investment Grid

Exhibit 100: Transmission projects have better visibility as almost 65% of them are mapped geographically



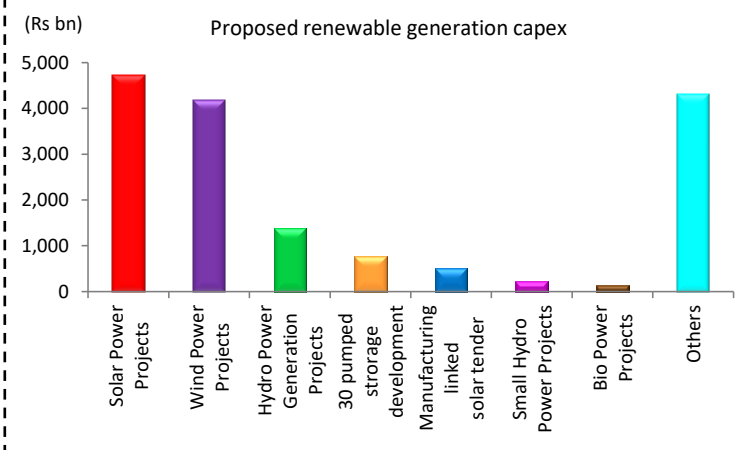
Source: Systematix Research, India Investment Grid

Exhibit 101: Rs 6.41trn of capex planned in non-renewable generation; most projects are already under implementation while others are unlikely to materialize



Source: Systematix Research, India Investment Grid

Exhibit 102: Planned capex of Rs 16.28trn in renewable energy seems too ambitious – most of this is in solar, wind and hydro projects



Source: Systematix Research, India Investment Grid

Despite the loopholes, NIP is an appreciable attempt at a process-based approach to infrastructure development

Moving away from ad-hoc infrastructure development across various sectors to centralized planning and perhaps centralized monitoring later

The mandate for NIP is defined as below:

- To identify technically feasible and financially/economically viable infrastructure projects that can be initiated over FY20-25.
- To estimate annual infrastructure investment/capital costs.
- To guide the ministries in identifying appropriate sources of financing.
- To suggest measures to monitor the projects to minimize cost and time overrun.

Acting as an aggregator of the infrastructure database across the country

- It appears that NIP is setting out a target of Rs 111trn capex over FY20-25; in reality, it is only collating a list of projects totalling up to that number or thereabouts with a potential future monitoring and dispute redressal role.
- NIP is not based on how much the government can spend; instead it reflects the universe of projects that need funding and a way to help fund these projects through a common dashboard.
- It depends heavily on other ministries and states to input project details; at this point, it is an aggregation of data input by others rather than NIP itself planning the projects.
- Since it is a collation exercise at this stage, the project bank suffers from an excessive number of ambitious projects at the idea stage rather than practical ones.
- Data sanctity depends on user inputs and suffers from repetition and a lack of verifiable DPRs; core schemes announced by the central government have been taken at face value without adequate breakdown and may suffer from optimistic targets.
- NIP also displays why an infrastructure-driven stimulus is so complex in India. There are multiple domains due to the lack of a common infrastructure ministry; the centre/state domain is the other problem.
- Unfortunately, it seems the website is still a work in progress despite its official unveiling. Even during our collation of data, we noticed projects being added/deleted, scope modified and project costs reduced.

NIP is not like the Project Monitoring Group (PMG) and will not suo moto push infrastructure capex or resolve disputes

As per the mandate of the NIP, its role is still limited to identifying opportunities, funding sources and suggesting measures to monitor the projects, unlike the Project Monitoring Group (that was formed in 2013), which played a much more active role in resolving issues.

- PMG used to facilitate collaboration between the states, centre and the project entity apart from key stakeholders in the project; NIP by itself does not help with that role though PMG and NIP are now part of the same department in the government.

- Dispute redressal in PMG is currently the onus of the affected party; given that the bulk of infrastructure capex is in the public domain, there may not be any aggrieved party if the project is delayed before construction award.

Prioritizing allocation and focusing on identified projects

Since NIP plays a limited role as an aggregator of infrastructure projects undertaken or planned in the country, it helps streamline the government bandwidth on identified projects rather than continuously rethinking new opportunities to be undertaken.

- It helps the government prioritize spending areas within the infrastructure domain; this provides visibility on the requirement and shortage.
- Allows a well-defined data bank of identified infrastructure projects that the Empowered Group of Ministers/Secretaries and PMG can work with to prioritize resources and speed up the execution for these projects.
- This approach also helps to portray a holistic picture to multilateral funding agencies and overseas pension funds/investors that can choose their areas of interest and fund accordingly.

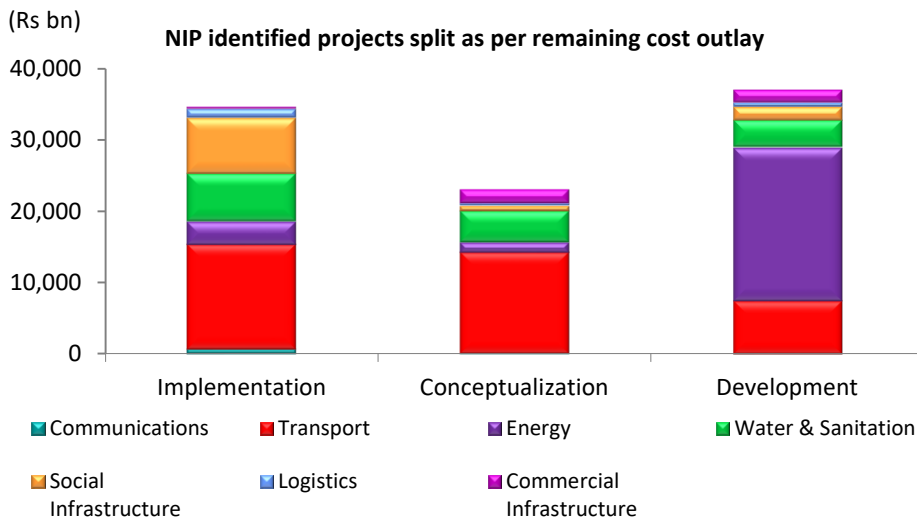
Over time, we expect the NIP to play a more involved role in improving data quality and an active role in monitoring and pushing the progress of the projects.

Projects under development is where ordering visibility exists

- While projects under implementation are mostly already ordered out (discussed later), projects under development stage are most likely candidates for ordering in the near- to medium-term as they should be in some stage of readiness compared to projects under the conceptualization stage.
- Out of the projects under development stage, 58% are in the energy segment (mostly renewable) and 20% in transport (primarily roads and metros). Unfortunately, most of these projects in the energy segment do not have their DPRs prepared and could be at a nascent stage or even concept stage marked as the development stage.
- While about 42% of the projects identified are already under various stages of implementation, only about 10% of the remaining projects (under concept or development stage) are in an advanced stage of progress and have their DPR approved.
- Projects where even the DPR is not yet prepared have a substantial risk of not seeing the light of the day and project cost revision. Even for projects under the PM's pet schemes such as Jal Jeevan Mission, PMGSY and energy, only ballpark estimates have been provided without any breakdown.

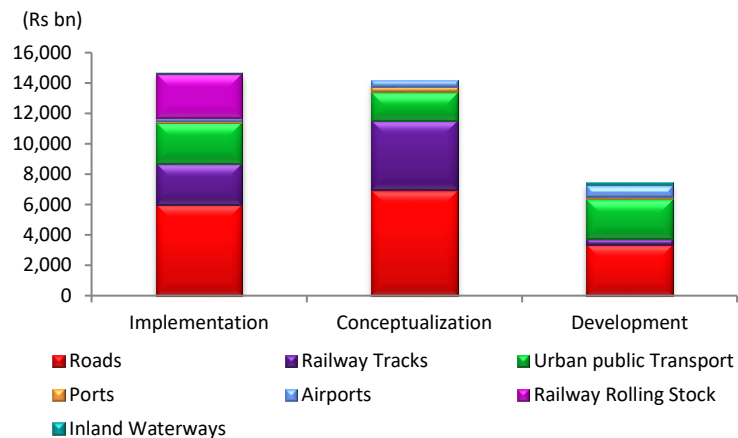
Exhibit 103: As per remaining cost outlay, 37% of the projects are already under implementation, while 39% are under development

While the overall development pipeline looks large, it is primarily driven by renewables and thermal power generation projects



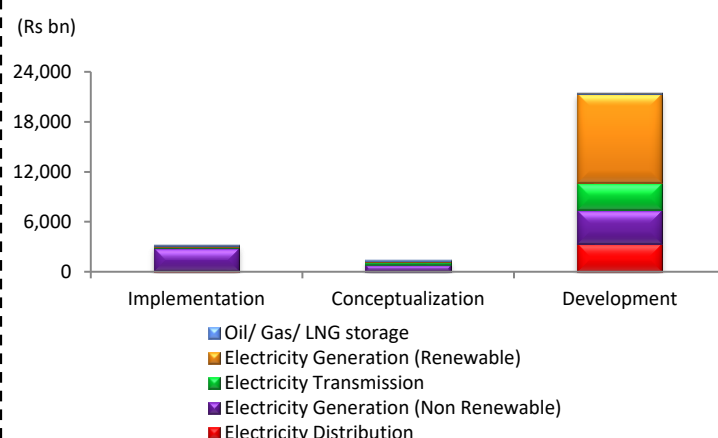
Source: Systematix Research, India Investment Grid

Exhibit 104: Small development pipeline in transport; centered around roads and metros; most railway projects are still in the concept stage (Rs bn)



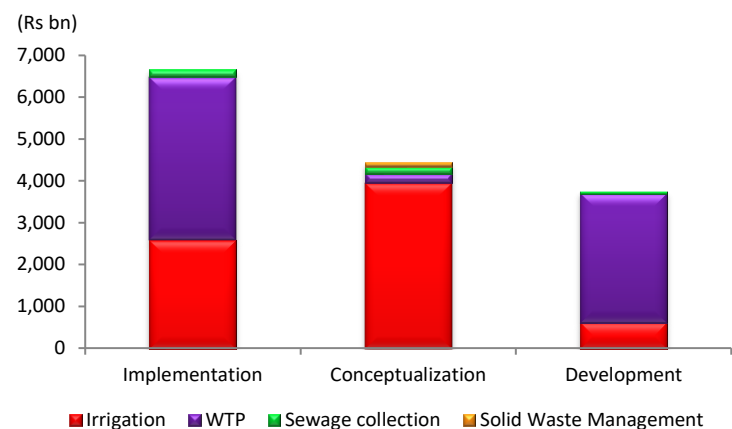
Source: Systematix Research, India Investment Grid

Exhibit 105: Energy development pipeline looks encouraging but mostly driven by renewable and thermal generation projects where there may be limited takers (Rs bn)



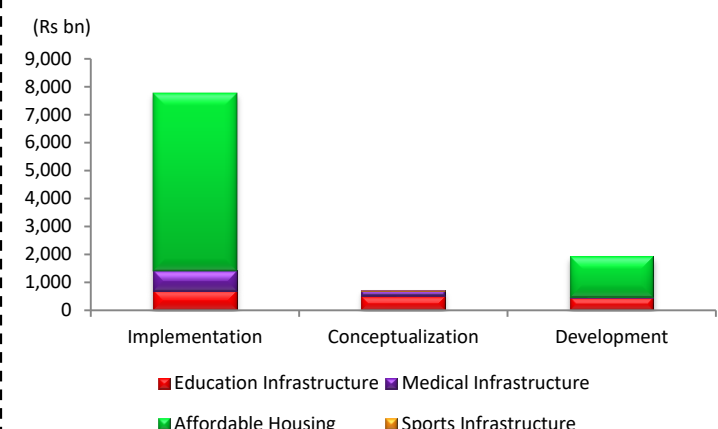
Source: Systematix Research, India Investment Grid

Exhibit 106: Water space characterized by pet schemes such as JJM (development) and river linking (concept stage) (Rs bn)



Source: Systematix Research, India Investment Grid

Exhibit 107: Affordable housing and education infrastructure form the bulk of the social infrastructure segment (Rs bn)



Source: Systematix Research, India Investment Grid

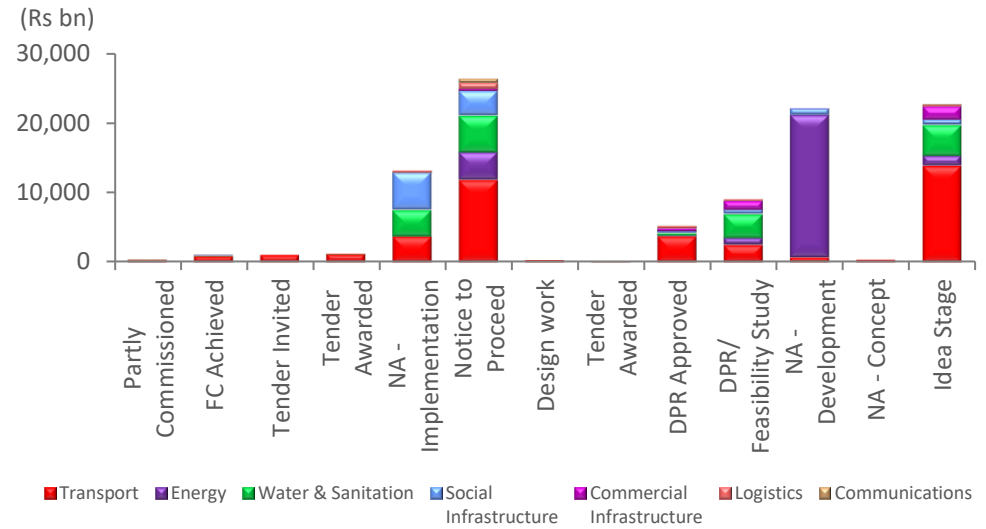
Exhibit 108: 45% of state projects are in the concept stage as against only 16% for centre-driven projects; projects in the concept stage are most at risk; 58% of under-development projects are in the energy space (mostly renewable)

(Rs bn)	Implementation		Conceptualization		Development		Others
	Centre	States/UTs	Centre	States/UTs	Centre	States/UTs	
Transport	16,357	2,638	10,676	3,542	5,449	1,647	370
Roads	5,679	2,549	5,218	1,736	2,378	1,000	
Railway Tracks	3,807	-	4,543	50	402	-	
Urban public Transport	3,617	-	571	1,303	2,079	173	362
Ports	59	63	174	159	72	88	7
Airports	226	16	155	290	519	223	
Railway Rolling Stock	2,915	-	15	-	-	-	
Inland Waterways	54	10	-	4	-	164	
Logistics	1,183	-	225	83	530	-	74
Transportation Pipelines	1,174	-	217	-	251	-	74
Logistics Infrastructure	8	-	8	83	279	-	
Energy	2,641	1,428	108	1,349	20,396	1,076	
Electricity Distribution	-	138	-	28	3,330	55	
Electricity Generation (Non-Renewable)	2,587	896	-	851	3,124	890	
Electricity Transmission	-	215	-	320	3,202	77	
Electricity Generation (Renewable)	-	106	-	116	10,684	-	
Oil/ Gas/ LNG storage	54	73	108	34	55	54	
Water & Sanitation	5,944	3,155	1,494	2,943	2,828	928	
Irrigation	2,181	2,817	1,433	2,519	-	614	
WTP	3,637	270	42	180	2,808	273	
Sewage collection	125	59	17	146	18	40	
Solid Waste Management	2	9	2	98	2	2	
Communications	791	20	48	-	31	-	
Telecom (Fixed network)	171	-	-	-	-	-	
Telecom services	619	-	-	-	13	-	
Telecom Towers	-	20	48	-	18	-	
Social Infrastructure	8,741	215	381	346	1,567	355	
Education Infrastructure	583	144	272	244	120	336	
Medical Infrastructure	854	70	103	79	-	19	
Affordable Housing	7,292	-	-	-	1,447	-	
Sports Infrastructure	13	-	6	24	-	-	
Commercial Infrastructure	292	55	208	1,733	1,283	469	
Common Infrastructure	242	54	208	1,533	385	441	
Tourism Infrastructure	-	-	-	156	-	-	
Terminal Markets	50	-	-	30	75	22	
Post-Harvest Storage Infrastructure	-	1	-	7	762	3	
Soil Testing Laboratories	-	-	-	4	21	2	
Cold Chain	-	-	-	3	40	0	
Grand Total	35,949	7,510	13,139	9,996	32,083	4,475	444

Source: Systematix Research, India Investment Grid

Exhibit 109: The bulk of the opportunity outside projects that are already under implementation is either at the idea stage or a nascent stage of development without ready DPRs – the time to market for them will be long (Rs bn)

DPR-approved projects are the key for order visibility but are only a handful – primarily in the transport segment



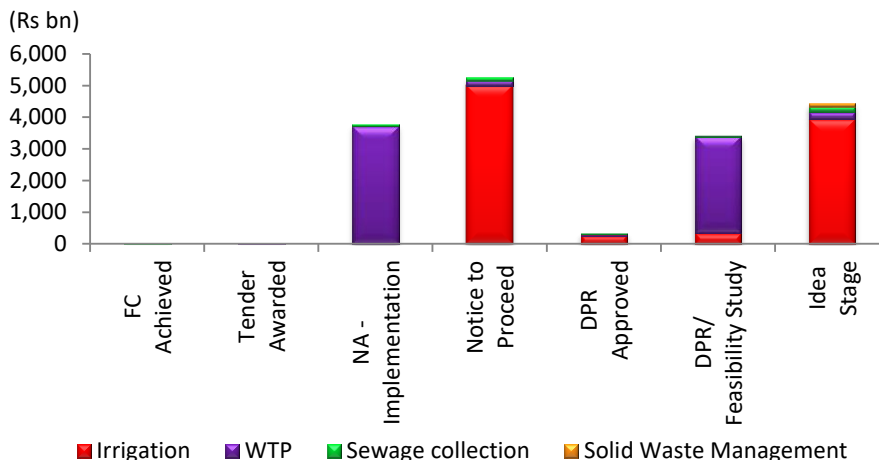
Source: Systematix Research, India Investment Grid

Exhibit 110: Most of the proposed projects in the energy sector do not have ready DPRs; overall <10% of projects in the development/concept stage have ready DPRs

	Status	Logistics	Energy	Water & Sanitation	Communications	Social Infrastructure	Commercial Infrastructure
Implementation	Partially Commissioned	-	-	-	171	-	-
	Notice to Proceed	913	3,996	5,271	619	3,485	346
	Financial Closure Achieved	-	73	24	20	103	-
	Tender Awarded	-	-	19	-	-	-
	Not Disclosed	298	-	3,785	-	5,368	-
Conceptualization	Idea Stage	308	1,457	4,436	48	728	1,940
Development	DPR Approved	315	120	340	31	338	414
	DPR/Feasibility Study in Progress	260	1,011	3,416	-	656	1,287
	Not Disclosed	-	20,341	-	-	928	50

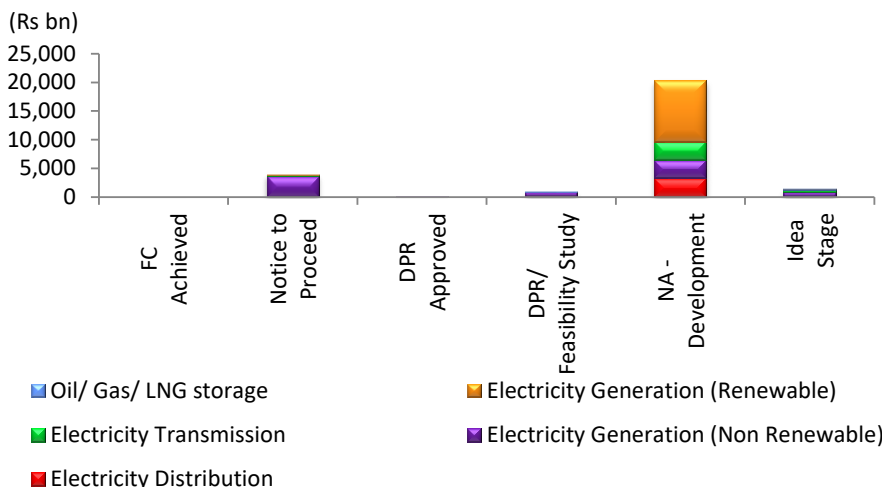
Source: Systematix Research, India Investment Grid

Exhibit 111: Most under-implementation irrigation projects are in AP/Telangana, while river linking projects are in the idea stage (Rs bn)



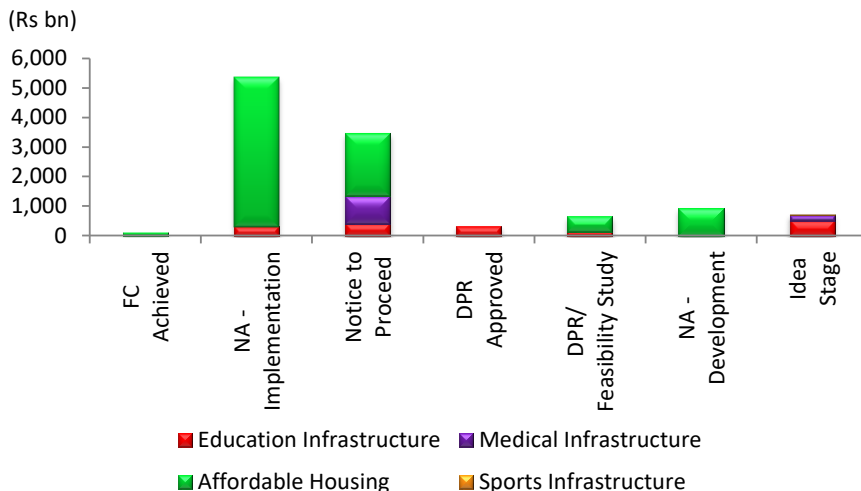
Source: Systematix Research, India Investment Grid

Exhibit 112: Large development pipeline in the energy space led by renewals and T&D (Rs bn)



Source: Systematix Research, India Investment Grid

Exhibit 113: Within social infrastructure, opportunities exist in the affordable housing segment despite being classified largely as 'under implementation' (Rs bn)



Source: Systematix Research, India Investment Grid

Bulk of the large water supply, river inter-linking projects are still in the idea stage while Jal Jeevan Mission projects are in the DPR feasibility stage.

Despite a large pipeline categorized as being in the development stage, energy sector projects are without ready DPRs. Large generation pipeline also unlikely to materialize.

Several large affordable housing schemes under PMAY and CLSS are classified under the implementation category though actual orders are yet to materialize.

The government's funding assumption for NIP is aggressive and challenging

- As per the Ministry of Finance presentation, the assumed shares of the centre/state/private sector in the NIP target of Rs 111trn stand at 39%/40%/21%, respectively. We believe this is an aggressive assumption across all spenders.
- We illustrate that the government has assumed a 21.5% CAGR in capital outlay over FY20-25E and similar growth in budgetary support for infrastructure and IEFR funding. Though this compares favourably with a ~24% CAGR in spending by the centre over FY13-20 (26% IEFR and 22% budgetary support), it seems aggressive when looked at against the growth over FY17-20 of just 12% CAGR (15% IEFR and 10% budgetary support).
- Further, the worsening macroeconomic outlook does not justify the aggressive assumption of 12.2% nominal GDP CAGR over FY20-25.
- On our estimate of Rs 73trn capex under the NIP and assuming a similar centre/state/private split, the capital outlay CAGR for the centre asks for a 12% CAGR. This would still call for an increase in budgetary outlay for infrastructure capex by both the centre and states as a proportion of their revenues, which may not be possible.
- In reality, we believe that demand for centre/state outlay will be even higher as in the MoF's assumption there is a huge reliance on the private sector in the roads and power sectors, both of which may disappoint significantly.
- As such, the reliance on innovative methods of external funding is the key. While some of these models are now being explored, the pick-up has been gradual and is unlikely to compensate for the slowdown in the centre/state budgetary support.

Exhibit 114: Government's funding plan for NIP is based on aggressive assumptions

(Rs tn)	FY19 RE	FY20 BE	FY21	FY22	FY23	FY24	FY25
Total Capital Outlay by Centre (Infra) A	3.54	3.77	4.58	5.56	6.76	8.21	9.97
Budgetary support (infra) B	1.39	1.53	1.86	2.25	2.74	3.33	4.04
C=B/A	39%	41%	41%	41%	41%	41%	41%
Budgetary Support/GDP (D=B/E)	0.73%	0.74%	0.82%	0.89%	0.96%	1.03%	1.11%
Incremental budgetary support/GDP vs FY20			0.07%	0.14%	0.21%	0.29%	0.36%
GDP in Rs trn (E)	190	205	227	254	286	323	365
% GDP growth assumed by Govt		8%	11%	12%	13%	13%	13%

Source: MoF, Systematix Research

Innovative funding models needed to mitigate government dependency on infrastructure capex

- Innovative models sought to fund future capex on infrastructure such as InvITs, TOT and SPV level fundraise; however, recent trends suggest that this would still form a minuscule portion of the overall requirement.
- An analysis of the funding patterns of public capex in key categories such as transport, water and T&D suggests that the dependency on multilateral agencies, bond issuance etc., is rising. For example:
 - Most metro projects are being funded largely by funds/loans from multilateral agencies like JICA and the World Bank (40-60% of funding secured from multilateral agencies).
 - The NHAI has explored raising funds through the TOT model and bond issuances rather than relying on government funding alone but has succeeded only partially so far.
 - Municipalities are increasingly trying to tap money from the bond market by municipal bonds issuances but have had a patchy track record.

Counter-cyclical infrastructure spending – will the government go for it?

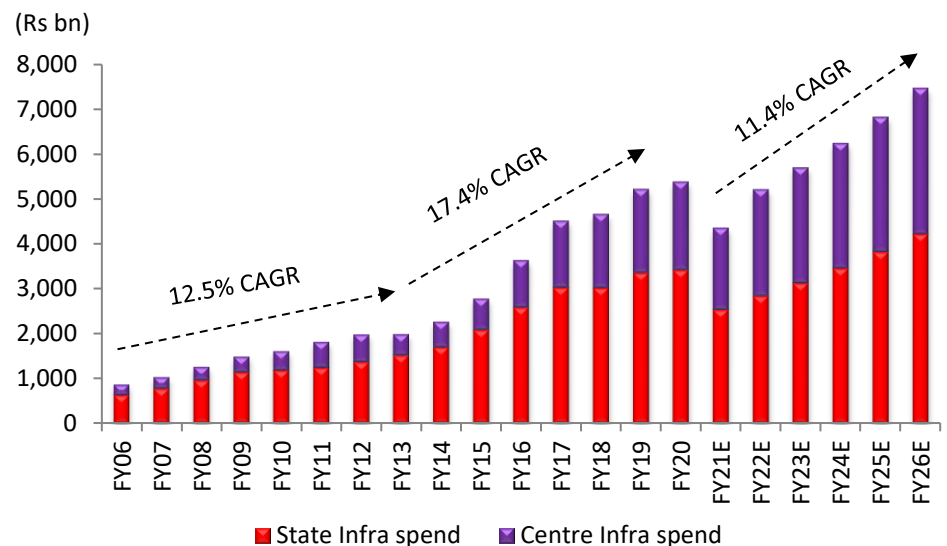
To maintain its current investment-grade credit rating, India has a choice between fiscal prudence through spending cuts and fiscal profligacy through spending its way out of the recession.

While several experts have recommended the latter option of choosing spending on capex that leads to a multiplier effect on growth, it has its associated risks and lag effect. Understandably so, the government has chosen the path of least risk, which is of fiscal prudence. We believe the current political decision is to revive growth through enabling or even hoping that the manufacturing sector picks up and leads the revival; even as the government itself tries to fill the void to the extent possible through its capex spend.

The problem with this approach is that manufacturing revival is still at the mercy of several factors beyond the government's control, while infrastructure capex spending, which is already at a peak, has plateaued to ~11% of government revenues from the peak of 14.6% in FY17 and 14% in FY19.

However, in the past six months, the revival in the Indian economy, strong GST collections and overall revenue buoyancy have led the centre and various states to cut excise duty on petrol and diesel. This has given out a message that the fiscal deficit is likely under control. If so, we would expect the government to step on the pedal for infrastructure capex sooner than later.

Exhibit 115: After a strong infrastructure spending trajectory over FY13-19 by the centre and states, we expect slower growth over FY21-25E



Source: Systematix Research

Distressed public debt situation leaves limited room for growth stimulus

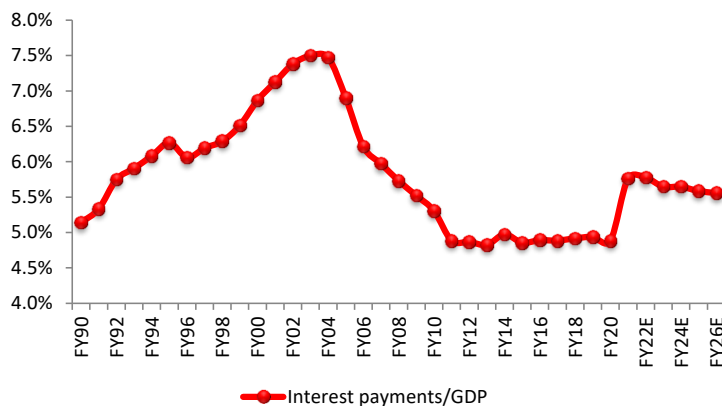
India's Debt to GDP is likely to remain stubbornly high at 9-11% between FY22-FY26E; importantly, interest cost as a percentage of revenue is expected to rise from 25% in FY19 to ~30% by FY23.

The 30-year high fiscal deficit witnessed in FY21 has largely been utilized to meet the revenue shortfall rather than stimulate growth. Hence, this would have a lower multiplier on growth and would lead to an elevated fiscal deficit for a long time. Based on the decline in FY21 GDP growth, widening primary deficit and high interest rates, public debt to GDP is likely to rise even further in FY22 and stay at 92% levels until FY26, on our estimates. If the interest rate is lower than the economy's growth rate, it will help offset the impact of the primary deficit on debt growth and keep a check on the debt to GDP ratio. However, it is unlikely that the interest rates in India will move to the sub-zero level.

For most countries, especially the developed economies, public debt to GDP is likely to be in triple digits in 2020. However, developed economies are not saddled with high interest payments that consume a large part of their tax revenues as their cost of borrowing is significantly lower than India's.

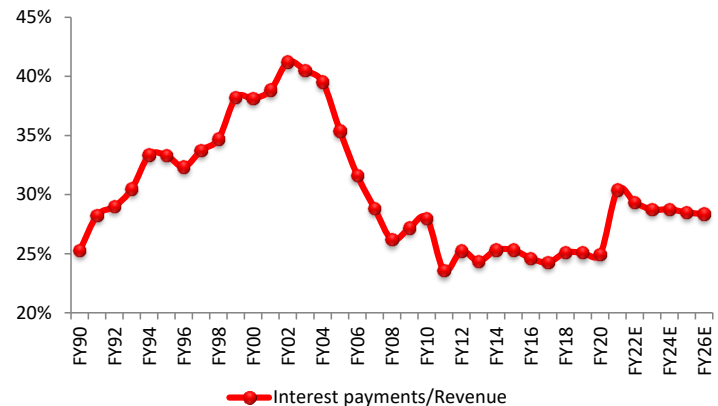
A large part of India's tax revenues is used to service debt payments. With the rising debt ratio and falling tax revenues, we believe ~30% of tax revenues would be used to meet interest payments in FY23, and that proportion will remain elevated going forward.

Exhibit 116: Interest payments as % of GDP rising due to higher debt



Source: CMIE, Systematix Research

Exhibit 117: Interest payments as % of govt revenues have started to rise



Source: CMIE, Systematix Research

India's worsening fiscal space can't be justified against the rise in other countries...

While it is evident that growth and the rising fiscal stress are the key challenges for the Indian economy, it is often argued that counter-cyclical spending on infrastructure can bail out the economy from the pain.

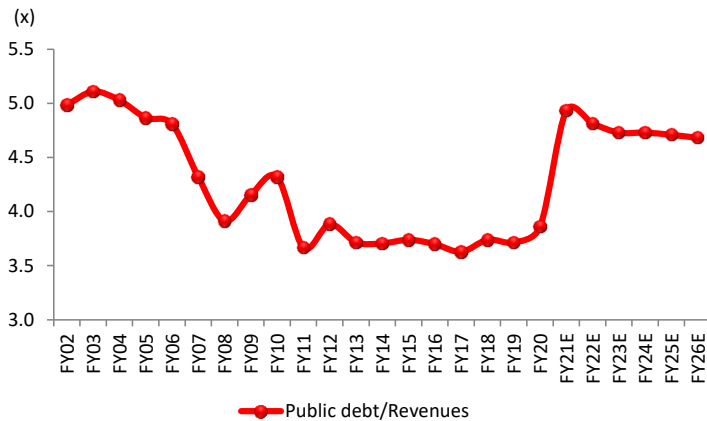
Therefore, we look into past episodes of fiscal stress and the government's ability to launch a counter-cyclical infrastructure spending as large as the National Infrastructure Pipeline.

While traditional economists and the mainstream media like to focus on debt as a % of GDP, we look at debt and servicing ability as a proportion of government revenues just as we would look at a company.

The purpose of this analysis is to illustrate the key difference between India and other countries in terms of the spending ability in the context of GDP.

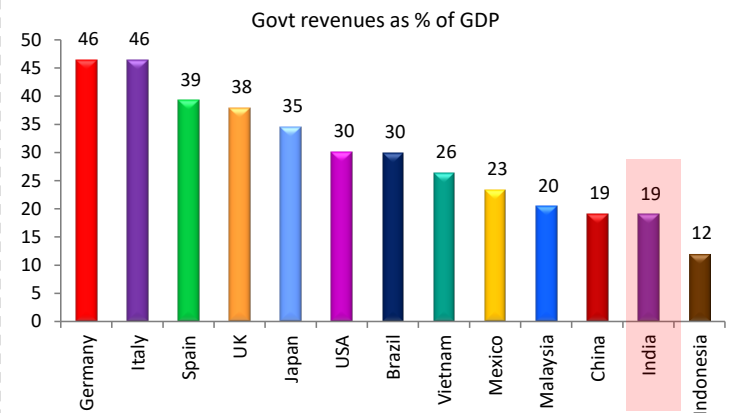
The Indian government's revenues are significantly lower than other large/developed countries. As such, when one looks at debt/GDP, tax/GDP also becomes a key metric to evaluate. This is where India fares poorly compared to other countries as illustrated in the charts below.

Exhibit 118: India's capacity to support high levels of debt constrained by its ability to raise revenues...



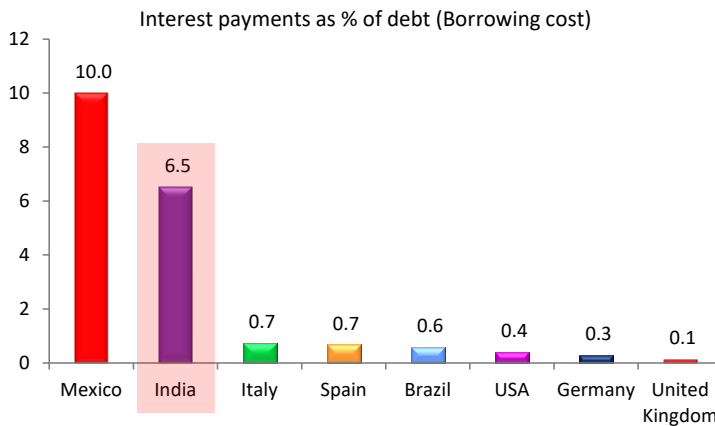
Source: CMIE, Systematix Research

Exhibit 119: ...as its tax collection as % of GDP is among the lowest



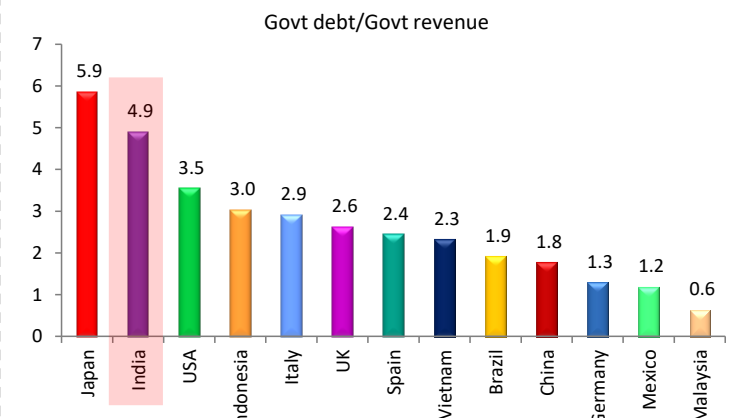
Source: CMIE, Bloomberg, Systematix Research

Exhibit 120: Large part of India's revenues used to service debt...



Source: CMIE, Bloomberg, Systematix Research

Exhibit 121: ...as its debt/revenue is amongst the highest globally



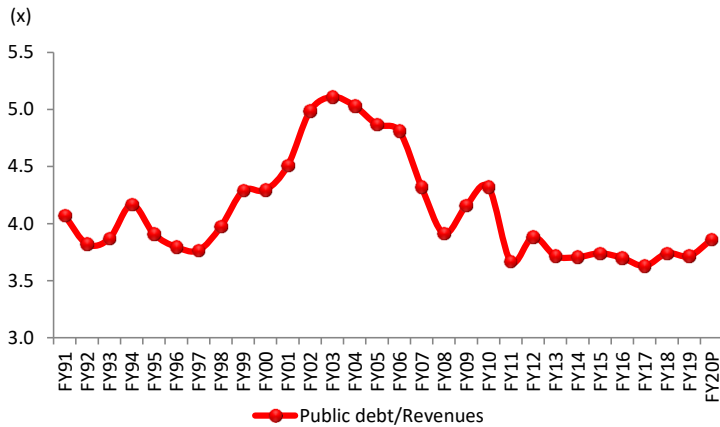
Source: State Budgets, Systematix Research

Why India must be wary of higher debt and interest cost unlike developed markets?

Like corporates where high leverage and low debt servicing ability can lead to default risk, the government's balance sheet is also impacted in the same way. Exhibit 122 below shows that higher debt/revenue and fixed costs as a percentage of revenues directly correlate with India's sovereign ratings. While even other countries resort to higher debt/GDP, it may not translate into a high debt/revenue multiple for them. India's low debt servicing capability puts it in a much more difficult situation.

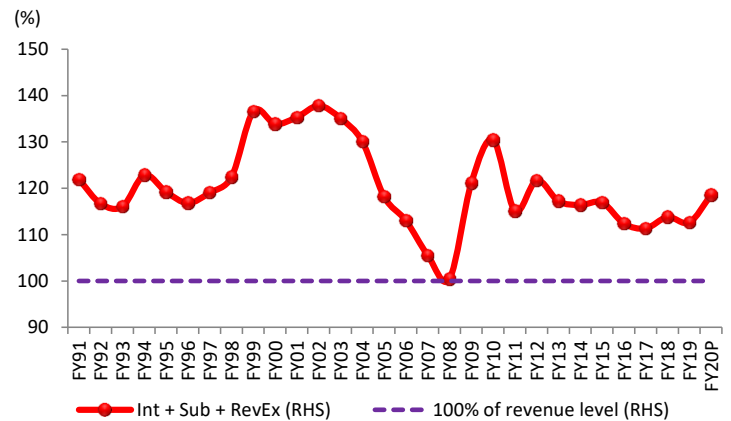
Exhibit 124 shows how India's sovereign rating has an almost perfect inverse correlation with government interest expense/debt. Thus, to argue that India can raise its debt/GDP and at the same time enjoy lower costs on that debt would be optimistic.

Exhibit 122: Debt/revenue has a direct bearing on the rating



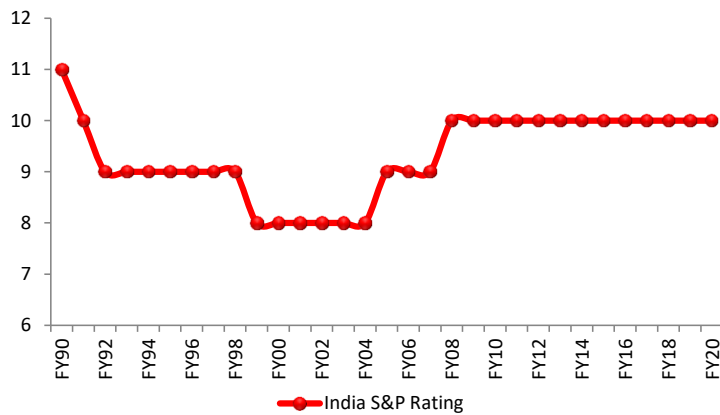
Source: Systematix Research, India Budget, RBI

Exhibit 123: Fixed costs such as interest, subsidies and revenue expenditure as a share of government revenues



Source: Systematix Research, India Budget, RBI

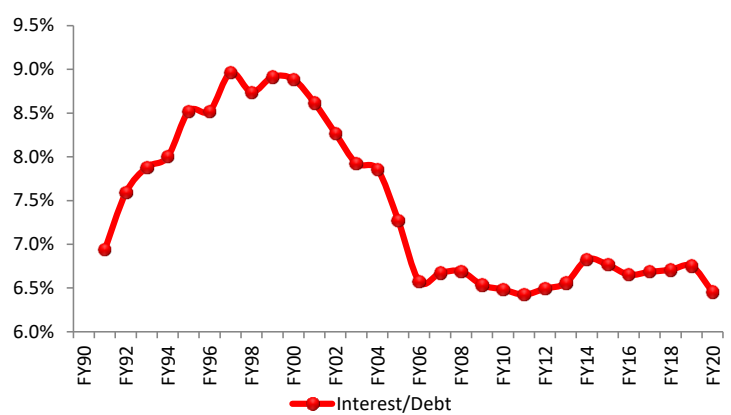
Exhibit 124: India's sovereign credit rating over time ...



Source: Systematix Research, S&P

Rating scale on LHS refers to BBB as 11, BBB- as 10, BB+ as 9 and BB as 8

Exhibit 125: ...has a clear inverse relation to its borrowing cost



Source: Systematix Research, India Budget, RBI

India's fiscal strength has deteriorated due to COVID-19 and structural issues that will last for a while – implications are that the government's ability for outsized infrastructure capex is limited.

Exhibits 122 and 123 above show that India's debt/revenue and debt servicing ability improved continuously until FY17. However, a mix of factors such as subsidies and structurally rising revenue expenditure has deteriorated these debt metrics.

As depicted below, we estimate these debt metrics to worsen to FY02-05 levels, much greater than even during the Global Financial Crisis - GFC.

More importantly, while COVID-19 is a trigger, we highlight that the worsening of the fiscal math was evident post FY17 and will sustain until FY25 unless the government undertakes urgent measures to control the deterioration.

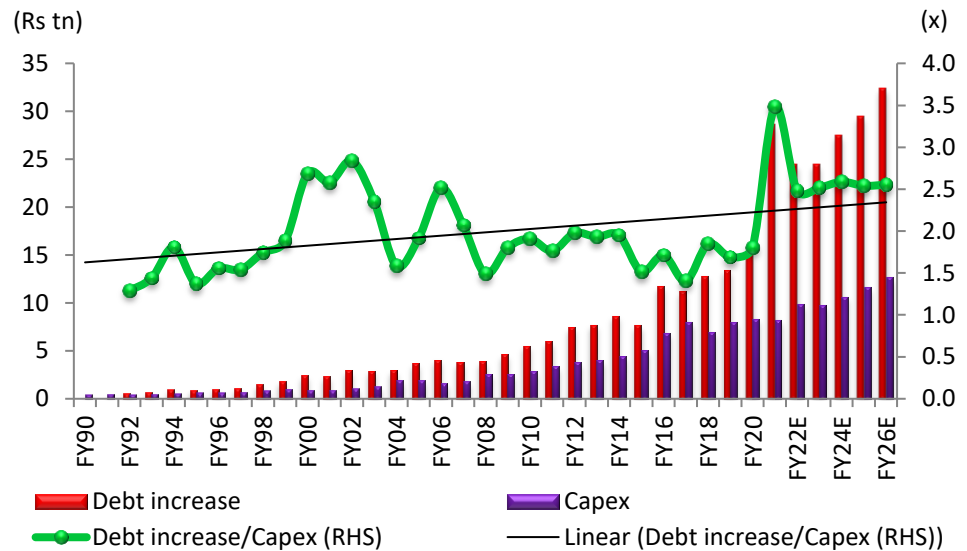
These measures could be either spending cutback or growth revival or a mix of both – 1) cut back in spending, of which revenue expenditure is stubborn and unlikely to reduce and thus the axe falls on capex, 2) sharp revival in nominal growth (preferably non-agriculture) that boosts tax revenues for the government.

The current track record suggests that the government has chosen a cutback in direct spending and is hoping for the private sector to chip in for growth spending.

Traditionally, the key reason for borrowing by the government has been to fund capex and was justified as it was productive expenditure. However, as Exhibit 126 illustrates, the government is increasingly borrowing to fund even its revenue expenditure, leaving very little room for borrowing for capex.

The trend of debt increase/capex has an upward slope suggesting that increasingly, debt is not only funding more than just capex, but it is worsening with every passing year. Our estimates suggest that over FY21-26E, this ratio will aggravate as the government will have to borrow more to service debt and revenue expenditure.

Exhibit 126: Increasingly, debt being used for funding even the revenue deficit and not just capex – likely to aggravate further over FY21-26E (Rs trn)



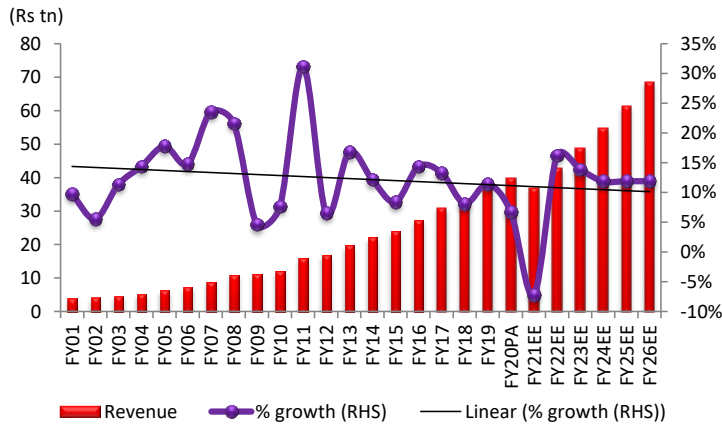
Source: Systematix Research, India Budget, RBI

Impact of operating leverage from reducing fiscal space to leave little for direct infrastructure spending

While traditional economists like to focus on debt as a % of GDP, we look at debt and servicing ability as a proportion of government revenues just as we would look at a company. We use this to illustrate a key difference between India and other countries. For our analysis, we have considered –

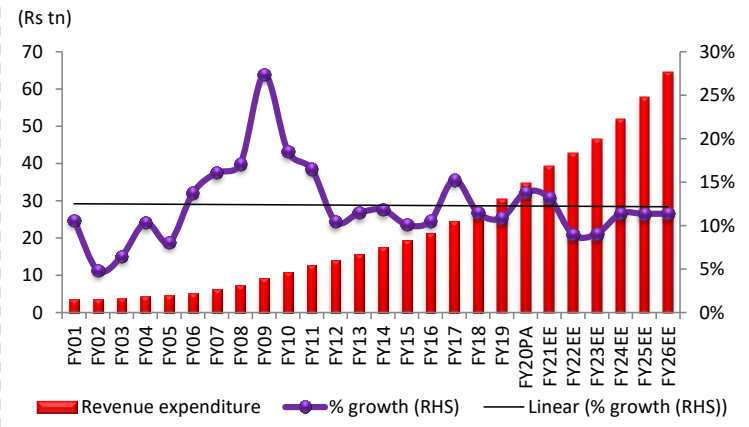
- Tax and non-tax income as revenue; disinvestment proceeds are treated as **Extraordinary (XO) gains**.
- Revenue expenditure (RevEx) excludes interest expense and subsidies.
- EBITDA is revenue minus revenue expenditure.
- PBT is EBITDA minus interest expense.
- PBT+XO gains is PBT + disinvestment proceeds.
- Debt/Revenues and $1 - (\text{Interest} + \text{Subsidy} + \text{RevEx} / \text{Revenues})$ are key metrics for evaluating debt servicing capability.

Exhibit 127: Downward trajectory for India's revenue growth



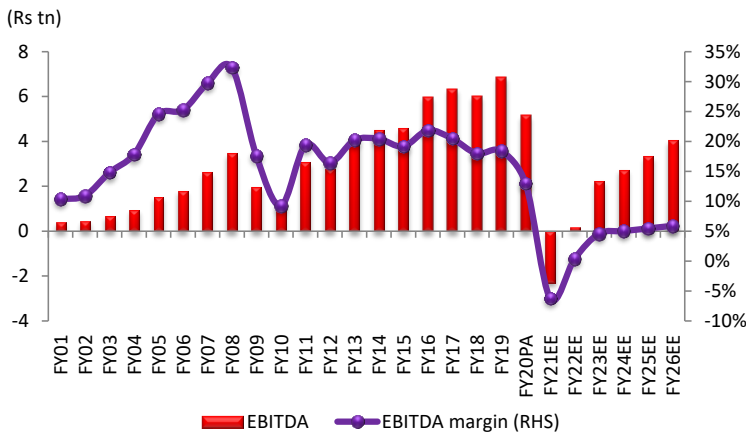
Source: Systematix Research, India Budget, RBI

Exhibit 128: ...while revenue expenditure growth on an upward slope



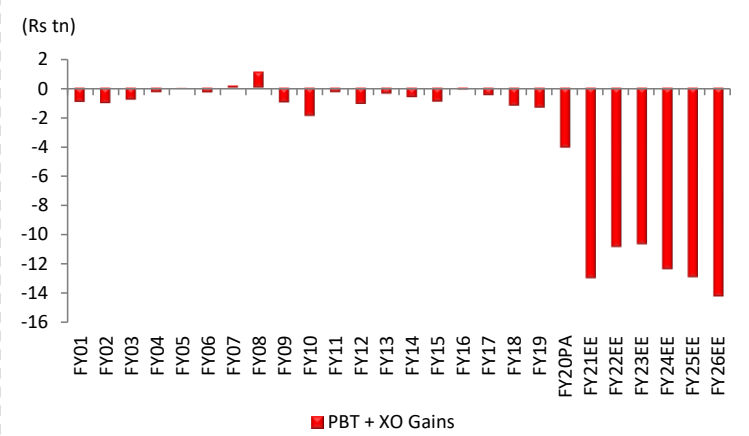
Source: Systematix Research, India Budget, RBI

Exhibit 129: High operating leverage leaves little as EBITDA...



Source: Systematix Research, India Budget, RBI

Exhibit 130: ... XO gains (disinvestment) made up for PBT loss until FY17 but has worsened significantly since then



Source: Systematix Research, India Budget, RBI

Past episodes of fiscal stress suggest capex share in government spending has deteriorated structurally

India does not have much history of counter-cyclical government spending on Infrastructure

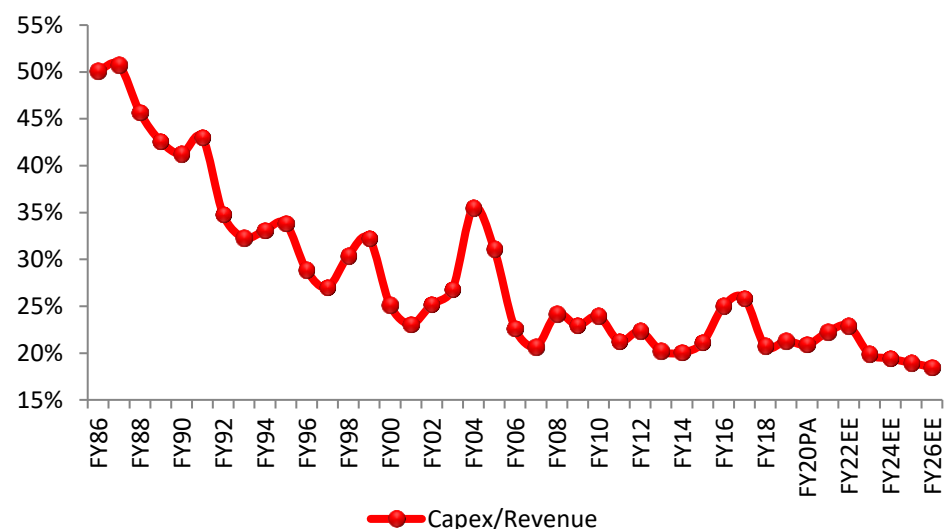
- The combined capex by the centre and states stagnated between FY98 and FY01. That was also when high-interest costs, sticky revenue expenditure and subsidy burden led to high fiscal deficit and public debt.
- Post FY01, capex revived sharply until FY04 at a CAGR of 27% as public finances gradually started reviving (though arguably the start of capex was counter-cyclical). However, the CAGR from FY98 to FY04 was still around the long-term mean of 14% over 6-years from the start of the worsening of public finances.
- Similarly, post the GFC in 2008, capex growth dipped to a low of 9% over FY08 to FY13 against 27% in the two years preceding the GFC.

Every crisis has led to a permanent deterioration in the capex share of government spending

An interesting observation from the following chart is that whenever there has been a jump in the capex-to-revenue ratio (due to counter-cyclical spending or otherwise), subsequent declines ensured that the ratio worsened more than the start of that spending spree. The bottom ratio was 27% in FY97 before going up to 32% by FY99 and ended lower at 23% in FY01. Similarly, from the lows of 23% in FY01, it went up to 36% in FY04 but ended up even lower than FY01 in FY07 at 21%. Every crisis has thus led to a permanent decline in this ratio by at least 2-3 ppt.

Post this crisis, we expect capex/revenue to settle at 19% levels as against 21% pre COVID-19.

Exhibit 131: Capex/government revenue has declined consistently – episodes of stressed public finances such as 98-01 and GFC have aggravated the slide



Source: Systematix Research

The centre's capex has shifted from Defence and 'Others' to Roads and Railways over the past decade even as the overall capex has consistently declined as a share of central government revenues

One of the notable features of the centre's capex as a share of government revenues has been a consistent declining trajectory over the decades. Despite that, key spending categories such as roads and railways have seen an increase, especially in the past decade.

This is largely compensated by a decrease in the 'Others' category, which is essentially the difference of capex as reported in the budget documents and the key categories we identify above. Without debating whether this 'Others' spend is productive or not (it may also be possible that some spending in the key categories is routed through 'Others'), we note that the 'Others' category spend as % of revenues has already declined substantially and has been stabilizing at those levels for some time now. Thus, the benefit, if any, of re-directing spending from 'Others' to the more relevant categories of roads, railways has already materialized.

We believe that the overall capex trajectory will follow direct spending in the relevant categories such as roads, railways and defence.

In a nutshell, even as the overall capex share in government revenues has declined consistently, the decline in the 'Others' and defence categories has led to growth for roads and railways. However, we have possibly now reached a point where further such benefits for roads and railways may not be possible.

State infrastructure capex has stagnated, except for volatility around fiscal stress episodes; transport, water and urban/rural development spending has gained

Unlike the central government's capex/revenue, states' capex/revenue has had a volatile trend. The capex/revenue share has been stagnant rather than declining in the long term. Transport, water supply, sanitation and urban/rural development spending have consistently grown.

Arguably, water supply & sanitation and urban/rural development spending has also grown, partially given the dedicated funding for some of these schemes by the centre.

Irrigation and 'Others' categories have seen a decline in capex/revenue share while the water, transport and urban/rural development categories have seen an increase.

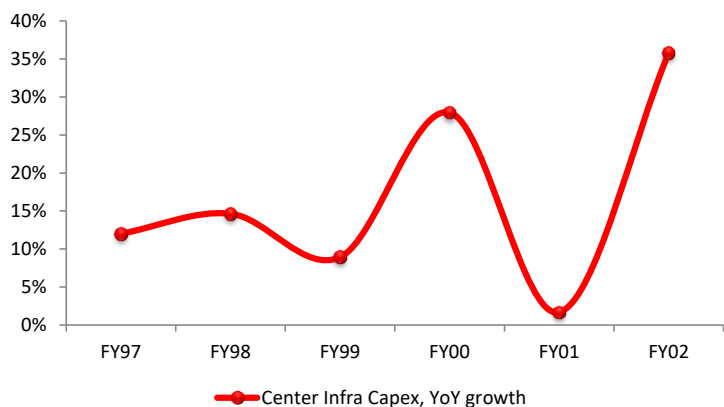
Overall, we note that the volatility in state capex/revenue coincides with fiscal stress episodes, suggesting a direct bearing on capex patterns at the state level.

Comparison with the Global Financial Crisis of 2008 and 1997-2003 slowdown

Is the current fiscal crisis similar to the post-GFC period or is it back to 1997-2003 slowdown? As the charts below illustrate, we are close to or even worse than the 1997-2003 slowdown and much worse than the GFC.

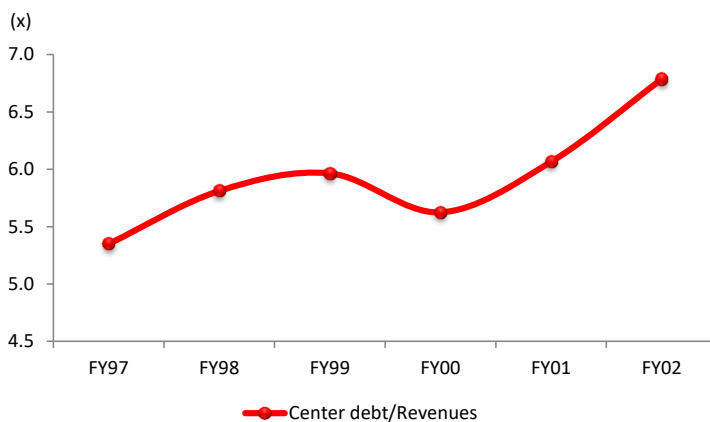
The slowdown of 1997-2003

Exhibit 132: Centre's infra capex picked up from FY2000 due to the large spending program initiated in roads



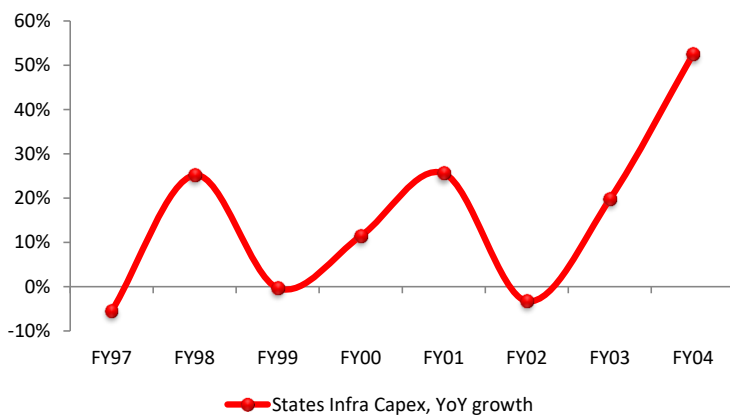
Source: Systematix Research

Exhibit 133: Centre's debt/revenue peaked at 6.8x in FY02 and stabilized at 6.5x until FY05



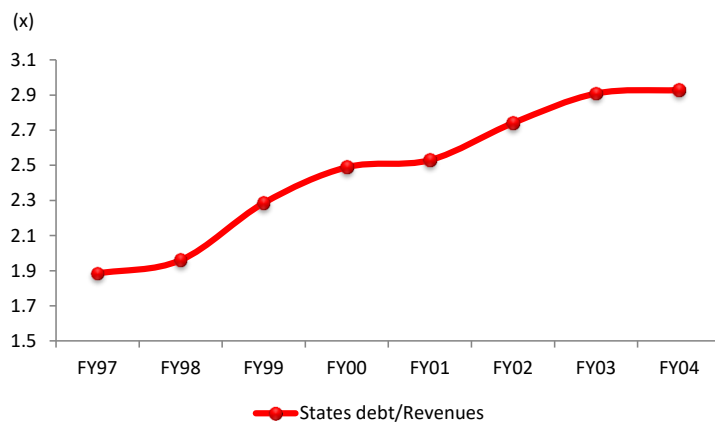
Source: Systematix Research

Exhibit 134: States' infra capex picked up only from FY03 after a long-drawn stagnation; even after the pick-up, the overall CAGR from FY98-04 was 15%, in line with the long-term mean



Source: Systematix Research

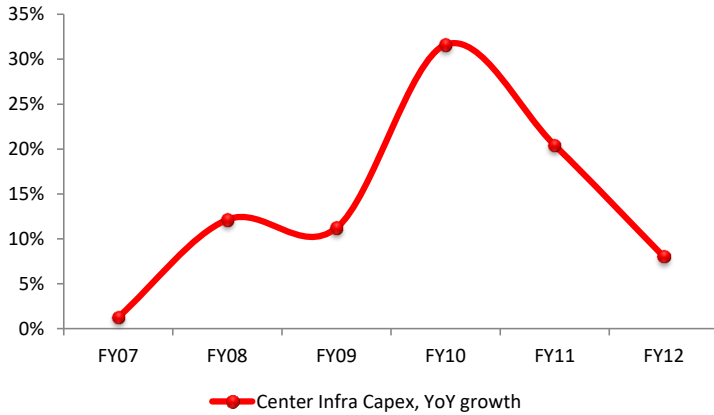
Exhibit 135: As with the centre, states' debt/revenue metric worsened until FY04 even as infra capex picked up in FY03 itself. Peak debt/revenue of 2.93x in FY04



Source: Systematix Research

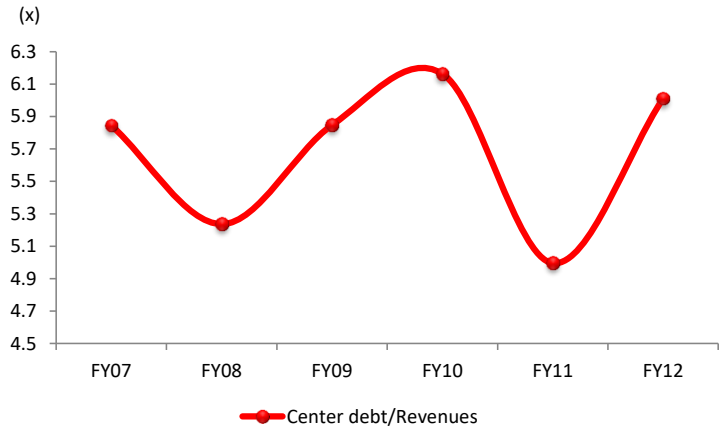
The Great Financial Crisis (GFC)

Exhibit 136: The centre's direct infra capex spend continued unabated from the GFC until FY11...



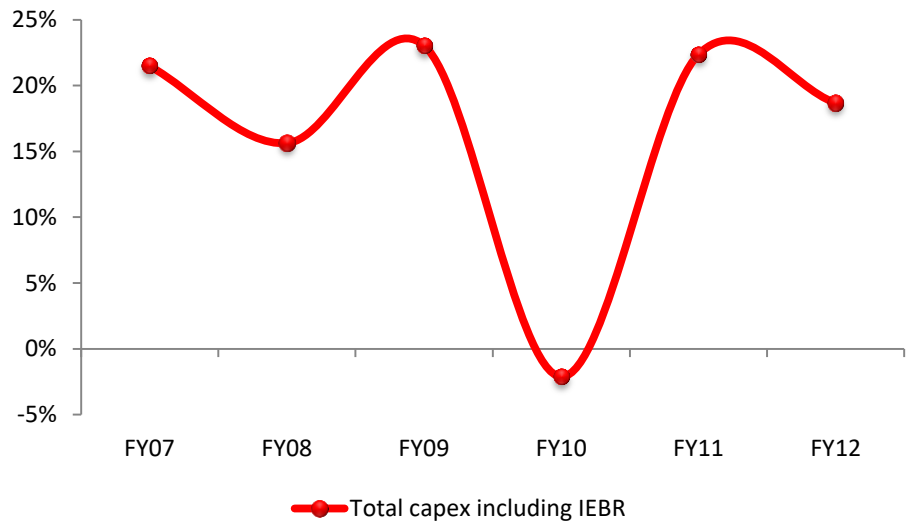
Source: Systematix Research

Exhibit 137: ...as despite the revenue decline, debt/revenue was not as big a challenge as FY01 or now



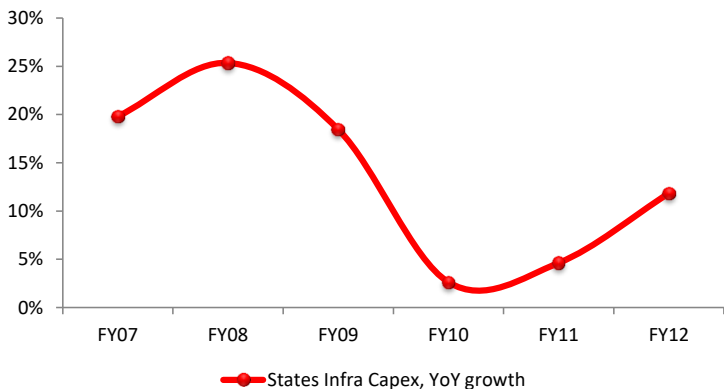
Source: Systematix Research

Exhibit 138: A sharp dip in IEBR funding driven projects led to an overall dip in capex growth in FY10; recovery started from FY11



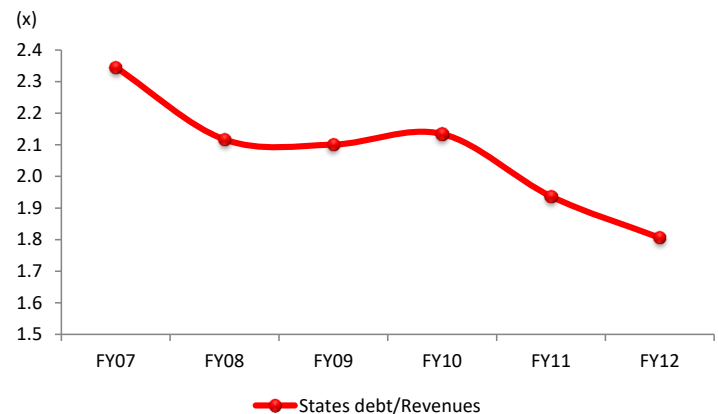
Source: Systematix Research

Exhibit 139: States' infra capex was also strong before the GFC and recovered after the FY10 blip, though at a slower pace



Source: RBI, Systematix Research

Exhibit 140: ...this again was largely due to the declining debt/revenue trend for states



Source: RBI, Systematix Research

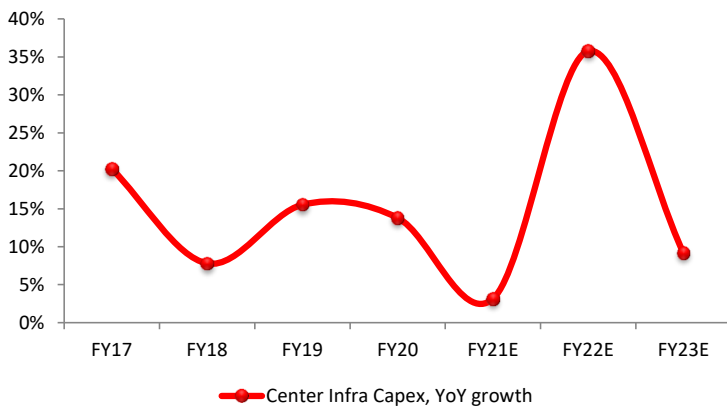
Current scenario

The current scenario is much worse than during the GFC as key debt metrics are inferior than that period and closer to the 1997-2003 slow down. Even after the GFC, debt/revenue metrics for the centre and states were comfortable and trending downward, unlike during 1997-2003 or now.

The debt/revenue metrics for the centre and states are likely to surpass the peak of the 1997-2003 slowdown even without factoring in a counter-cyclical infrastructure spending (unlike 2000-2004 when roads and railways spending received a push from the centre).

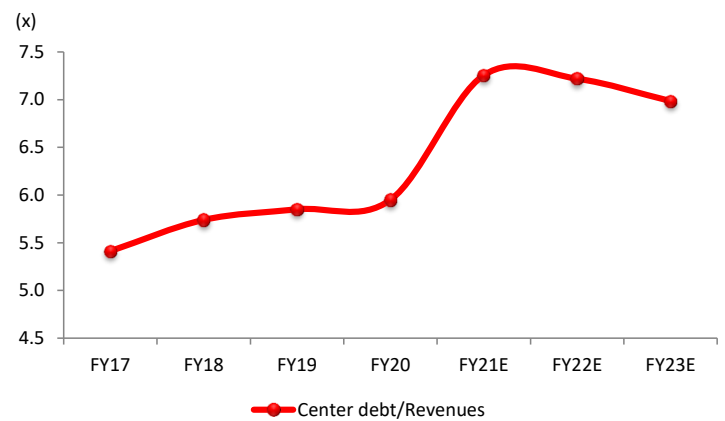
India was rated 'BB' by S&P during 1998-2004 as its debt/revenue was uncontrollably high. It would be a challenge for India to remain at the lowest investment grade of 'BBB-' (current rating) and at the same time indulge in a counter-cyclical infrastructure spending driven stimulus to revive the economy.

Exhibit 141: Current trajectory for centre's direct infra capex is on a decline; base normalization expected by FY23...



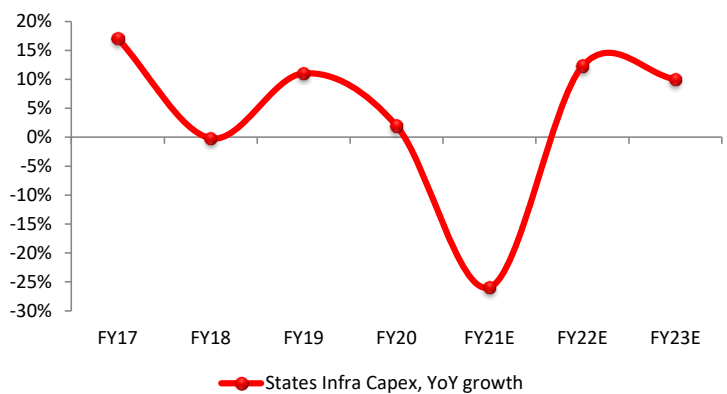
Source: RBI, Budget documents, Systematix Research

Exhibit 142: ...even though on debt/revenue metric, the centre will exceed the FY02 peak of 6.8x and stabilize at 6.5x at least



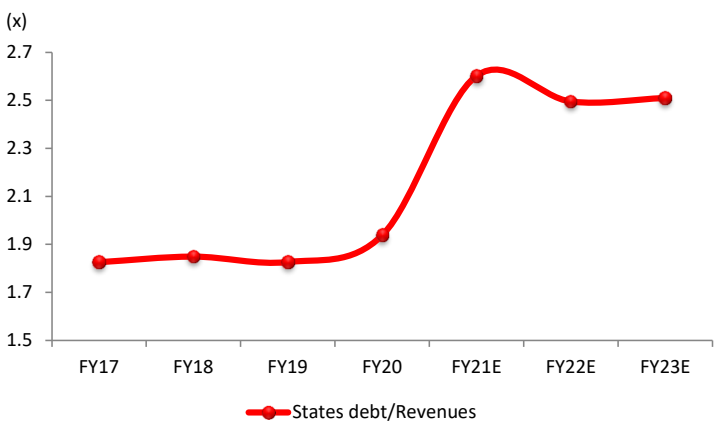
Source: RBI, Budget documents, Systematix Research

Exhibit 143: The current trajectory of states' spending was already on a decline going into COVID-19; FY22E recovery is mostly due to the low FY21E base than a real recovery



Source: RBI, Systematix Research

Exhibit 144: States' debt/revenue metric is also likely to reach the FY04 peak of 2.9x even without a major infrastructure capex push



Source: RBI, Systematix Research

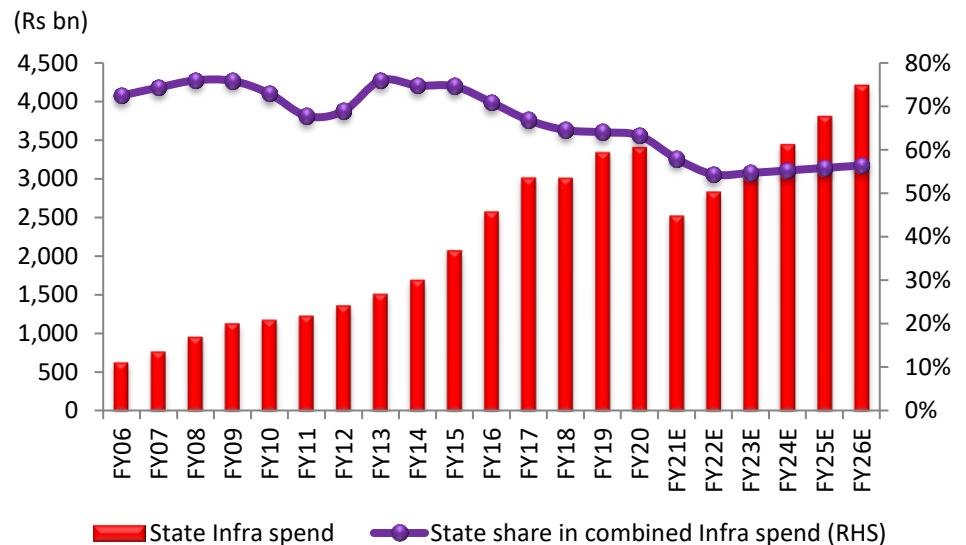
States account for ~58% of infrastructure spending but are in a significantly worse financial condition than the centre

Dire state of state finances in FY21; challenging to wade through FY22-25

The states are in a particularly bad shape due to lower tax collection buoyancy. Spending, particularly capex, has dropped to a record low level. This implies that despite the strong transfer of funds from the centre, state spending was restricted.

From a peak of 75% share in combined infrastructure spending in FY15, states saw their share fall to <58% in FY21; we estimate this to fall further to 54-56% levels over FY22-26E on account of low tax collections, stubbornly high revenue expenditure and low devolution from the centre.

Exhibit 145: State infrastructure spending has slowed post FY19 – we estimate 10.8% CAGR over FY21-26E compared to 14% CAGR historically



Source: Systematix Research, India Budget, RBI

RBI study paints a grim picture

In its 2020 study of State Finances, the Reserve Bank of India (RBI) has raised concerns over states' ability to continue with large capex as revenues dwindle and revenue expenditure rises. Its observation ties in with what we have argued earlier in this report: India does not have the fiscal space for a big-bang infrastructure stimulus as the debt overhang is not transient and may haunt until FY25E.

- Most states faced a revenue deficit in FY21 and will likely do so again in FY22, as against a budgeted revenue surplus:** Given the inter-linkage between growth and tax revenues and the fact that tax revenues fall faster than GDP, they are likely to remain low for the next few years, as per the RBI. It highlights that the worsening of state finances is not temporary but will last for several years.
- Even as states' GFD (Gross Fiscal Deficit)/GDP exceeded 3.2% in FY20 and 4% in FY21P, they have not built enough cushion for macroeconomic threats:** The borrowing limit acts as a soft constraint for states; capex will, in turn, be sacrificed to maintain GFD within 4% of GDP. Our analysis of the top-10 states (in terms of infrastructure spending) suggests that their infrastructure spending exceeds GFD, which means they are borrowing not only for capex but also for revenue expenditure.

- **States may have to face the difficult choice of putting investment projects on hold:** Given the multiplier effect, this will inevitably entail growth losses in a vicious circle feeding itself. As per the RBI, states tend to cut back their capital expenditure by almost 0.5% of GDP, on average, to meet fiscal deficit targets. UP, AP, Rajasthan, TN and Telangana have consistently missed capex targets (except for transport, energy and housing, all other segments have consistently suffered). Actual data from CAG shows that state infrastructure capex has been muted post FY19 – down ~8% in FY20; growth of ~3% in FY21.
- **States' fiscal position will be further affected by a surge in guarantees:** Guarantees issued by state governments rose to as much as 3% of GDP (mainly relating to Discoms). Historically, it is a precursor to an actual increase in debt. Even post-UDAY, Discoms continue to impart a significant downside risk with no visible signs of a turnaround. Farm loan waivers and income support schemes are further curbing states' ability to spend on infrastructure.

While capex invariably always falls short of the target, FY22 may see further capex cut and re-prioritization of sectors within that

India's capital spending is not entirely executed and often falls short of the budgeted targets. States tend to cut back their capital expenditure by almost 0.5% of GDP, on average, to meet the prescribed fiscal deficit targets. States may further see major adjustments and re-prioritization within the sectors where they spend most of their money.

While the obvious focus in FY21 seems to be on capex in health and education sectors in response to the pandemic, other critical sectors like roads and construction may draw attention in FY22.

Total capital outlay for top-10 infrastructure spending states already accounts for more than their gross fiscal deficit

Over FY16-20, non-infrastructure spending outpaced infrastructure spending for all states and union territories due to various social sector commitments. While cumulative infrastructure spending has grown at a CAGR of 11% over FY16-20, non-infrastructure capex has grown at a 16% CAGR during the same period.

We also note that the total capital outlay for most of the states exceeds or is close to exceeding their gross fiscal deficit (GFD), suggesting limited headroom available for further growth in capex unless the GFD comes down through other measures.

The composition of GFD for these states suggests that while a large part of the GFD is attributed to the capital outlay, most states have a parallel revenue deficit which tends to be sticky as it is almost impossible to control revenue spending (mostly recurring expenses like staff salaries, interest payments). Thus, the GFD can remain in control either by reducing the capital outlay or growth revival. While growth revival may not be completely in the government's control, the obvious hit has been capex.

It further does not help that states' GFD, as a percentage of states' GDP, has been going up across the board since FY18. As a share of state revenues, the GFD is on an average at 22% in FY20, i.e., pre COVID-19 itself.

Exhibit 146: Top-10 states based on Infra spending: Non-infra spend outpacing infra spend; total capital outlay almost equal to GFD

FY20RE (Rs bn)	Infra spend	FY16-20 spend CAGR		Fiscal deficit	Capital Outlay	Capital Outlay/ GFD	Infra spend/ GFD
		Infra	Non-Infra				
Uttar Pradesh	622	5%	7%	504	790	157%	123%
Maharashtra	337	19%	19%	786	463	59%	43%
Karnataka	280	19%	-7%	388	369	95%	72%
Madhya Pradesh	235	13%	22%	327	292	89%	72%
Gujarat	223	6%	-6%	271	272	100%	83%
Odisha	201	9%	5%	182	237	130%	110%
Telangana	67	-14%	40%	219	132	60%	30%
Tamil Nadu	238	13%	16%	551	312	57%	43%
Andhra Pradesh	72	-13%	33%	405	128	32%	18%
Rajasthan	144	-7%	-7%	322	177	55%	45%
All States and UTs	3,944	11%	16%	6,524	5,308	81%	60%

Source: Systematix Research, RBI

Exhibit 147: GFD breakdown for top-10 states: Except UP, Odisha and Gujarat, most states have a revenue deficit too; GFD as a % of state revenues is rising for all states

FY20RE (Rs bn)	Revenue Deficit/ (Surplus)	Capital Outlay	Gross Fiscal Deficit (GFD)	Revenue Deficit/GFD	GFD as % of State revenues		
					FY19	FY20	FY21P
Uttar Pradesh	-263	790	504	-52%	11%	14%	13%
Maharashtra	314	463	786	40%	8%	25%	16%
Karnataka	-3	369	388	-1%	23%	22%	26%
Madhya Pradesh	27	292	327	8%	14%	22%	35%
Gujarat	-11	272	271	-4%	19%	18%	21%
Odisha	-62	237	182	-34%	10%	16%	14%
Telangana	-1	132	219	0%	27%	20%	23%
Tamil Nadu	251	312	551	46%	27%	29%	27%
Andhra Pradesh	266	128	405	66%	31%	37%	30%
Rajasthan	280	177	322	87%	25%	21%	20%
All States and UTs	1,367	5,308	6,524	21%	18%	22%	19%

Source: Systematix Research, RBI

Despite past misses on budgeted spends, most states had still built optimistic assumptions on capex for FY21 and missed it substantially

According to the RBI, overall spending by all states on infrastructure (housing, urban development, water supply & sanitation, irrigation, energy and transport) grew at a 9% CAGR between FY16-20. The budgeted spending for FY20 and FY21 on these categories for all the states suggests 17.8% and 7.1% YoY growth, respectively. However, the actual data from the CAG shows that the state capex declined ~8% in FY20 and grew just 3% in FY21.

- Of the top-10 states that account for over 70% of the total Infrastructure spending by all states, only Madhya Pradesh had budgeted for a capex decline in FY21. However, a major decline was actually reported by Uttar Pradesh (-18.2%), Maharashtra (-21.2%) and Rajasthan (-7.1%).

- Telangana and Andhra Pradesh witnessed a major decline in infrastructure capex in FY20 (led by the sharp curtailment in water supply and irrigation related spending) and had budgeted for a sharp revival in spending in FY21.
- UP and Maharashtra, which are the top-2 states as per absolute infrastructure spending and witnessed amongst the fastest growth rates until FY19, had budgeted for 5% and -4% infrastructure capex growth in FY21 led by an across-the-board cut in spending.

Exhibit 148: Most states fell short of FY20 budget estimates on capex and witnessed a YoY decline

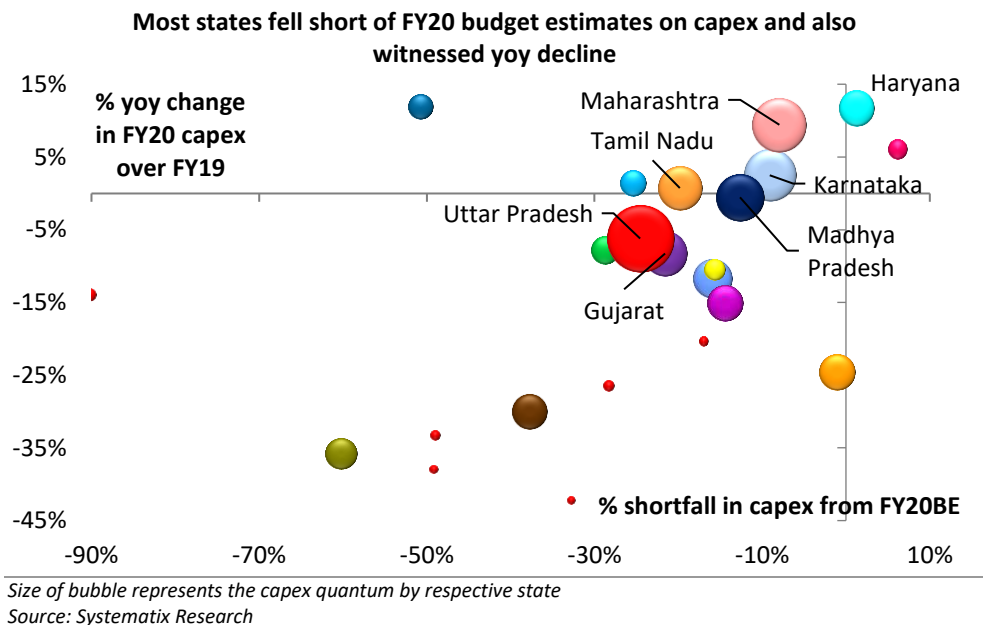


Exhibit 149: Larger states missed FY21 capex budgets

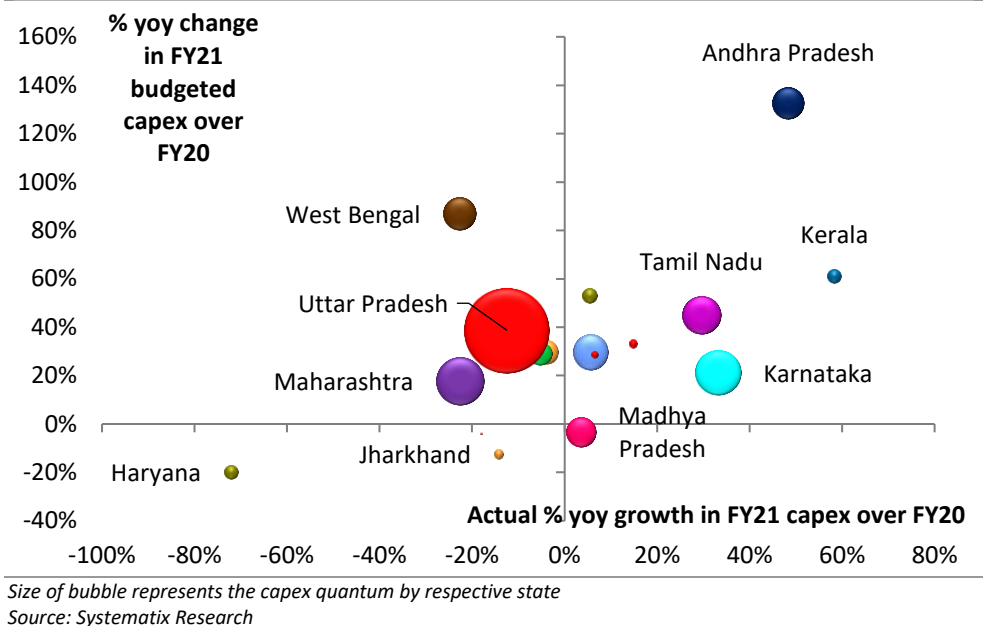


Exhibit 150: States like UP, AP, Rajasthan, TN and Telangana have seen massive cuts in actual capex as against their budgeted spends

% YoY growth	Actuals over BE			Actuals over RE		
RE/BE comparison with actuals	FY17	FY18	FY19	FY17	FY18	FY19
Andhra Pradesh	13.0%	-36.3%	-21.4%	-19.4%	-2.5%	-59.5%
Bihar	-5.4%	-6.9%	-41.9%	2.9%	-43.5%	3.7%
Gujarat	-9.7%	-1.5%	-2.3%	9.5%	-10.8%	-13.4%
Karnataka	8.3%	-5.7%	2.7%	3.6%	-0.9%	-2.0%
Madhya Pradesh	-14.2%	4.4%	3.3%	-7.8%	12.0%	-4.6%
Maharashtra	-11.3%	-19.3%	7.9%	17.3%	-8.0%	13.9%
Odisha	14.4%	6.0%	-2.4%	-1.8%	-0.7%	-3.1%
Rajasthan	-24.7%	-16.5%	-22.1%	-18.1%	-4.9%	-8.1%
Tamil Nadu	6.9%	-22.7%	-21.4%	-11.2%	-11.5%	-6.9%
Telangana	35.9%	-18.2%	-20.4%	-17.8%	-3.2%	0.0%
Uttar Pradesh	-1.7%	-26.1%	-17.0%	20.7%	-31.3%	0.7%
West Bengal	-35.6%	23.4%	-2.1%	-2.0%	-0.1%	11.3%

Source: Systematix Research

Exhibit 151: States have consistently missed their budgeted capex spend to meet fiscal deficit targets; while transport, energy and housing have been as per budgets, other segments have seen massive cuts consistently

% YoY growth	Actuals over BE			Actuals over RE		
RE/BE comparison with actuals	FY17	FY18	FY19	FY17	FY18	FY19
Water Supply and Sanitation	-9.1%	-11.5%	-10.6%	-3.6%	-11.9%	-5.6%
Housing	3.5%	-6.0%	-66.0%	4.4%	-19.8%	-62.9%
Transport	-1.6%	-9.2%	0.9%	-0.9%	-14.7%	-7.5%
Urban Development	-29.5%	-25.8%	-22.4%	-20.6%	-22.4%	-23.4%
Irrigation	-11.0%	-20.3%	-17.0%	-6.0%	-12.8%	-15.5%
Energy	10.2%	4.5%	-6.3%	15.4%	-5.2%	-20.1%
Rural Development	-20.5%	-29.6%	-36.8%	-7.4%	-23.2%	-33.2%
Total	-6.3%	-14.0%	-14.6%	-1.5%	-14.0%	-17.0%

Source: Systematix Research

Borrowing limits act as a soft constraint for states; capex will in turn be sacrificed to maintain GFD within 4% of GDP

With borrowings financing about 90% of states' fiscal deficit, on average, borrowing limits under Article 293 (3) act as a soft constraint. Thus, as per RBI, given the financing constraints, states' combined GFD is likely to remain around 4% of GDP with a bias tilted to the upside, higher than the budgeted 2.8% of GDP. As a result, in a bid to contain the fiscal deficit, states end up curtailing capex.

State guarantees rise to as much as 3% of GDP (mostly relating to Discoms), historically a precursor to actual debt increase

Historically, any large accretion to states' outstanding guarantees has, in general, been followed by an increase in debt. For example, state guarantees, which increased prior to 2014, fell sharply thereafter, primarily driven by subsuming of power sector guarantees into state government liabilities under the UDAY program. However, since FY18, net accretion to guarantees has seen a significant jump. This could be an early sign of future fiscal risks.

Exhibit 152: Guarantees issued by states – historically, large guarantee accretion is a precursor to rising debt at the state levels as these guarantees eventually get absorbed by the states

	Guarantees outstanding		Accretion during the year	
	(Rs trn)	(% of GDP)	(Rs trn)	(% of GDP)
FY14	3.79	3.40	0.80	0.40
FY15 (UDAY year)	4.28	3.40	0.49	0.10
FY16 (UDAY year)	3.64	2.60	(0.64)	(0.80)
FY17	3.12	2.00	(0.52)	(0.60)
FY18	4.30	2.50	1.18	0.50
FY19	5.38	2.80	1.08	0.30
FY20P*	6.00	3.00	0.62	0.20
FY21**	-	-	0.90+	0.42+

* Based on actual reported data for 20 states and last year's data for remaining

** As per fiscal package

Source: Systematix Research

Even post-UDAY, state-owned power Discoms continue to impart significant downside risk (leading to higher liabilities) with no visible signs of a turnaround

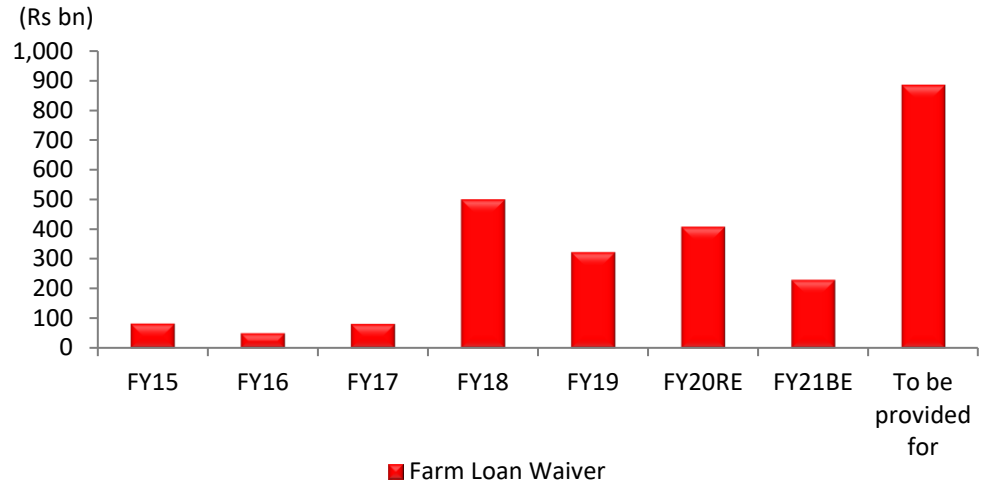
The outstanding liabilities of the states increased by 1.5% of GDP due to UDAY in FY16 and FY17. However, despite this steep fiscal cost, Discom losses reached the pre-UDAY level of 0.3% of GDP in FY19. In fact, adjusted for revenue grants made under UDAY – which are transitory and in nature of accounting transfers, Discom losses in FY19 are significantly higher than FY16. Estimates of the revenue gap per unit sold for FY20 reveal that most states have seen a further worsening in their financial performance.

The financial position of Discoms is expected to have weakened further in FY21 as the COVID-19 related lockdown has severely impacted power demand, particularly in the lucrative industrial and commercial segments. Their cost structure is rigid due to minimum commitments for power offtake in long-term PPAs. While the union government announced liquidity support of Rs 900bn for Discoms to help tide over immediate liquidity concerns, another round of bailouts of loss-making Discoms seems imminent in the aftermath of the crisis, imparting downside risks to state finances.

Farm loan waiver and income support schemes further curbing states' ability to spend on infrastructure

Compared with the total capex of ~Rs 3.5trn by all states in FY20, the total farm loan waiver provided for the year was ~Rs 407bn (11.3% of total capex). Total farm loan waivers announced so far since FY15 stand at Rs 2.55trn. Of this, Rs 1.44trn had been provided for till FY20, while the remaining may reflect in future state budgets. In addition, the trend of announcing farm loan waivers by states going into elections has picked pace in the past few years, along with the amount. For example, compared to farm loan waivers worth Rs 410bn announced in FY15, the amount surged to Rs 950bn in FY19.

Unfortunately, large farm loan waivers have been announced by the states that are large infrastructure spenders, thereby restricting infrastructure spending going forward. On a recurring basis, it seems states will have to bear an incremental amount of Rs 400-500bn of farm loan waivers and Rs 150-300bn of income support schemes every year, which would comprise almost 20% of the total infrastructure spending by all states put together.

Exhibit 153: Full impact of farm loan waiver yet to be provided for; may turn out to be a recurring theme at the cost of infrastructure capex

Source: RBI, Systematix Research

Exhibit 154: Farm loan waiver and income support schemes have accounted for as much as 20% of states' infrastructure capex (Rs bn)

State	Year of Announcement	Amount Announced	Amount Provided in the Budget						
			FY15	FY16	FY17	FY18	FY19	FY20 RE	FY21 BE
Andhra Pradesh	FY15	240.0	40.0	7.4	35.1	36.0	8.8	-	-
as % of State GDP	-	-	-0.9	-0.1	-0.6	-0.6	-0.1	-	-
Telangana	FY15	170.0	42.5	42.5	29.6	40.2	-	60.0	62.3
as % of State GDP	-	-	-1.0	-0.9	-0.6	-0.7	-	-0.6	-0.6
Tamil Nadu	FY17	52.8	-	-	16.8	18.7	8.8	8.1	7.4
as % of State GDP	-	-	-	-	-0.2	-0.2	-0.1	-0.0	-0.0
Maharashtra	FY18	340.2	-	-	-	150.2	35.2	-	-
as % of State GDP	-	-	-	-	-	-0.8	-0.1	-	-
Maharashtra	FY20	150.0	-	-	-	150.2	-	169.3	-
as % of State GDP	-	-	-	-	-	-0.8	-	-0.6	-
Maharashtra	FY21	70.0	-	-	-	150.2	-	-	70.0
as % of State GDP	-	-	-	-	-	-0.8	-	-	-0.2
Uttar Pradesh	FY18	363.6	-	-	-	211.0	37.3	5.4	3.2
as % of State GDP	-	-	-	-	-	-2.0	-0.2	-0.0	-0.0
Punjab	FY18	100.0	-	-	-	3.5	42.4	20.0	20.0
as % of State GDP	-	-	-	-	-	-0.1	-0.8	-0.3	-0.3
Karnataka	FY19	440.0	-	-	-	39.2	126.4	51.8	4.4
as % of State GDP	-	-	-	-	-	-0.4	-0.8	-0.3	-0.0
Rajasthan	FY19	180.0	-	-	-	-	30.0	42.7	41.7
as % of State GDP	-	-	-	-	-	-	-0.3	-0.4	-0.4
Madhya Pradesh	FY19	365.0	-	-	-	-	-	-	-
as % of State GDP	-	-	-	-	-	-	-	-	-
Chhattisgarh	FY19	61.0	-	-	-	-	32.5	49.8	-
as % of State GDP	-	-	-	-	-	-	-1.1	-1.5	-
Jharkhand	FY21	20.0	-	-	-	-	-	-	20.0
as % of State GDP	-	-	-	-	-	-	-	-	-0.5
Total	-	2,552.6	82.5	49.9	81.5	498.8	321.6	407.1	228.9
As % to States' GDP			0.1	0.0	0.1	0.3	0.2	0.2	0.1
As % to States' expenditure			0.4	0.2	0.3	1.8	1.0	1.1	0.6
As % to States' Infra capex			4.7	2.4	3.3	19.5	11.0	11.9	5.8

Source: RBI, Systematix Research

National Monetization Pipeline: Center's recourse to bridge the funding gap until the fiscal crisis abates

Earlier in 2020, the Indian government announced a mega spending plan of Rs 111trn over FY20-25 under its National Infrastructure Pipeline (NIP). However, with the COVID-19 pandemic worsening the centre and states' already weak fiscal situation, the government is exploring alternative mechanisms to fund its infrastructure capex and announced plans to monetize assets worth Rs 6trn through the National Monetization Pipeline (NMP).

Our deep-dive analysis into the NMP suggests that the plans are over-ambitious and would help raise direct proceeds of ~Rs 3.4trn for the government over FY22-25, which is <5% of the overall planned infrastructure capex over that period. Additionally, the planned asset monetization targets in key sectors such as roads are 10-20x the cumulative monetization so far, suggesting that execution challenges may delay the overall monetization plans considerably.

- Niti Aayog has listed assets worth Rs 6trn that could be monetized over FY22-25 to raise resources for funding the central government's greenfield infrastructure capex. However, direct monetization of assets worth just ~Rs 3.4trn is planned, while the remaining assets are likely to be developed via the public-private partnerships-PPP route (included as monetization even as they would not help raise resources for the government). In comparison, the planned infrastructure capex over FY22-25 is >Rs 80trn and hence, even if the entire portfolio is successfully monetized, it would contribute to <5% of the requirements.
- Procedural delays, bureaucratic red-tape and lack of trust in the political system have often plagued the execution of even good plans. Execution challenges that could delay the monetization plans can be gauged from the fact that – 1) in the past three years, a total of 1,408km of roads have been monetized (additionally 586km to be monetized through the National Highways Authority of India's infrastructure investment trust planned for FY22) as against 26,700km of roads to be monetized under NMP over FY22-25 – a 10-20x jump; 2) in August 2021, Indian Railways witnessed a complete failure of its plans to award 109 routes for private passenger train operations despite many bidders expressing interest earlier on – the key reason cited was lack of an independent regulator; and 3) the government had announced its plans to sell a majority stake in BPCL, Concor and SCI in 2019; till date, these sales have not taken off despite buyer interest.
- The monetization pipeline comprises almost all the existing and under-construction assets over FY22-25. We believe this target is aggressive and if enacted, would lend a significant blow to the government's future revenue receipts. In railways, the 400-stations redevelopment program entails most Indian cities with a population >100,000, despite a weak off-take in the past five years. Targets in power generation include most operational renewable portfolios with the central PSUs, while almost all centre-owned warehouses have been considered for monetization. In telecom, all tower assets with co-location revenue streams have been considered.

Direct monetization is only 57% of the NMP; balance proposed through the PPP route

Accordingly, the cash proceeds to the government will be only Rs 3.4trn vs. the Rs 6trn headline proposed.

The key monetization routes outlined by the government for the identified assets are 1) The direct lease of assets for a finite timeline through InvIT, TOT, operate-maintain-develop (OMD) agreements and 2) the PPP approach wherein the private sector will deploy capex to develop the asset and run it for a finite life before transferring it back to the government.

Under the PPP approach, there are no real/major monetary proceeds to the government and yet it has been categorized under the NMP.

We segregate the assets identified for direct monetization and PPP and find that only ~57% of the total pipeline is proposed under the real monetization route. Importantly, apart from roads and railways, most of the other identified assets are a part of the central public sector enterprises (CPSEs), wherein the cash proceeds may go to the respective PSUs rather than to the government, limiting the actual cash proceeds to the government.

Exhibit 155: Sector-wise monetization pipeline over FY2022-25 – only ~57% of it is direct monetization

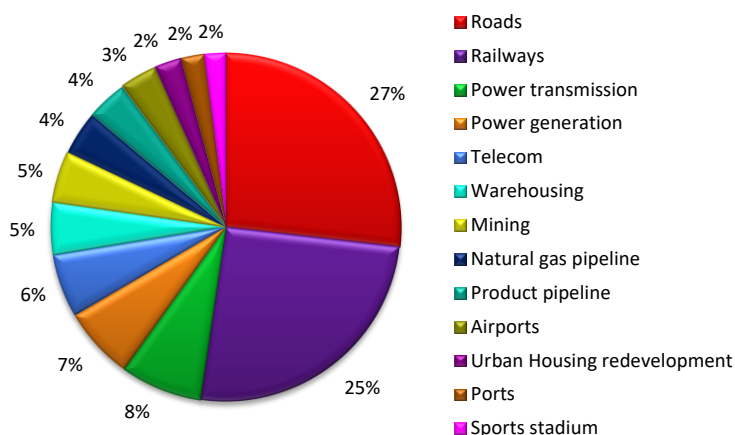
Sector/ asset	Approach to monetization value	Monetization plan (Rs bn)
Roads	Market approach	1,602
Ports	Capex approach	128
Airports	Capex approach	208
Railways	Railway stations – Capex approach	763
	Passenger trains – Capex approach	295
	Private freight terminals – Capex approach	56
	Railway colonies redevelopment – Capex approach	23
	Track infrastructure under DFCCIL – Book value approach	202
	Track, OHE – EV approach	187
Power generation	Book value approach	398
Power transmission	Market approach	452
Natural gas pipeline	EV approach	245
Product pipeline	EV approach	225
Sports stadium	Capex approach	115
Warehousing	Capex approach	289
Telecom	Capex approach for Bharatnet fibre assets	263
	Market approach for tower assets	88
Mining	Capex approach	287
Urban Housing redevelopment	Capex approach	150
Total		5,976
Total of non-capex approach plans		3,399
Non-capex route monetization as proportion of total		57%

Source: Niti Aayog, Systematix Institutional Research; Note: Blue shaded area reflects proposed direct monetization route

Government’s method of arriving at an indicative value for the monetizable assets:

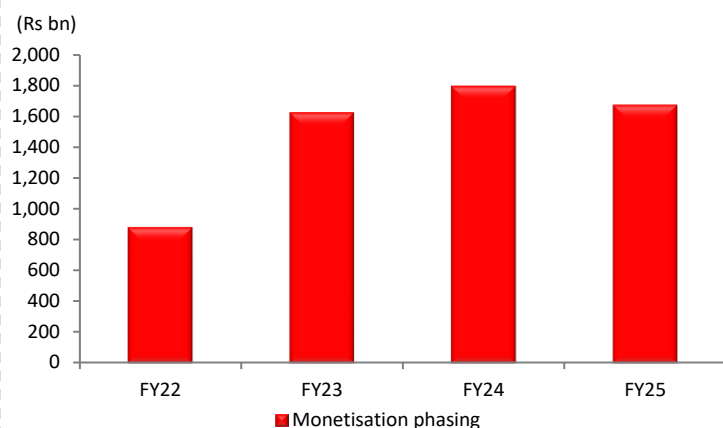
- a) Market approach – based on comparable market transactions, such as per kilometer of roads, per ckt km of transmission asset, per MW of generation capacity.
- b) Capex approach – PPP based models envisaging the capex investment by the private sector.
- c) Book value approach – considered in cases where information on comparable market transactions or estimated capex investment is not available.
- d) Enterprise value approach – considered for assets where information on the existing revenue stream is available or can be reasonably projected based on assumptions.

Exhibit 156: Roads, railways and power account for 67% of proposed monetization



Source: Niti Aayog, Systematix Institutional Research

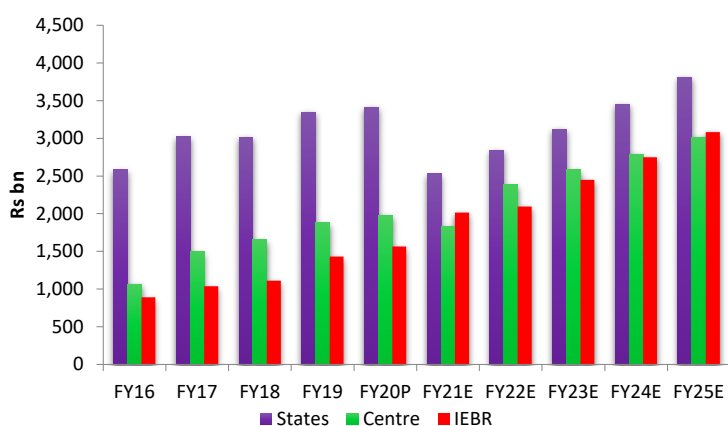
Exhibit 157: Annual phasing – FY23/24 loaded with the bulk of monetization pipeline



Source: Niti Aayog, Systematix Institutional Research

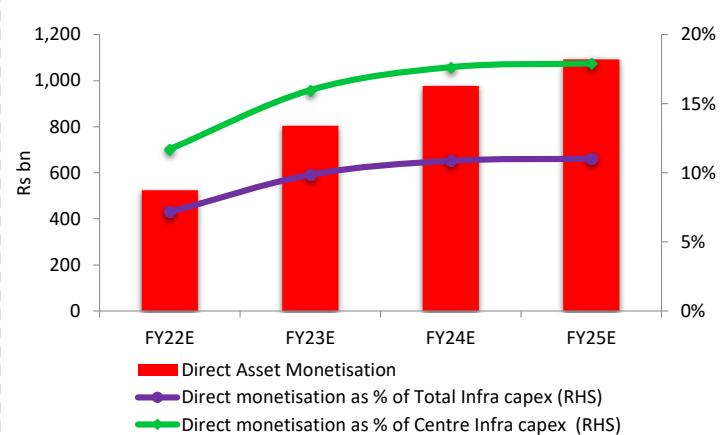
States have been the key drivers of infrastructure capex; centre to take the lead in incremental capex driven by a sharp rise in IEBR (internal and extra budgetary resources) funding

Exhibit 158: The share of IEBR funding rising to 50% of overall centre capex



Source: Niti Aayog, Systematix Institutional Research

Exhibit 159: Direct asset monetization proceeds to fund almost 20% of the centre’s infrastructure capex by FY25E



Source: Niti Aayog, Systematix Institutional Research

Roads: Rs 1.6trn of proposed monetization covers practically all potential assets and is 10x past 3 years' cumulative monetization

While roads is the largest sector in the NMP (27% of overall plans and 47% of direct monetization plans), the monetization target of Rs 1.6trn from this sector seems aggressive.

The aggregate length of assets considered for monetization over FY22-25E is ~26,700km. This is based on the length of all operational or to-be operational four-lane highways and above in the country. Highways that will become operational over the NMP period have also been considered part of the monetizable asset base. To illustrate, as of Mar-20, the length of toll roads under the public-funded/annuity mode was ~16,387km.

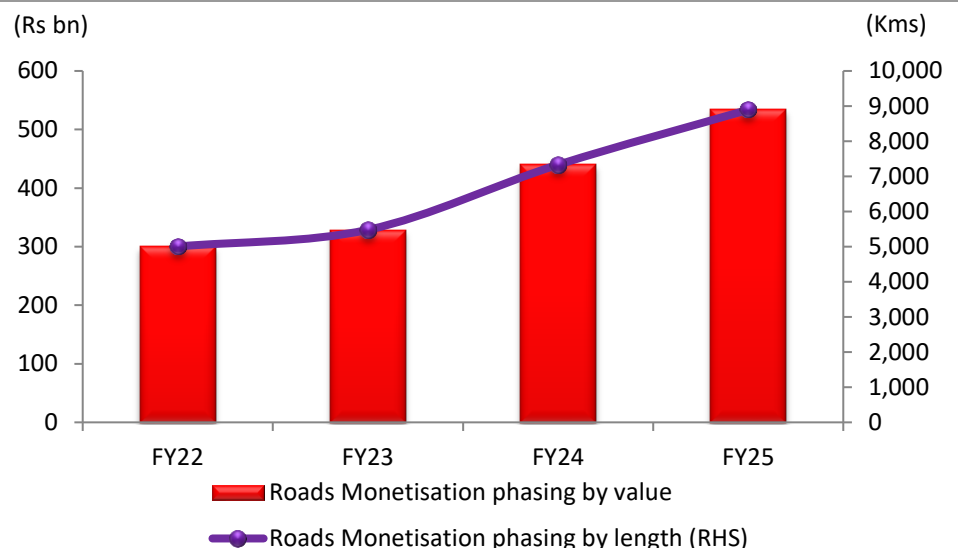
Exhibit 160: NMP effectively proposes to monetize all potential four-lane roads, thereby leaving no scope for future monetization (except for new additions post FY25E)

Potential Asset base (Kms)	136,155
of which, 2 lane Kms	66,716
of which, 4 lane Kms	31,067
<2 lanes	38,372
Asset length to be monetized	26,700
Monetizable length as % of total base excluding private BOT Toll	22%
Monetizable length as % of 4 lane base	86%
Potential Asset base excluding private BOT Toll (Kms)	121,155
Length under public-funded/ annuity mode	16,387
Monetizable length as % of existing 4 lane roads excluding private BOT	163%
Anticipated addition of monetizable roads over FY20-25	10,313
Anticipated addition of monetizable roads p.a. over FY20-25	2,063

Source: Niti Aayog, Systematix Institutional Research

The multiple (in Rs mn per km) used to estimate the indicative value is based on the average blended factor at Rs 60mn/km. The estimate has been arrived at based on 1) the recent TOT transactions, 2) asset mix to be monetized and 3) the scale of monetization.

Exhibit 161: Indicative value of Roads Monetization pipeline



Source: Niti Aayog, Systematix Institutional Research

As against Rs 675bn of road assets monetized till date by private companies as well as NHA (of which, NHA is just Rs 170bn), the proposal to monetize Rs 1.6trn of road assets is ~3x the total monetization so far and ~10x the NHA monetization till date.

Exhibit 162: Roads monetized so far by NHA (until FY21) is just 5.3% by length and 10.6% by value of the proposed monetization over FY22-25E

Bundle	Date	Length (Kms)	Value (Rs bn)	Rs mn/Km
TOT Bundle 1	Aug-18	682	97	142
TOT Bundle 2	Feb-19	586	Bid cancelled	
TOT Bundle 3	Nov-19	566	50	89
TOT Bundle 4	Sep-20	401	Bid cancelled	
TOT Bundle 5A-1	Jan-21	54	10	187
TOT Bundle 5A-2	Jan-21	106	13	118
Total so far		1,408	170	120
Proposed NHA InvIT	Sep-21	586	50	85

Source: Niti Aayog, Systematix Institutional Research

Exhibit 163: Total assets monetized via the InvIT route (in the past 4 years) so far adds up to Rs 1.3trn, of which road assets are Rs 505bn; against this, the proposed monetization by NMP is Rs 1.6trn over FY22-25E

InvIT	Sector	Public/Private	Listing month	Assets under Management (Rs bn)
IRB InvIT Fund – IRB	Toll roads	Public	May-17	65
India Grid Trust – Sterlite Power	Transmission	Public	Jun-17	150
IndInfraTrust – L&T IDPL	Roads	Private	Jun-18	105
India Infrastructure Trust – Brookfield	Gas pipeline	Private	Mar-19	145
Oriental Infra Trust – Oriental Structural Engineering	Toll roads	Private	Jun-19	110
IRB Infrastructure Trust	Toll roads	Private	Feb-20	225
Tower infrastructure Trust – Reliance & Brookfield	Telecom towers	Private	Sep-20	420
Digital Fibre Infrastructure Trust	Fibre Optic	Private	Oct-20	15
Powergrid InvIT	Power Transmission	Public	May-21	78
Total InvIT AUM in India				1,313
of which, Road based				505

Source: Niti Aayog, Systematix Institutional Research

Railways: Of the ~Rs 1.53trn of proposed assets for monetization, only ~Rs 0.4trn is direct monetization

Almost 50% of the railways monetization hinges upon station redevelopment through PPP, which hasn't taken off for almost half a decade now.

The bulk of the monetization plans in railways (including station redevelopment) is planned under the PPP route, even as the redevelopment of 400 stations proposed 5-6 years ago is yet to take off in a meaningful way (due to execution and clearance-related challenges).

Further, for assets such as Konkan Railway, there are multiple stakeholders already, including state governments. Hence, the existing shareholder interests need to be managed effectively before shaping the monetization transaction structure.

Tracks and overhead Electric wires (OHE) is expected to contribute ~Rs 187bn in monetization proceeds even though the existing track infrastructure is largely for exclusive and captive use of Indian Railways operations, and at present, there is no concept of apportionment of a track access charge towards a specific use of tracks. A

monetization mechanism will thus need to be structured, covering infrastructure access and usage agreement along with ring-fencing a track access charge-based revenue regime.

For Private Passenger Trains, bidding for 150 trains is presently underway and the project is expected to be awarded in FY22 – any scale-up will be contingent upon successful award and experience from the current batch of PPP clusters.

Exhibit 164: Segment-wise annual phasing of the proposed railways assets monetization; railway station development plans are optimistic

Railway assets to be monetized (Rs bn)	FY22	FY23	FY24	FY25	Total
Railway station development (Nos)	170	293	176	124	763
Passenger train operations (PTO) (Nos)	-	70	72	74	216
Track – OHE InvIT (Kms)	-	187	-	-	187
Good Sheds (Nos)	-	16	21	19	56
Konkan Railway (Kms)	-	-	73	-	73
Hill Railways (Nos)	5	2	-	-	6
Dedicated Freight Corridor (Kms)	-	-	101	101	202
Railway Colonies (Nos)	4	5	7	8	23
Total	178	572	449	326	1,525

Source: Niti Aayog, Systematix Institutional Research, Note: Blue shaded row highlights assets earmarked for direct monetization, while the remaining are via PPP

As the following table depicts, monetization plans for the Railways segment consist of several small assets to be bunched together (or even individually) but hitherto lack a proper revenue-generating model. The IR has just begun with the concept of private passenger trains but without a proper regulatory mechanism as it currently operates as an operator, competitor as well as owner and regulator of the assets, thereby posing significant scale-up risks for the PPP model.

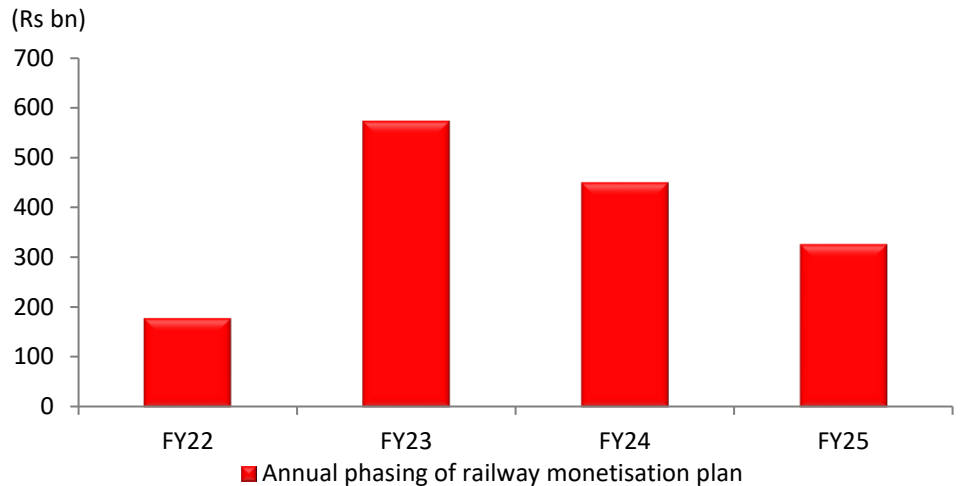
Goods sheds may be in for a strong demand given their strategic locations, however, successful execution of PPP in that segment will be strewn with challenges at a local level.

Exhibit 165: Railways assets planned to be monetized (in numbers)

Railway assets to be monetized	FY22	FY23	FY24	FY25	Total	Overall Existing assets	Proportion of overall existing assets
Railway station development (Nos)	40	120	120	120	400	7,325	5.5% of all stations
Passenger train operations (PTO) (Nos)	-	30	30	30	90	13,169	5% of total trains
Track – OHE InvIT (Kms)	-	1,400	-	-	1,400	67,956	2% of network
Good Sheds (Nos)	-	75	100	90	265	1,246	21% of total good sheds
Konkan Railway (Kms)	-	-	741	-	741		
Hill Railways (Nos)	2	2	-	-	4	5	
Dedicated Freight Corridor (Kms)	-	-	337	337	674	2,843	20% of total DFC network
Railway Stadiums (Nos)	3	5	5	2	15		
Railway Colonies (Nos)	-	-	-	-	-		

Source: Niti Aayog, Systematix Institutional Research

Exhibit 166: Annual phasing of proposed Railways assets monetization



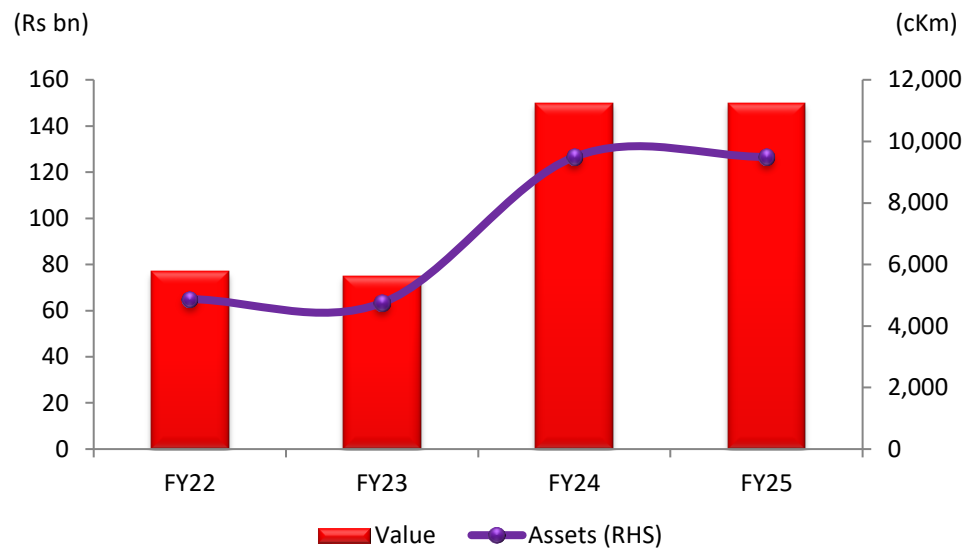
Source: Niti Aayog, Systematix Institutional Research

Power Transmission: Almost all of PGCIL’s TBCB assets considered; successful recent InvIT paves the way for future monetization

Almost all tariff-based competitive bidding (TBCB) assets of PGCIL are considered for monetization. Cost-plus or regulated tariff mechanism (RTM) projects that involve regulated returns on invested equity are housed in the parent entity’s balance sheet and not under separate SPVs. The monetization for such assets may thus require a scheme of arrangement/demerger process, which may pose associated transaction overheads such as the continuation of the tax holiday on assets, capital gains tax and stamp duty due to asset transfer.

Currently, almost 95% of PGCIL’s assets are under the RTM model, and therefore, the bulk of the assets considered for monetization are from the TBCB route.

Exhibit 167: Annual phasing of power transmission assets monetization plan (Rs bn) – includes recent InvIT transaction of Rs 77bn in FY22



Source: Niti Aayog, Systematix Institutional Research

Exhibit 168: Power Transmission assets planned to be monetized

Total transmission asset base (cKm)	413,407
Assets owned by PGCIL (cKm)	168,140
of which, 400kv and above (cKm)	156,370
of which, regulated assets (cKm)	159,733
Asset base proposed for monetization (cKm)	28,608
Indicative value (Rs bn)	452

Source: Niti Aayog, Systematix Institutional Research

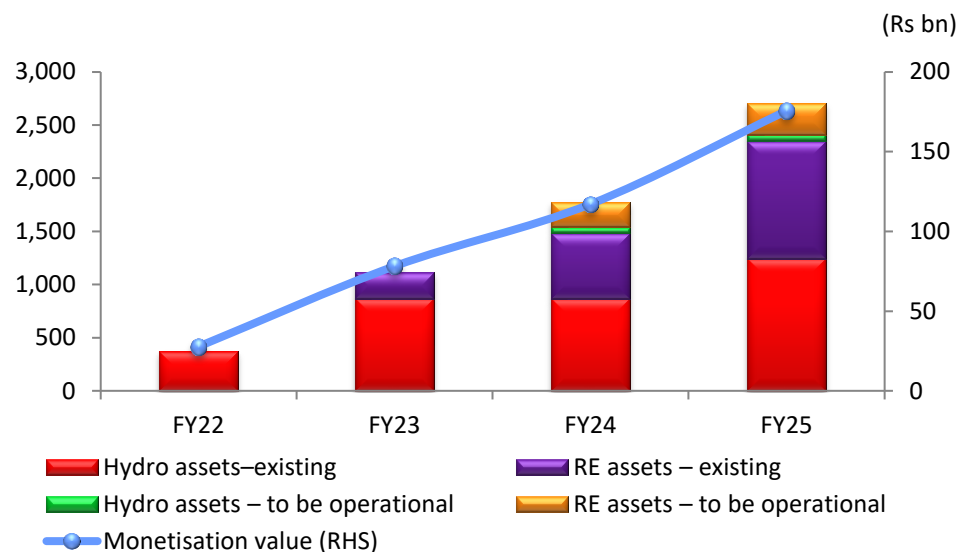
Power Generation: Largely consists of the renewable portfolio with PSUs

In the case of power generation assets, the monetization of coal and gas assets has not been considered keeping in mind strict ESG guidelines under which global investors operate and the uncertain long-term potential of the assets. Further, asset-level risks such as the dependence on high-cost LNG imports also limit private-sector participation in gas-based power plants.

Around 3.5 GW of hydro assets (which is 27% of the existing hydro generation asset capacity of central PSUs of about 12,864 MW) have been considered for monetization over FY22-25.

The existing solar capacity of the central sector agencies is ~2.5 GW, with an additional 1 GW capacity likely to be added over the next two years. Around 2.5 GW of solar capacity (i.e., ~100% of the existing solar capacity of NTPC and NLC) has been considered for monetization.

The challenge will be to monetize these assets at book value given that some of these may be at a higher cost as newer assets can be built at cheaper rates. Additionally, there are several competing assets available in the market.

Exhibit 169: Annual phasing of power transmission assets monetization plan (Rs bn) – includes recent InvIT transaction of Rs 77bn in FY22

Source: Niti Aayog, Systematix Institutional Research

Spending and new awards have picked up sharply YTFDY22

Central government-funded infrastructure capex growth peaked out in FY17 and has been falling since then; however, YTFDY22 has seen a capex spurt

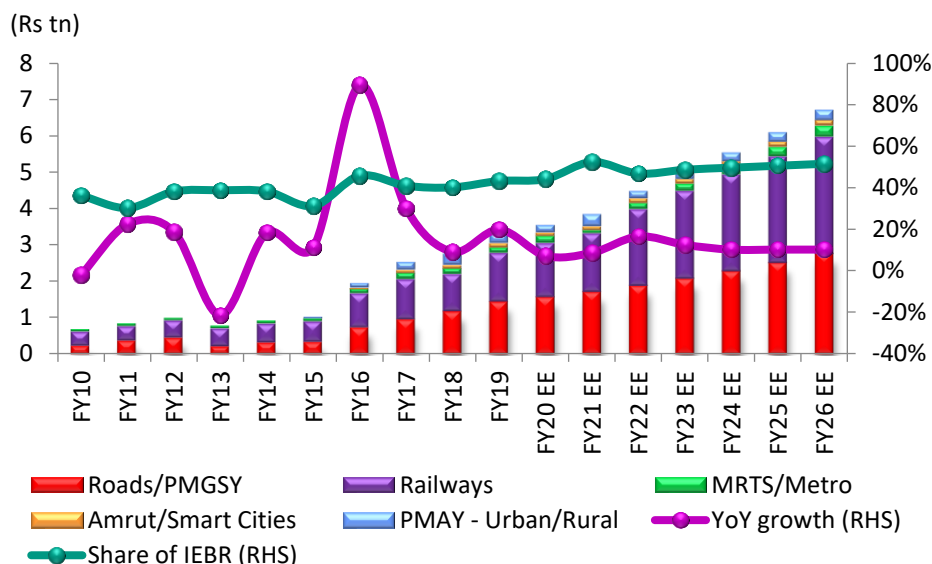
Infrastructure capex got a boost from the central government from FY15 onwards, with FY16 and FY17 witnessing a jump over the previous years' spending. However, the government data on budget allocation shows that direct funding by the central government toward infrastructure capex has slowed considerably after FY17.

During this period, the government has also resorted to external budgetary resources (IEBR) to fund a large part of the infrastructure spend (mostly roads and railways). However, based on the budget data, apart from temporary blips, IEBR's share in the overall central government infrastructure capex has been around 40% over the past 10 years. In contrast, over FY18-21, IEBR share has gone up to over 60%.

Importantly, central government infrastructure spending growth rates have come off significantly. To illustrate, over FY13-17, central government spending on infrastructure capex (including IEBR and ex-IEBR) increased at a CAGR of ~33%, but this has dropped to 12.7% over FY17-22BE.

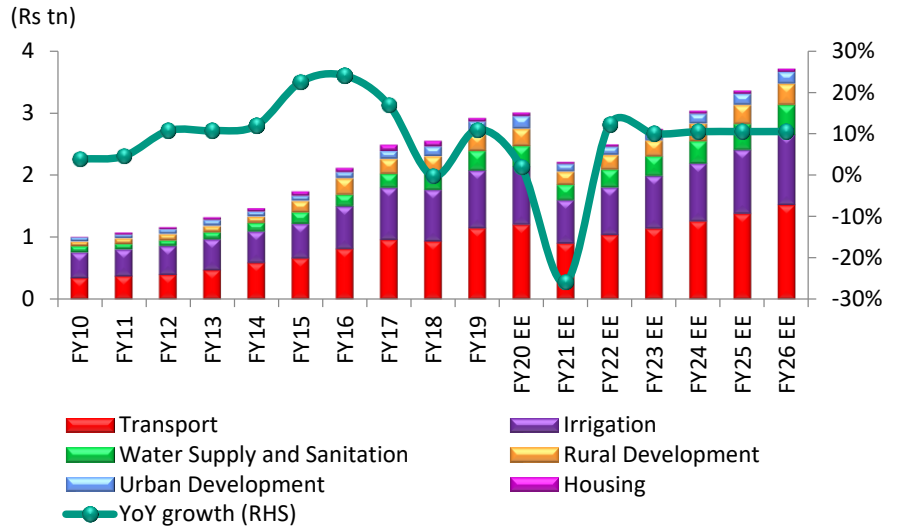
Unfortunately, the bulk of the slowdown is driven by the two largest spend buckets – roads and railways. As against a spend CAGR of 37% over FY13-19 for roads, it is estimated to slow down to 9.2% over FY19-22BE. Railways spending grew at a CAGR of 18% over FY13-19 and is pegged to grow at a similar rate over FY19-22BE but only after building in a sharp jump of almost 50% in FY22BE. Roads and railways together account for 87% of FY22BE spending of the central government.

Exhibit 170: Central government spending growth on infrastructure capex slowing down sharply from the FY16-17 peak



Source: India Budget documents, Systematix Research

Exhibit 171: State infrastructure spending has stagnated post FY19



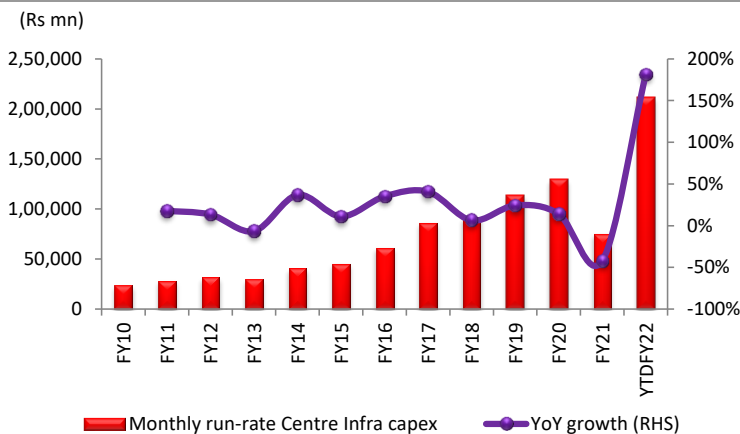
Source: Systematix Research, India Budget, RBI

Our infrastructure award/tender activity tracker suggests a sharp pick up in YTD FY22 contrary to our earlier expectations

- Our monthly infra tracker on tender and award activity shows that TTM tendering activity is up 23% YoY as of Oct-21. The uptick was largely attributed to sectors such as roads and hospitals and certain large projects in the ‘others’ category while water supply, irrigation and railways have been weak.
- In FY19, the average monthly run rate of tender value was Rs 765bn, which has come down to around Rs 560bn after FY19 (Rs 687bn on a TTM basis).
- Our high-frequency macro data heat map that tracks important monthly/quarterly data points (on a TTM basis) depicts a steady improvement, though on an extremely low base of last year. Most indicators are now, however, converging to FY19 levels.
- TTM awarding activity is now up 106% YoY and ~10% higher than FY19 numbers. The total awards monthly run rate for FY19 was Rs 377bn and has come down to Rs 310bn since then (Rs 410bn on a TTM basis).

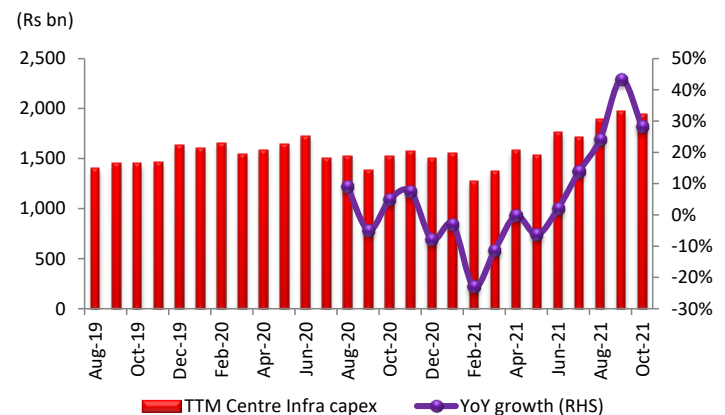
Monthly capex for both the centre and states have shot up contrary to our expectations of a slowdown probably buoyed by the strong revenue collection in YTD FY22.

Exhibit 172: YTD FY22 capex by the centre is up sharply on a low base



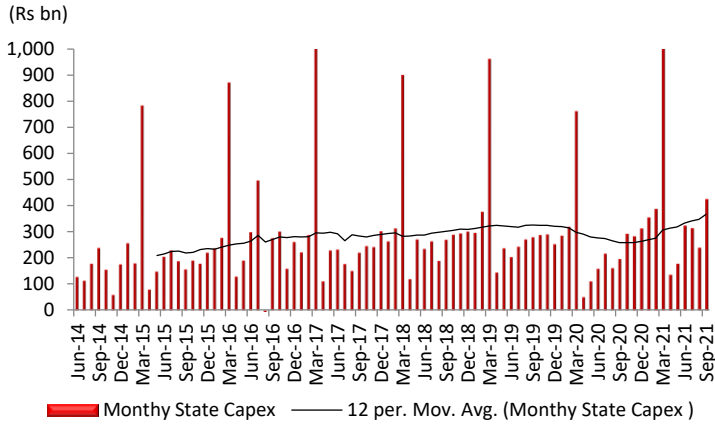
Source: Systematix Research

Exhibit 173: ...even on a monthly basis, the run-rate is higher than the peak of FY19



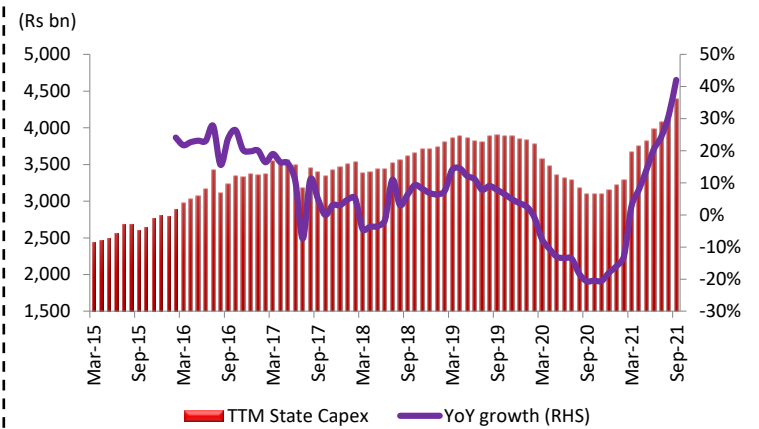
Source: Systematix Research

Exhibit 174: State capex has improved from the bottom...



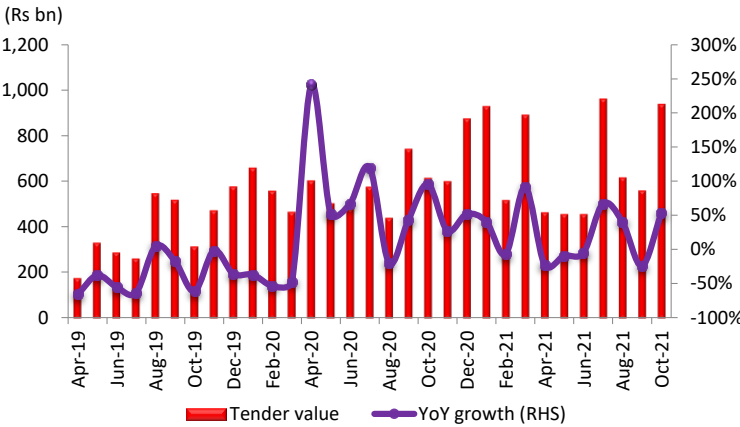
Source: Projects Today, Systematix Research

Exhibit 175: ...and turned sharply positive on a TTM basis in Sep'21



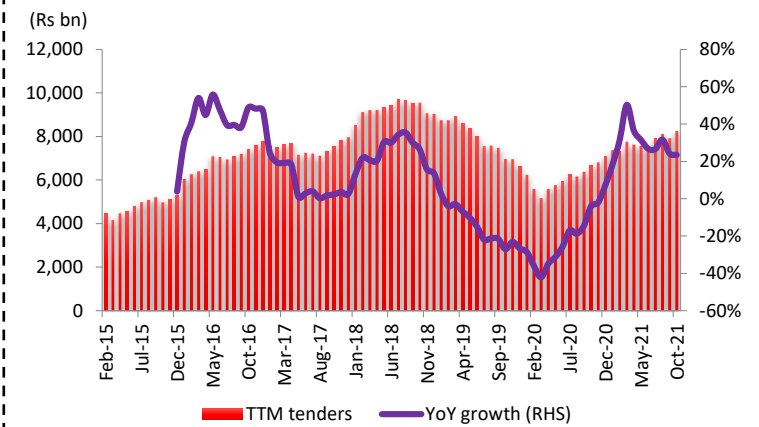
Source: Projects Today, Systematix Research

Exhibit 176: For Oct'21, published tenders were up 53% YoY...



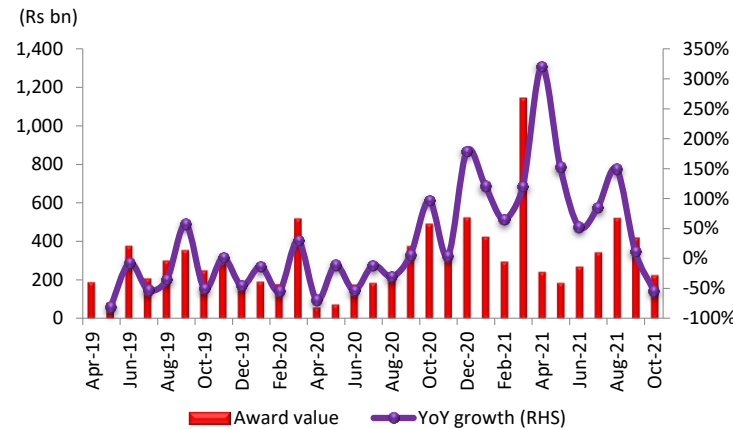
Source: Projects Today, Systematix Research

Exhibit 177: ...while TTM tenders were ~8% below FY19 levels



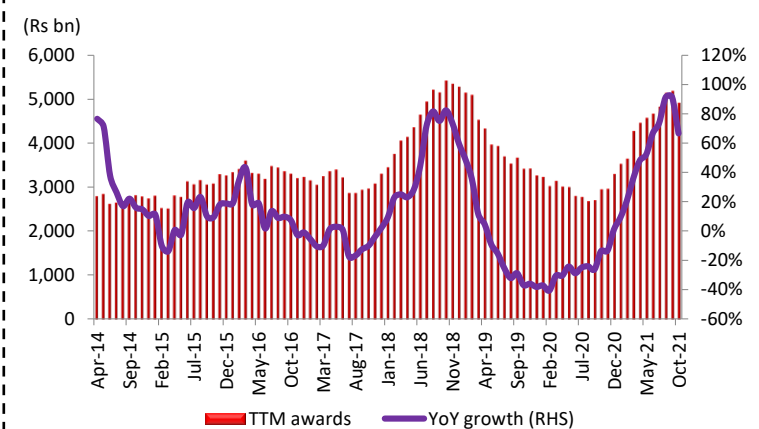
Source: Projects Today, Systematix Research

Exhibit 178: For Oct'21, project awards were down 54% YoY



Source: Projects Today, Systematix Research

Exhibit 179: ...while TTM orders are up 67% YoY



Source: Projects Today, Systematix Research

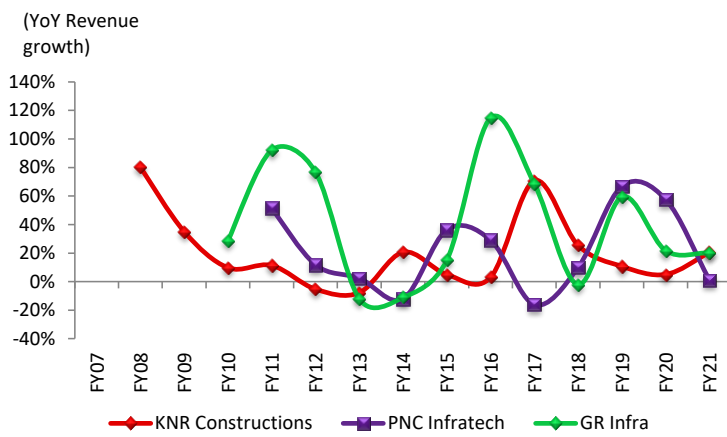
Spending on roads is a silver lining in the clouds

Smaller companies focused on road/water EPC projects and strong balance sheets to outperform larger diversified players

While the construction sector has seen significant growth over FY15-19 (25%+ spending CAGR for the centre and states combined), the companies that we looked at delivered only a 16% CAGR during this period, significantly underperforming the overall infrastructure capex CAGR in India.

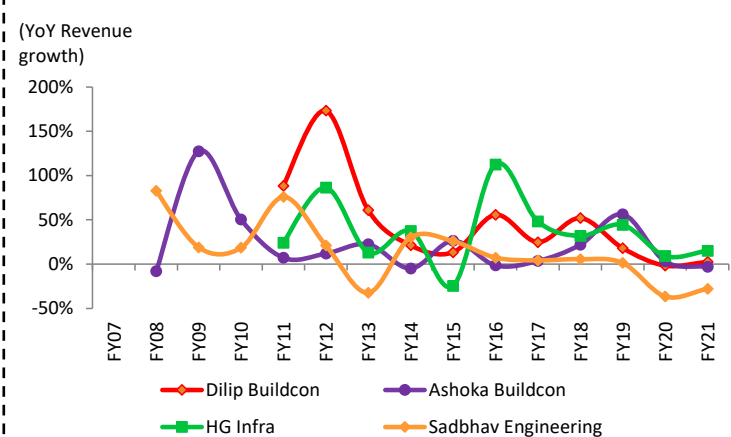
EBITDA/PAT CAGR for the same companies was better at 28% and 21%, respectively, but still not very encouraging. Within that, the road players have done better, delivering an EBITDA CAGR of 37% vs. an 11% CAGR by the other bucket of housing/rail/consultancy-dependent companies.

Exhibit 180: Within the roads sector, PNCL/KNRC/GR Infra have outperformed on revenue growth...



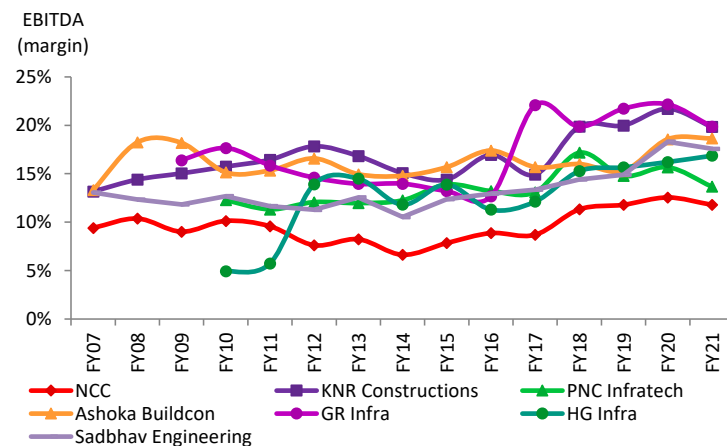
Source: Company, Systematix Research, Bloomberg

Exhibit 181: ...as compared to DBL/Sadbhav/Ashoka



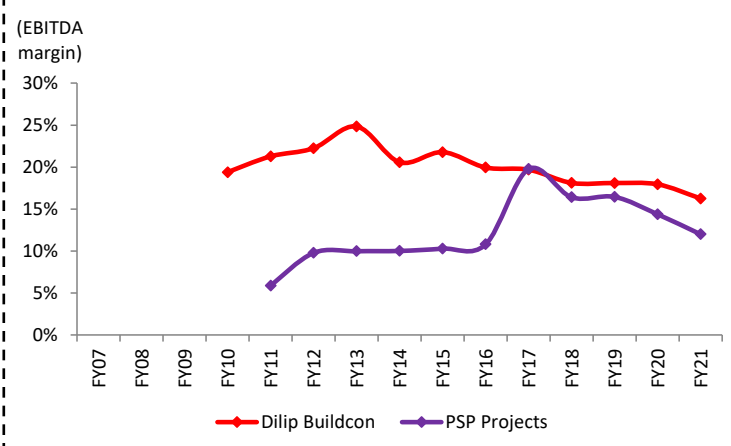
Source: Company, Systematix Research, Bloomberg

Exhibit 182: Most road companies have witnessed a margin expansion...



Source: Company, Systematix Research, Bloomberg

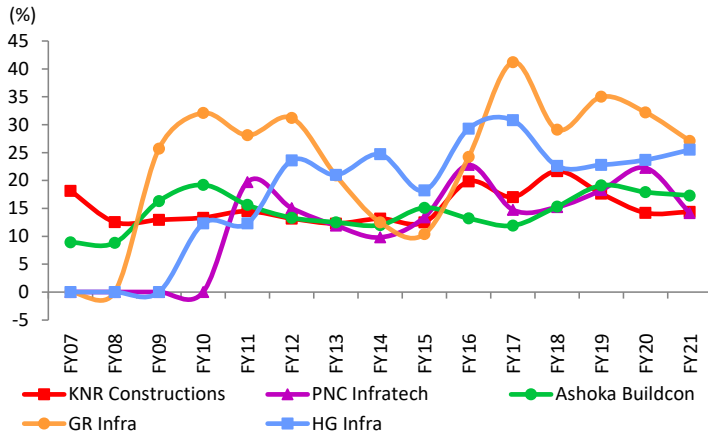
Exhibit 183: ...except DBL and PSP Projects



Source: Company, Systematix Research, Bloomberg

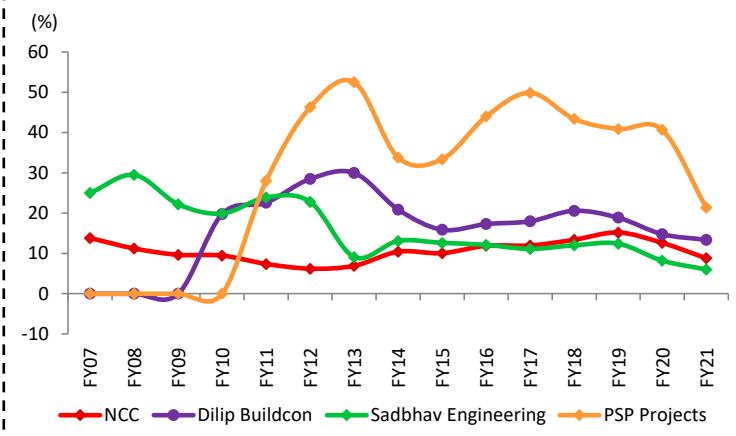
While RoE and RoCE may not be the best measures of efficiency for construction companies, given that these companies tend to be asset-light at times, they are reasonable filters for relative performance. On that count, while the larger players have struggled to maintain their RoE/RoCE, smaller players such as PNCL/KNRC have done better as they chose to stick to their core expertise and divest BOT/HAM assets.

Exhibit 184: PNCL/KNRC/Ashoka have done better on RoCE...



Source: Company, Systematix Research, Bloomberg

Exhibit 185: ...against NJCC/Sadbhav/DBL/PSP



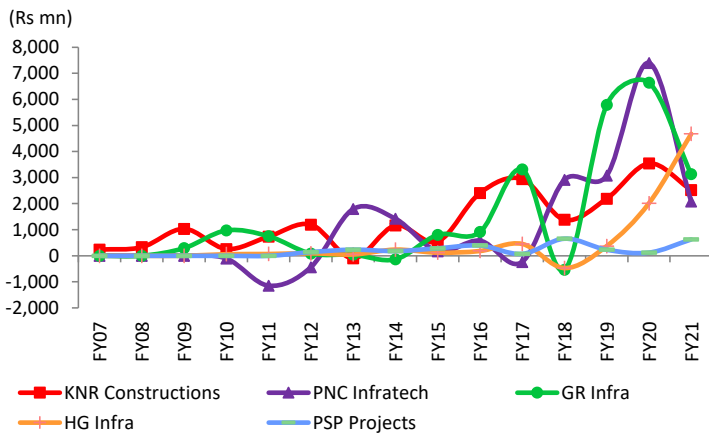
Source: Company, Systematix Research, Bloomberg

Beyond the traditional growth and return ratios, cash generation is a key metric for assessing how construction companies fare. As the charts below depict, KNRC/PNCL are the only companies in the roads space that have demonstrated consistent OCF/FCF (post interest expense) over FY14-19.

Thus, companies with strong balance sheets and smaller ambitions are a better bet against large, diversified conglomerates with high aspirations, as they are deleveraged, have a demonstrated history of FCF, are better managed and will likely fare better in the upcoming awards as well.

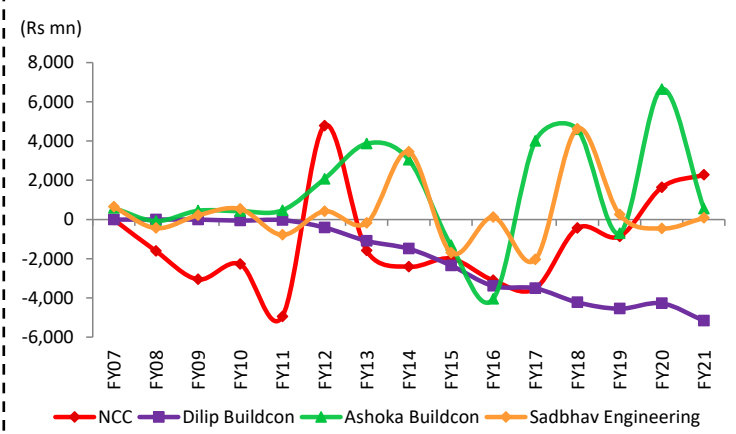
As against PNCL/KNRC, we notice that most companies have struggled to generate or maintain a consistent OCF/FCF pattern, mostly due to unrelated diversification and aggressive growth campaigns.

Exhibit 186: PNCL/KNRC are the only road names to generate consistent OCF (ex-interest expense)...

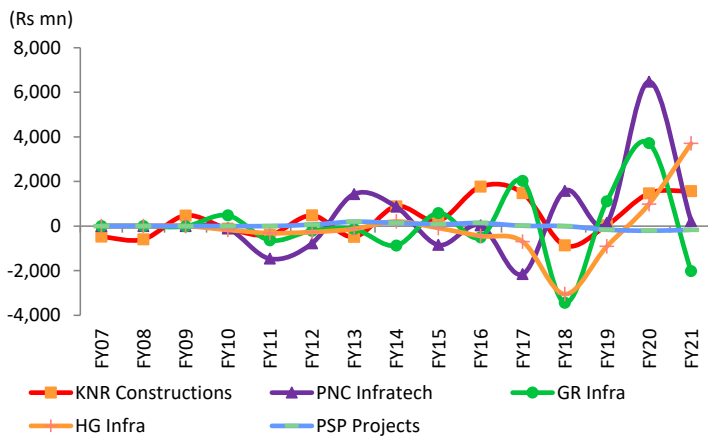


Source: Company, Systematix Research, Bloomberg

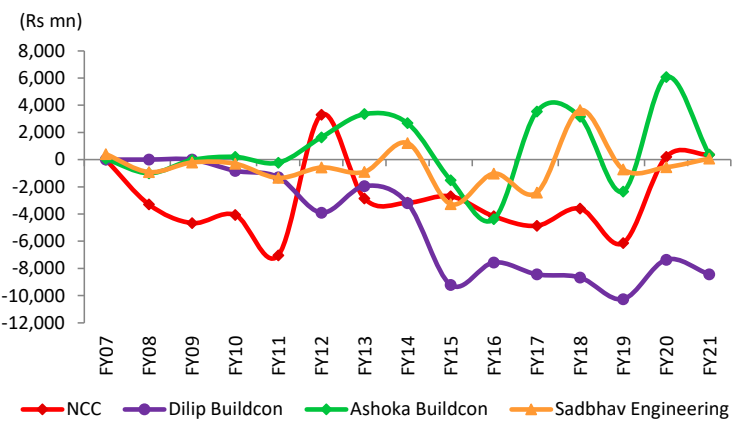
Exhibit 187: ...while NJCC/DBL/Ashoka/Sadbhav have had a patchy track record



Source: Company, Systematix Research, Bloomberg

Exhibit 188: PNCL/KNRC come out the best on FCF (ex-Interest expense) as well...

Source: Company, Systematix Research, Bloomberg

Exhibit 189: ...while, NJCC/DBL/Sadbhav have disappointed

Source: Company, Systematix Research, Bloomberg

Further, companies like PNCL/KNRC have negligible net interest expense as a percentage of EBITDA, while prominent names such as NJCC/Dilip/Sadbhav have huge interest costs that take away a large chunk of their EBITDA, leaving little for the bottom line or distributable cash flow.

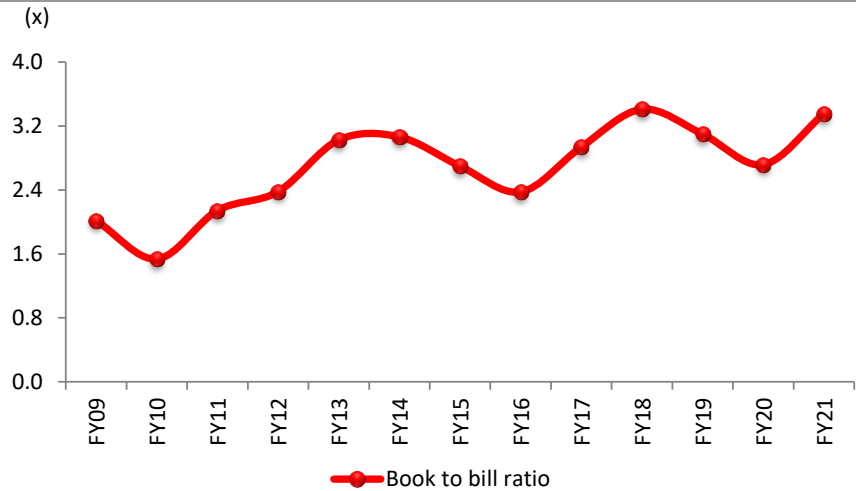
Ashoka Buildcon is the other name that has done well on the OCF/FCF metric consistently, along with lower interest costs as a percentage of EBITDA.

Exhibit 190: PNCL/KNRC/Ashoka/GR Infra standout for OCF/FCF generation as well as negligible interest cost as % of EBITDA

(Rs mn)	Market Cap (Rs bn)	Cumulative OCF-Interest		Cumulative FCF-Interest		Cumulative OCF as % of mkt cap		Cumulative FCF as % of mkt cap		Average Interest paid as % of EBITDA	
		FY12-21	FY18-21	FY12-21	FY18-21	FY12-21	FY18-21	FY12-21	FY18-21	FY12-21	FY18-21
NCC	46	(5,216)	2,608	(23,627)	(9,178)	-11%	6%	-51%	-20%	60%	42%
KNR Constructions	82	17,770	9,628	6,528	2,187	22%	12%	8%	3%	8%	7%
PNC Infratech	75	18,742	15,467	6,960	8,419	25%	21%	9%	11%	12%	10%
Dilip Buildcon	82	(30,432)	(18,210)	(68,983)	(34,723)	-37%	-22%	-84%	-42%	36%	36%
Ashoka Buildcon	27	18,704	11,090	12,562	7,241	69%	41%	46%	27%	13%	11%
GR Infra	169	20,036	15,025	227	(644)	12%	9%	0%	0%	9%	9%
HG Infra	41	7,737	6,599	(705)	718	19%	16%	-2%	2%	17%	15%
Sadbhav Engineering	7	4,562	4,495	(4,533)	2,452	62%	61%	-61%	33%	39%	43%
PSP Projects	19	2,946	1,634	99	(540)	16%	9%	1%	-3%	4%	4%

Source: Systematix Research, Company, Bloomberg

Exhibit 191: Sector book: bill ratio has been on an uptrend but highly cyclical



Source: Systematix Research, Industry

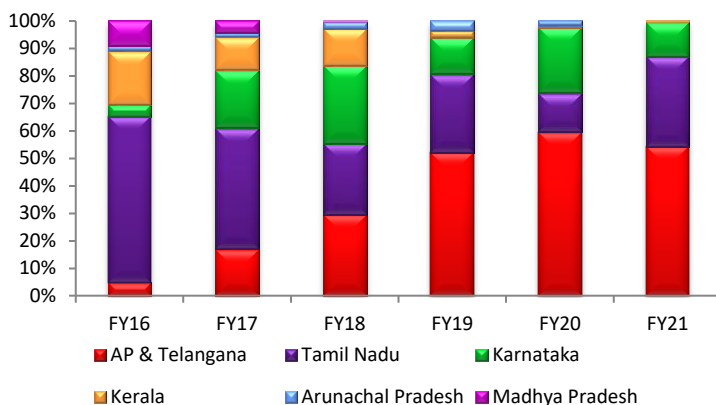
KNRC/PNCL have outperformed the rest of the sector

Key reasons for the above highlighted outperformance for KNRC and PNCL as compared to the rest of the sector:

- Strong focus on core focus markets by way of geography and segment. Historically, companies in a bid to chase growth have diversified away from their home markets - where they tend to be stronger – or focus segments. This has led to lower margins and execution challenges for these companies as they lose control of the actual execution and may need to rely on sub-contractors.
- The focus on restricting to core markets/segments is also a function of growth that can be organically met by adding one’s own equipment and management bandwidth. However, as soon as companies start to rely on outsourcing work to other contractors, they end up being a service trading company.

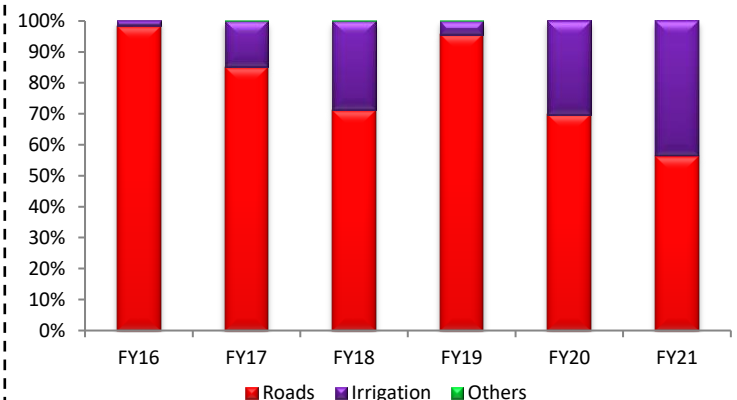
In the Exhibits below, we highlight a set of companies among which KNRC and PNCL have chosen to consistently focus on their home markets and the road/water segments. In contrast, L&T, NJCC and Dilip Buildcon have consistently been much more diversified. This depiction is despite suffering from a survivorship bias, wherein a significant number of construction companies that went bankrupt in the previous cycle do not even feature in this analysis.

Exhibit 192: KNRC state-wise order book split; >90% of projects have been in South India



Source: Company, Systematix Research

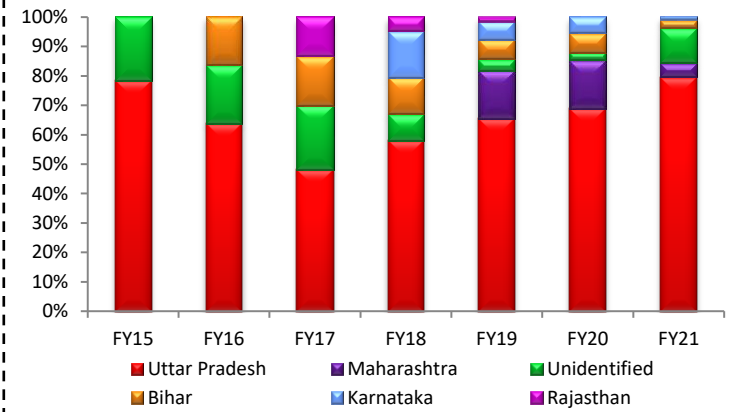
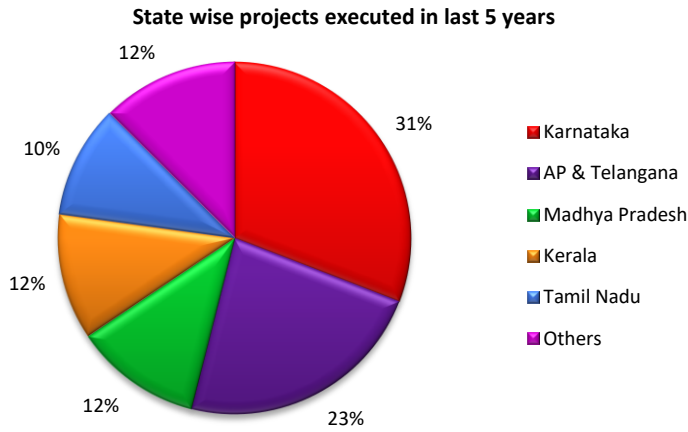
Exhibit 193: KNRC segment-wise order book split – over 70% of projects historically in the roads segment; irrigation a new entry



Source: Company, Systematix Research

Exhibit 194: KNRC state-wise projects executed in the past five years

Exhibit 195: Majority of PNCL's projects have been in UP/Maharashtra

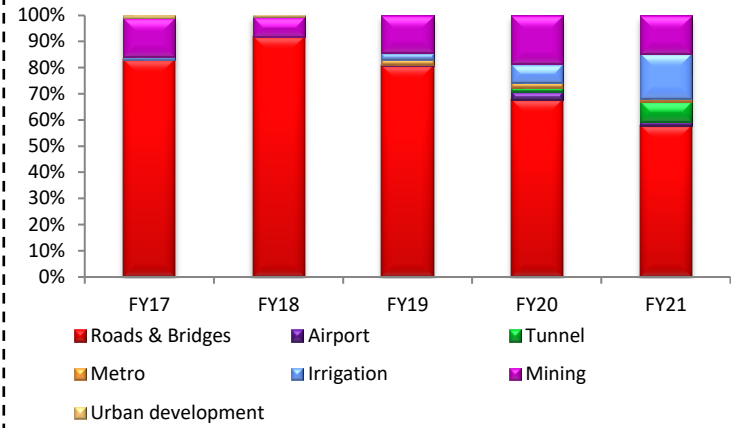
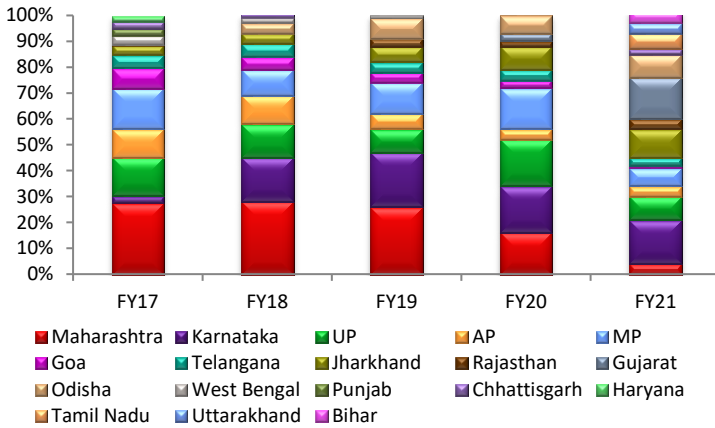


Source: Company, Systematix Research

Source: Company, Systematix Research

Exhibit 196: Dilip Buildcon's order book thinly spread across multiple states...

Exhibit 197: ...even as its prime focus remains road; it has also delved into airports, irrigation and mining

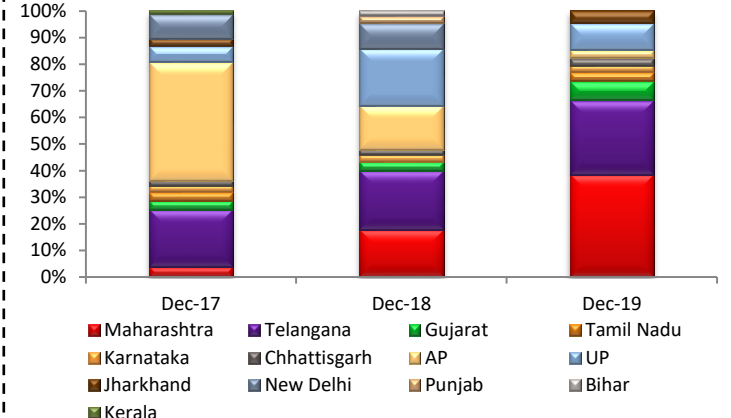
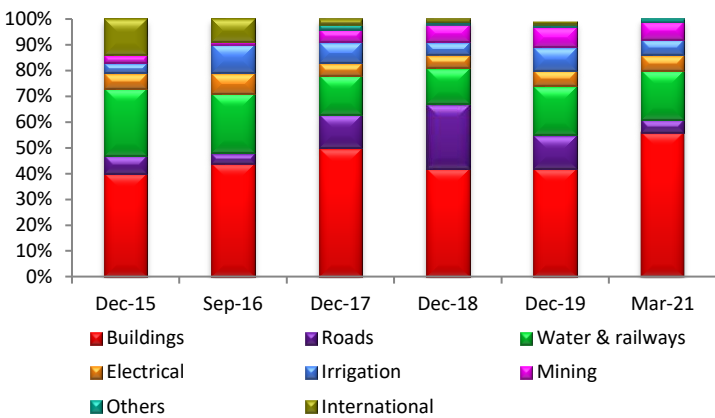


Source: Company, Systematix Research

Source: Company, Systematix Research

Exhibit 198: NJCC has a diverse presence across buildings & factories, roads, water/irrigation, railways and others...

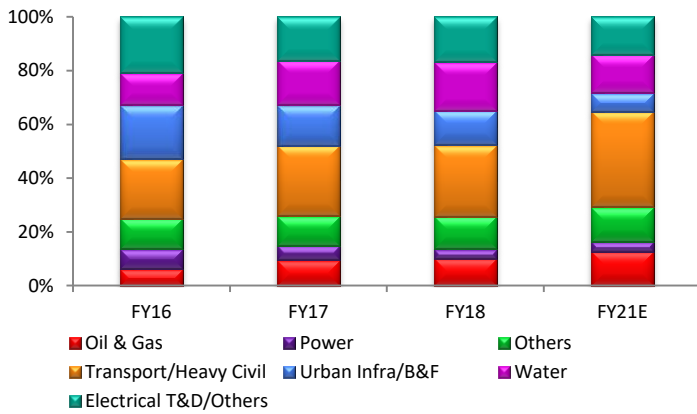
Exhibit 199: ...while geographically, it has been active across several states with a prime focus on AP/Telangana



Source: Company, Systematix Research

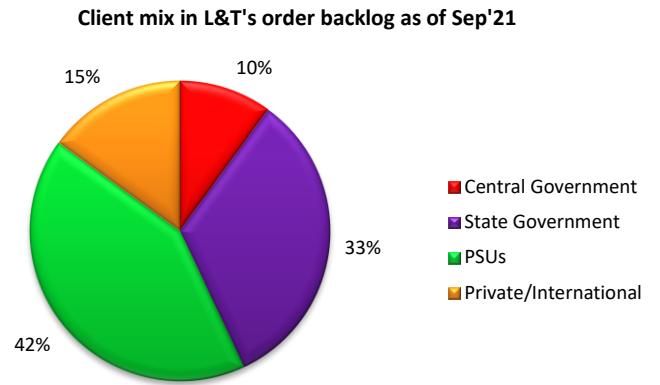
Source: Company, Systematix Research

Exhibit 200: L&T has a diverse presence across buildings & factories, transport/heavy civil, water/irrigation, hydrocarbons and others...



Source: Company, Systematix Research

Exhibit 201: ...while client-wise private share has come off and state share has gone up recently



Source: Company, Systematix Research

Valuation: Selective picks driven by earnings and cash flows

Since the bottom formed in Mar-Apr 2020, most stocks in our sector have rallied ~100%, with a few exceptions. However, the overall outlook has also improved significantly since the lows of FY21. For example, compared to India staring at a fiscal nightmare by FY22E, YTD FY22 revenue buoyancy and overall sentiment improvement have led the government to drive significantly higher capex spending and effect excise duty cut on petrol and diesel.

While continued worries on longer-term fiscal stress for the government remain, there is a case for selective bets in the infrastructure space where earnings visibility, supported by a credible plan for balance sheet deleveraging, exists.

NJCC is our top pick in the sector given its strong order backlog (4.5x TTM book: bill as of Sep-21) and inexpensive valuations at 8.7x FY23E P/E despite significant deleveraging that has already happened at the company. Additionally, we expect NJCC to turn almost debt-free by FY24E on the back of strong OCF/FCF generation and further monetization of investments in its subsidiaries.

L&T, KNRC and PNCL are our other key picks in the space. Strong earnings visibility and balance sheet justify their case but higher than long-term mean valuations restrict us from making a stronger case for them.

Exhibit 202: Implied P/E (FY24E) on our target price vs. long-term 1-year forward mean

Companies	P/E (x)			
	Target implied (core business)	LT avg	+1 STD	-1 STD
KNRC Constructions	16	15	20	10
Larsen & Toubro	16	21	28	14
PNCL Infratech	14	15	18	12
NJCC	12	14	21	7

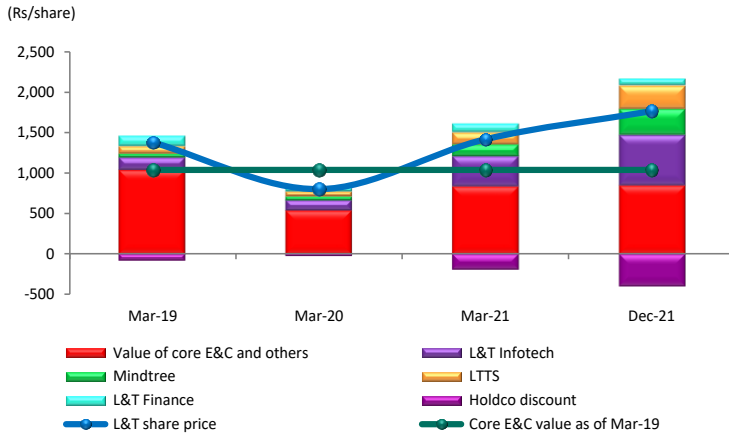
Source: Company, Bloomberg, Systematix Research

Exhibit 203: Valuation comparison

Company	CMP (Rs)	Mkt Cap (Rs bn)	Rating	Target Price (Rs)	ROE (%)		P/E (x)		Dividend Yield (%)		FY21-23E CAGR	
					FY22E	FY23E	FY22E	FY23E	FY22E	FY23E	Sales	EBITDA
KNR Construction	295	83	BUY	356	18.7	19.1	21.6	17.6	0.2	0.3	23%	23%
Larsen & Toubro	1,866	2,621	BUY	2,287	12.5	14.9	26.3	19.9	1.7	2.3	18%	24%
PNC Infratech	289	74	BUY	347	13.3	13.9	18.0	15.2	0.4	0.7	14%	15%
NCC	75	46	BUY	132	7.0	8.9	11.8	8.7	1.7	2.3	21%	20%

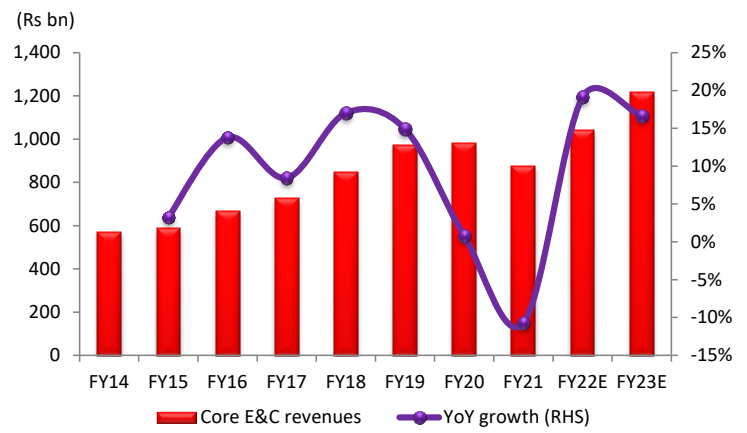
Source: Bloomberg, Systematix Research

Exhibit 204: L&T – Core E&C value has declined in the past 2.5 years, while tech businesses have created value for its shareholders



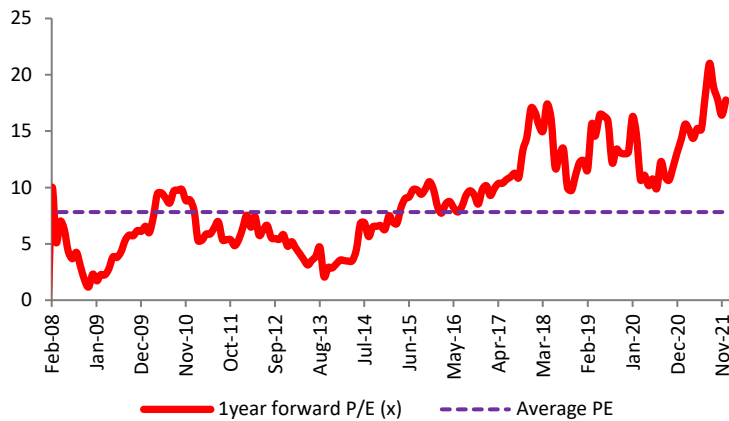
Source: Company, Systematix Research, Bloomberg

Exhibit 205: Core E&C growth to revive but at a slower pace



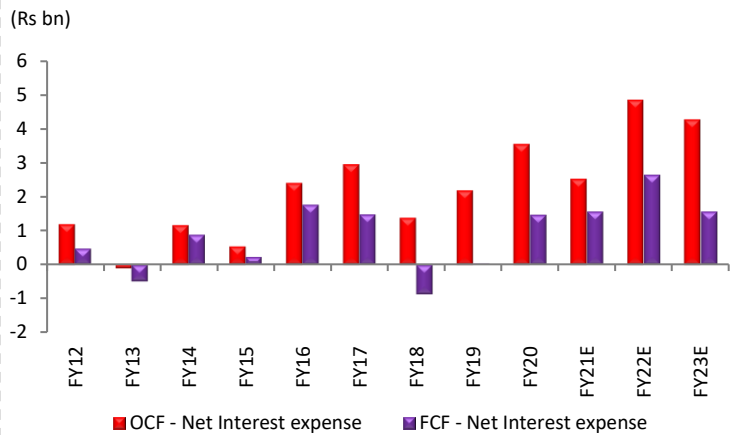
Source: Company, Systematix Research

Exhibit 206: KNRC is trading above its long-term mean P/E; we still like it due to its proven cautious strategy and as it is ...



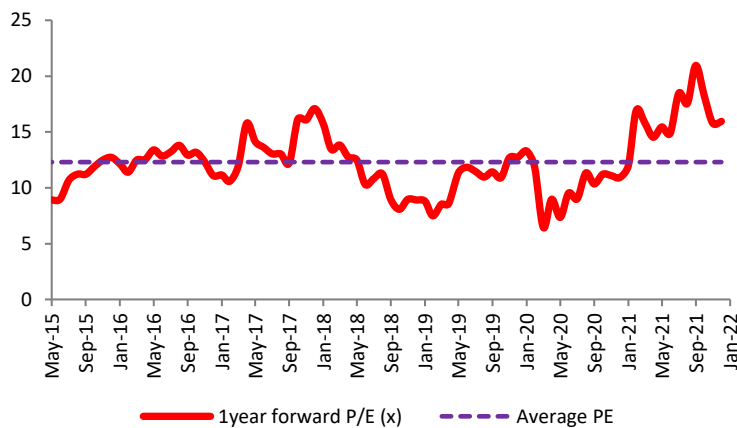
Source: Company, Systematix Research, Bloomberg

Exhibit 207: ... perhaps the only construction company to generate positive OCF/FCF consistently over the past 10 years



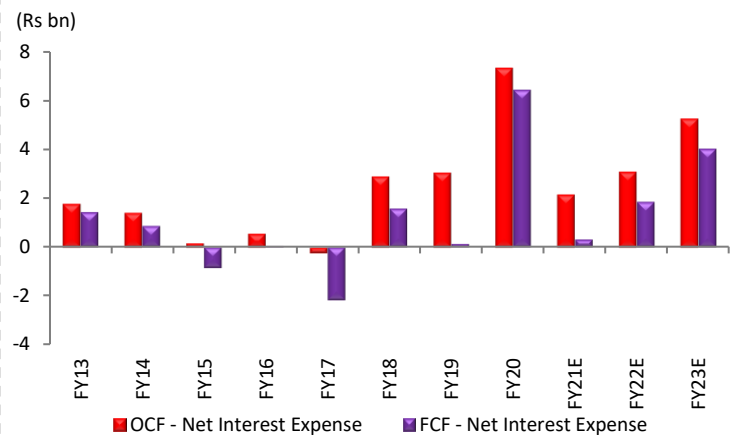
Source: Company Systematix Research

Exhibit 208: PNCL trading at close to mean valuations...



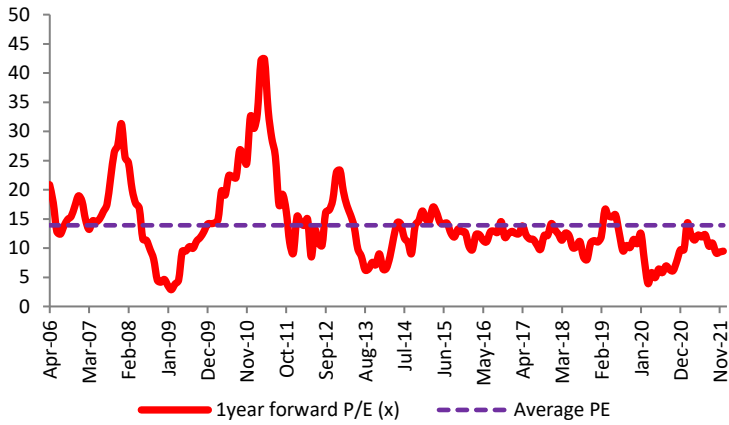
Source: Company, Systematix Research, Bloomberg

Exhibit 209: ...with a reasonable track record of positive OCF/FCF



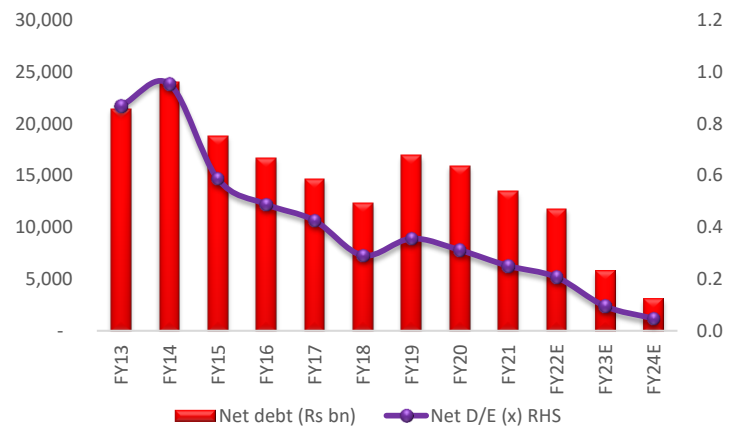
Source: Company, Systematix Research

Exhibit 210: NJCC trading at a significant discount to long-term mean valuations...



Source: Company, Systematix Research, Bloomberg

Exhibit 211: ...worst seems behind; it is likely to have negligible levels of debt by FY24E



Source: Company, Systematix Research

COMPANIES SECTION



TM

Larsen & Toubro

20 December 2021

Tech subsidiaries come to the fore as Infra tailwind pauses

INITIATING COVERAGE

Sector: Infrastructure Rating: BUY
 CMP: Rs 1,866 Target Price: Rs 2,287

Stock Info

Sensex/Nifty	58,117/ 17,325
Bloomberg	LT IN
Equity shares (mn)	1,405
52-wk High/Low	Rs 1,983/ Rs 1,155
Face value	Rs 2
M-Cap	Rs 2,621bn/ USD 34.6bn
3-m Avg traded value	USD 56mn

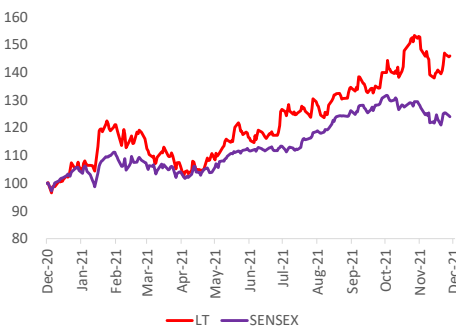
Financial Snapshot (Rs bn)

Y/E Mar	FY22E	FY23E	FY24E
Revenue	1,626	1,896	2,110
EBITDA	197	240	269
PAT	100	132	150
EPS (Rs)	71.0	93.6	107.0
RoE %	12.5	14.9	15.2
RoCE %	8.3	9.1	9.3
P/E (x)	26.3	19.9	17.4
P/BV (x)	3.1	2.8	2.5

Shareholding pattern (%)

	Sep'21	Jun'21	Mar'21
Promoter	-	-	-
-Pledged	-	-	-
FII	22.9	22.9	22.0
DII	33.1	32.8	33.2
Others	44.0	44.4	44.8

Stock Performance (1-year)



Larsen & Toubro (L&T) is not only the largest Indian infrastructure company but also fast-emerging as a tech giant with its three well-established subsidiaries together generating revenues well over USD 3.5bn. A well-restructured balance sheet and strong management position the company in a sweet spot; we estimate it to deliver ~17%/25% revenue/PAT CAGR over FY21-23E in its core Engineering & Construction (E&C) business vs. the 8-9% achieved over FY17-20. In the past year, while L&T's share price delivered a return of ~80%, the rally was largely driven by the re-rating of its tech entities. It scores well on the performance of its tech services and is well-placed to benefit from a capex revival; however, we are cautious about the overall ordering environment. Nevertheless, the company now has a strong core E&C book: bill ratio of 3.6x, which should help drive robust growth in the near term. We initiate coverage with a BUY rating and a target price of Rs 2,287 (upside of 23%).

Balance sheet continues to improve

Over the last five years, L&T has delivered on its balance sheet restructuring promise by focusing on improving its working capital cycle and the divestment of its non-core businesses, leading to FCF generation. We estimate its base-case RoE to improve to ~15% by FY23E on the continued improvement in its balance sheet. However, the company has suffered on its execution momentum due to the COVID-19-related disruption and previously on account of an elongating execution cycle due to its adverse project mix. With the worst of the disruption now behind, we expect a strong pick-up for its core infrastructure segment, led by base normalization and the on-ground pick-up in activity. We estimate a 17% revenue/EBITDA CAGR over FY21-23E in its core E&C business.

Strong order backlog to drive execution growth

Post the strong order inflow momentum witnessed till FY19, there are looming concerns about a slowdown in the public infrastructure capex. However, the company's strong order backlog of Rs 3.3trn as of Sep'21 (3.6x TTM book: bill ratio in the core E&C segment) should suffice to drive near-term execution growth. Hopes of a private capex cycle revival and continued strength in its tech subsidiaries should allay overall concerns.

Outlook and valuation

We initiate coverage on L&T with a BUY rating despite the recent outperformance given the rising contribution from its tech subsidiaries; we also estimate an improvement in its OCF/FCF generation on net working capital reduction. We value its core E&C business at ~16x FY24E P/E while valuing the subsidiaries at MTM of current share prices (less 20% holdco discount).

Key risks

1) Continued delay in execution in the core E&C business; 2) Potential margin impact due to the sharp commodity price rise in the recent past; 3) Slowdown/de-rating or increase in the holdco discount for its tech subsidiaries.

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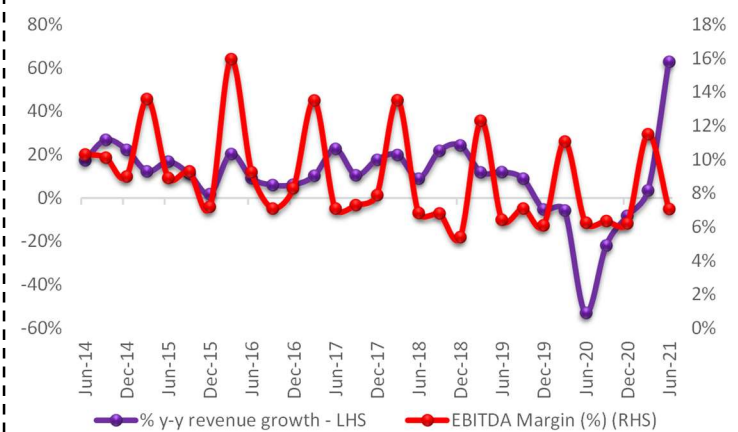
Story in charts

Exhibit 1: Infrastructure segment order backlog growth has picked up in the past 12 months...



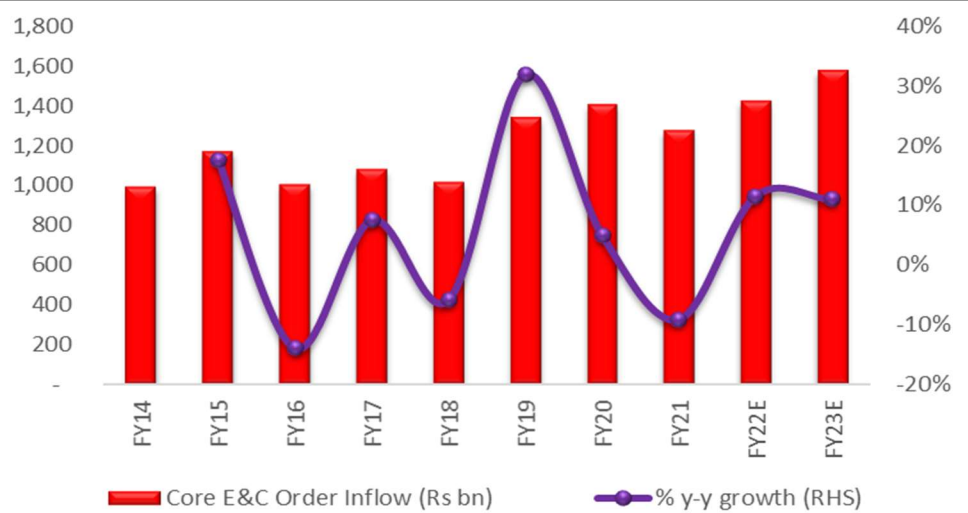
Source: Company, Systematix Institutional Research

Exhibit 2: ...while execution has been slower; though, this bodes well for a pick-up in execution from hereon



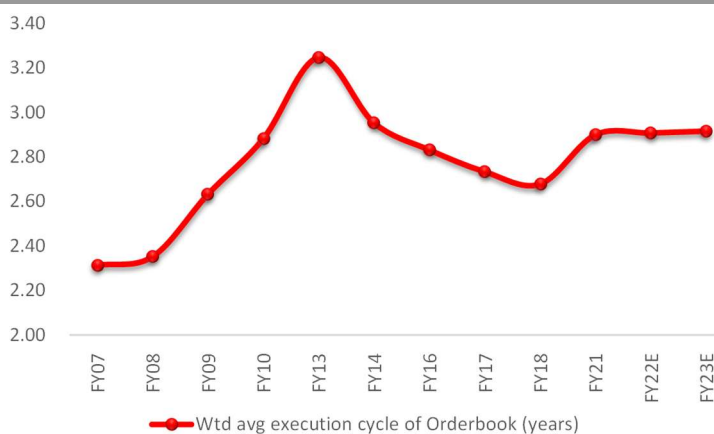
Source: Company, Systematix Institutional Research

Exhibit 3: Core E&C orders to grow at a CAGR of 11% between FY21-23 vs. 6% between FY14-20



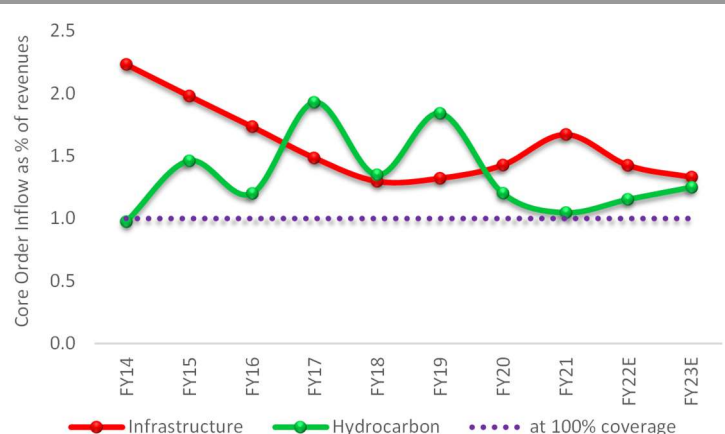
Source: Company, Systematix Institutional Research

Exhibit 4: Execution cycle for the current order mix to stabilize



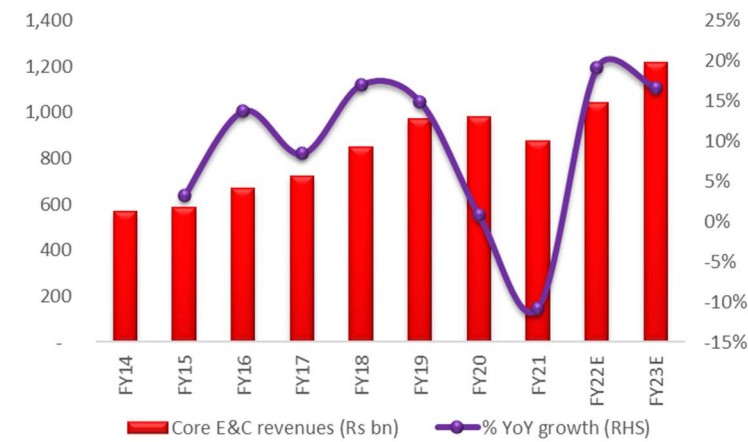
Source: Company, Systematix Institutional Research

Exhibit 5: Annual order inflow for key segments - infrastructure & hydrocarbon have replenished annual execution



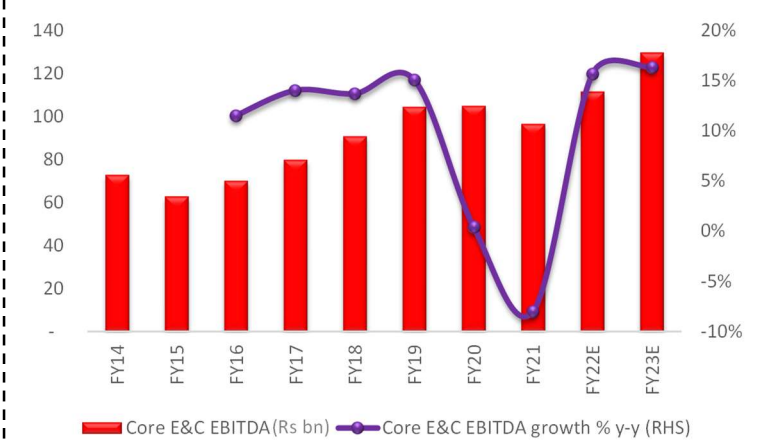
Source: Company, Systematix Institutional Research

Exhibit 6: Core E&C revenue growth to mirror industry growth...



Source: Company, Systematix Institutional Research

Exhibit 7: ...while core E&C margins should do better on improving trends and mix



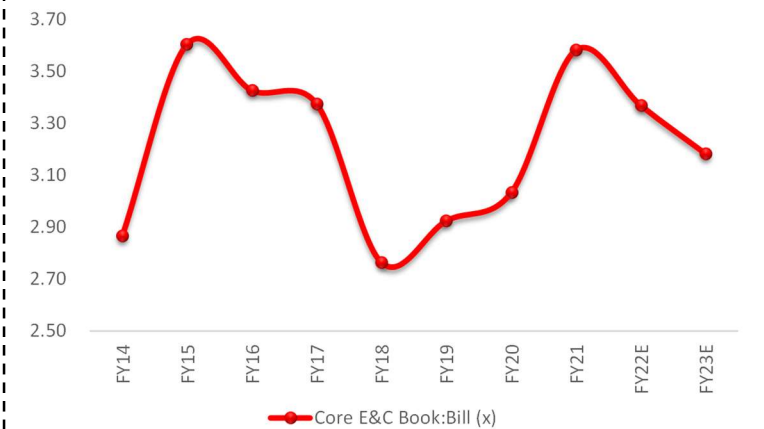
Source: Company, Systematix Institutional Research

Exhibit 8: Order backlog continues to grow despite the slow order inflow growth



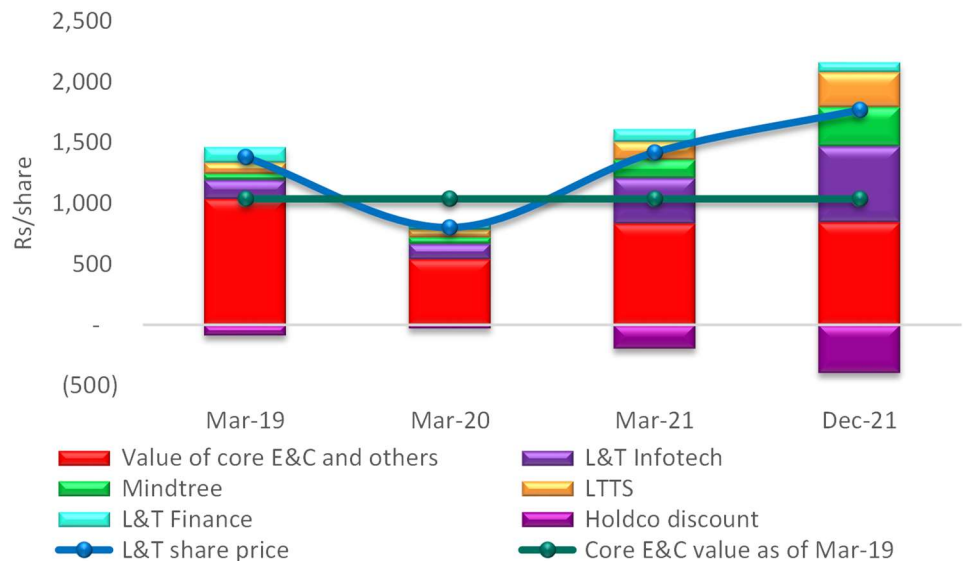
Source: Company, Systematix Institutional Research

Exhibit 9: Overall book: bill ratio remains healthy with core E&C book: bill ratio at 3.7x

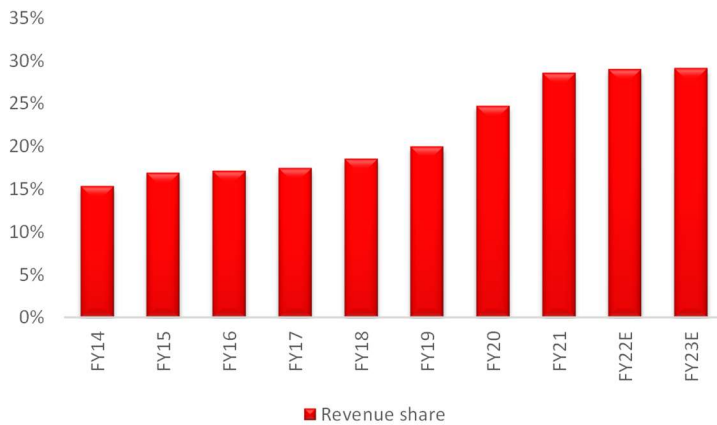


Source: Company, Systematix Institutional Research

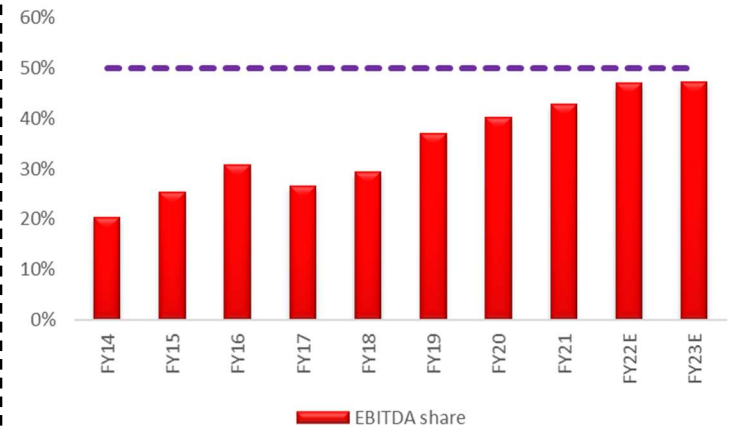
Exhibit 10: Core E&C value has declined in the past 2.5 years, while tech businesses have created value for L&T shareholders



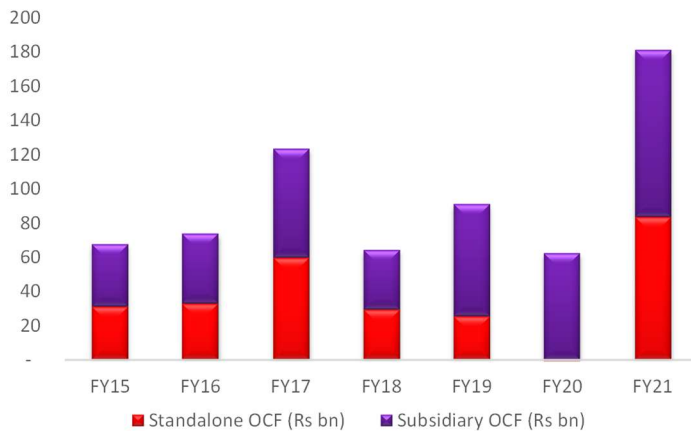
Source: Company, Systematix Institutional Research

Exhibit 11: Tech and finance subsidiaries now account for ~30% of consolidated revenues...

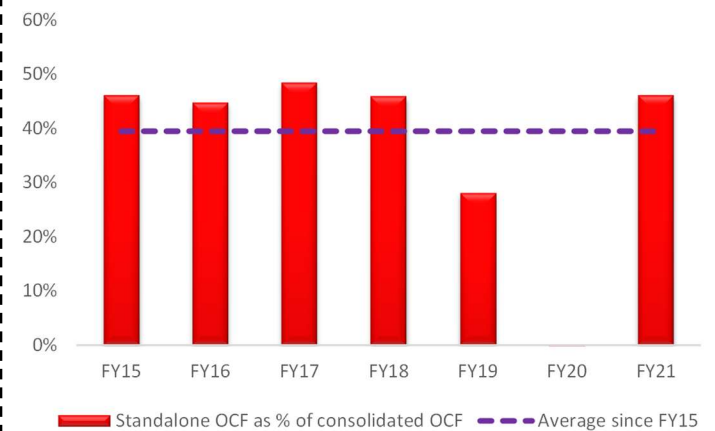
Source: Company, Systematix Institutional Research

Exhibit 12: ...contribution to increase to 50% of consolidated EBITDA

Source: Company, Systematix Institutional Research

Exhibit 13: Bulk of the consolidated operating cash flow (OCF) driven by tech subsidiaries...

Source: Company, Systematix Institutional Research

Exhibit 14: ...as standalone OCF has averaged only around 40%

Source: Company, Systematix Institutional Research

Exhibit 15: SoTP valuation yields a fair value of Rs 2,287/share

	FY24E PAT (Rs bn)	P/E (x)	Equity value (Rs bn)	Stake	L&T value (Rs bn)	L&T value per share (Rs)
L&T Core E&C	95.1	16	1,522	100.0%	1,522	1,084
L&T Finance			207	63.5%	131	93
L&T Infotech			1,301	74.1%	964	686
LTTS			602	74.2%	447	318
Mindtree			814	61.0%	497	354
BOT Assets value						52
Total subsidiaries value after 20% holding discount						1,203
L&T fair value						2,287

Source: Systematix Institutional Research

Company background

Larsen & Toubro is a technology, engineering, construction, manufacturing and financial services conglomerate, with global operations. It addresses critical needs in key sectors - Hydrocarbon, Infrastructure, Power, Process Industries and Defence - for customers in over 30 countries. The company is engaged in core, high impact sectors of the economy and accordingly has significant dependence on the government and private sector capex. As of Sep-2021, L&T's order book split according to customers was 33% from state governments, 10% from central government, 42% from PSUs, while the remaining from private sector/international clients. Of these, ~31% of the projects were funded partially or largely by bilateral/multilateral funding agencies.

Exhibit 16: L&T's business structure



Source: Company, Systematix Institutional Research

Products

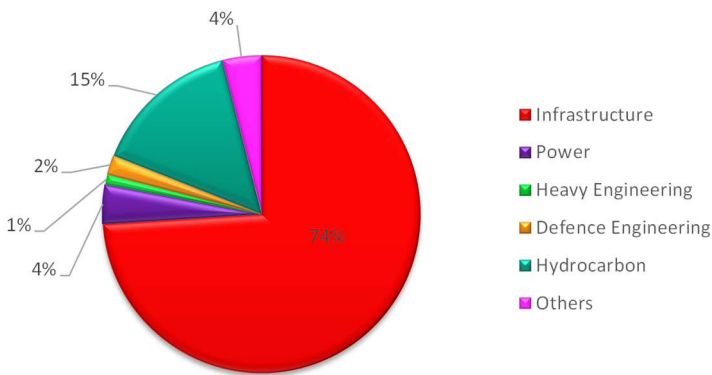
- Infrastructure: Buildings & factories, transportation infra, heavy civil infra, water & effluent treatment, power T&D, metal & material handling.
- Power: EPC for thermal power plant, electrostatic precipitator, power equipment manufacturing
- Heavy Engineering: Process plant equipment, nuclear power plant, equipment piping centre & forgings
- Defence Engineering: Defence, aerospace, shipbuilding
- Hydrocarbon: Onshore, offshore
- Developmental Projects: Roads/transmission line, metros, power
- IT & TS: Information technology, technology services
- Financial Services: Rural lending, housing finance, wholesale finance, asset management
- Others: Realty, industrial products & machinery, smart world & communications

Exhibit 17: L&T's segment composition

<p>Infrastructure</p> <p>Buildings & Factories (B&F) Transportation Infra (TI) Heavy Civil infra (HC) Water & Effluent Treatment (WET) Power T&D (PT&D) Metall. & Mat. Handling (MMH)</p>	<p>Power</p> <p>EPC- Coal & Gas Thermal Power Plant Construction Electrostatic Precipitator Power Equipment Mfg. *</p>	<p>Heavy Engineering</p> <p>Process Plant Equipment Nuclear Power Plant Equipment Piping Centre & Forgings</p>	<p>Defence Engineering</p> <p>Defence Aerospace Shipbuilding</p>	<p>Hydrocarbon</p> <p>Onshore Offshore</p>
<p>IT & TS</p> <p>Information Technology Technology Services</p>	<p>Financial Services</p> <p>Rural Lending Housing Finance Wholesale Finance Asset Management</p>	<p>Developmental Projects</p> <p>Roads / Trans. Line * Metros Power</p>	<p>Others</p> <p>Realty Industrial Products & Machinery Smart World & Comm.(SW&C)</p>	

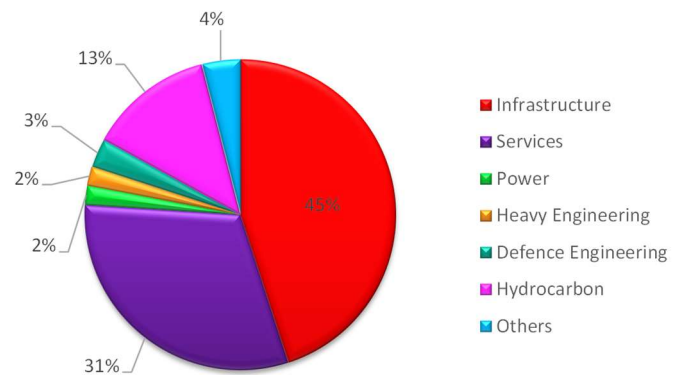
Source: Company, Systematix Institutional Research

Exhibit 18: Order book split by verticals as of Sep'21



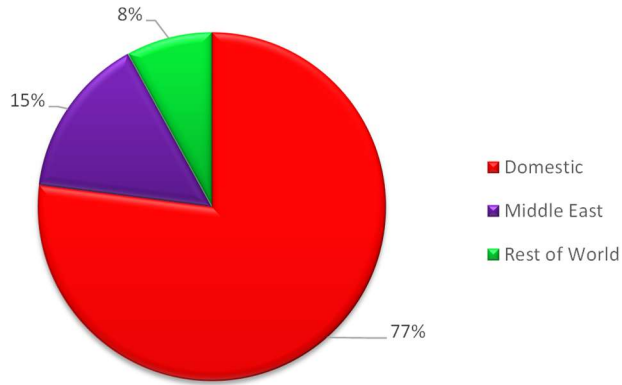
Source: Company, Systematix Institutional Research

Exhibit 19: Revenue split by verticals as of FY21



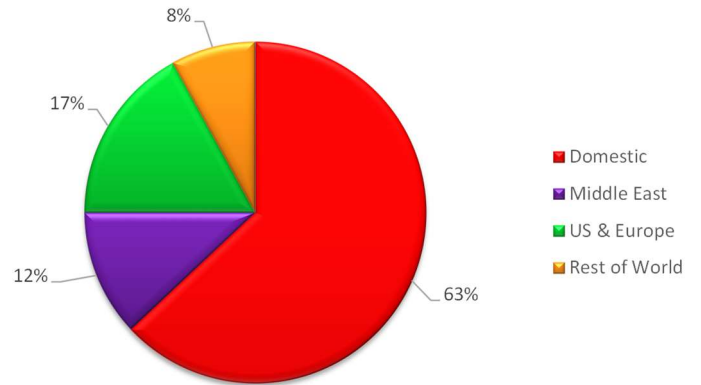
Source: Company, Systematix Institutional Research

Exhibit 20: Order book split by geography as of Sep'21



Source: Company, Systematix Institutional Research

Exhibit 21: Revenue split by geography as of FY21



Source: Company, Systematix Institutional Research

Comparative Advantages & Barriers to Entry

- While the infrastructure construction sector has low entry barriers, which manifests in a fragmented composition of mostly local or regional contractors, there are only a handful of large pan-India players. L&T has a strong brand name in the field of construction and manufacturing, which enhances clients' trust in the company. It is one of India's most respected engineering companies and is known for its custom-made technology-intensive equipment and systems. L&T's technological aptitude supports its design and manufacturing capabilities and provides engineering and project management expertise. With a strong brand name and manufacturing facilities, L&T has a competitive advantage.
- Economies of scale are difficult to achieve in the industry. This provides a cost advantage for those producing in large capacities. It also makes production costlier for new entrants. The capital requirements within the industry are high as huge expenditures have to be incurred. The government policies within the industry require strict licensing and legal requirements to be fulfilled before a company can start selling. These factors make an entry for new players difficult.
- Presence across complementary business verticals of infrastructure also helps the company diversify cyclical risks in a particular sub-segment of infrastructure, unlike smaller names which may be present only in a few verticals, apart from bringing in economies of scale advantages.

Key management team

Board of Directors:

- Mr. A. M. Naik: Group Chairman
- Mr. S. N. Subrahmanyam: Chief Executive Officer And Managing Director
- Mr. R. Shankar Raman: Whole-Time Director & Chief Financial Officer
- Mr. Shailendra Narain Roy: Whole-Time Director & Sr. Executive Vice President (Power)
- Mr. D. K. Sen: Whole-Time Director & Sr. Executive Vice President (Infrastructure)
- Mr. M. V. Satish: Whole-Time Director & Sr. Executive Vice President (Buildings, Minerals And Metals)
- Mr. Jayant Damodar Patil: Whole-Time Director & Sr. Executive Vice President (Defence & Smart Technologies)
- Mr. M. M. Chitale: Independent Director
- Mr. Subodh Bhargava: Independent Director
- Mr. M. Damodaran: Independent Director
- Mr. Vikram Singh Mehta: Independent Director
- Mr. Adil Siraj Zainulbhai: Independent Director
- Mrs. Sunita Sharma: Nominee Of Life Insurance Corporation Of India
- Mr. Subramanian Sarma: Non-Executive Director
- Mrs. Naina Lal Kidwai: Independent Director
- Mr. Sanjeev Aga: Independent Director
- Mr. Narayanan Kumar: Independent Director
- Mr. Hemant Bhargava: Nominee of Life Insurance Corporation of India

Leadership Team:

- A. M. Naik: Group Chairman
- S. N. Subrahmanyam: Chief Executive Officer and Managing Director
- R. Shankar Raman: Whole-time Director & Chief Financial Officer
- Subramanian Sarma: Non-Executive Director, L&T CEO & Managing Director (L&T Hydrocarbon Engineering)
- M. V. Satish: Whole-time Director & Sr. Executive Vice President (Buildings, Minerals & Metals)
- S. N. Roy: Whole-time Director & Sr. Executive Vice President (Power & Corporate Affairs)
- J. D. Patil: Whole-time Director & Sr. Executive Vice President (Defence & Smart Technologies)
- D. K. Sen: Whole-time Director & Sr. Executive Vice President (Infrastructure)

Auditors:

- M/s. Deloitte Haskins & Sells LLP

Annual Report Analysis

Exhibit 22: Annual report analysis suggests a continuous improvement in balance sheet over the years

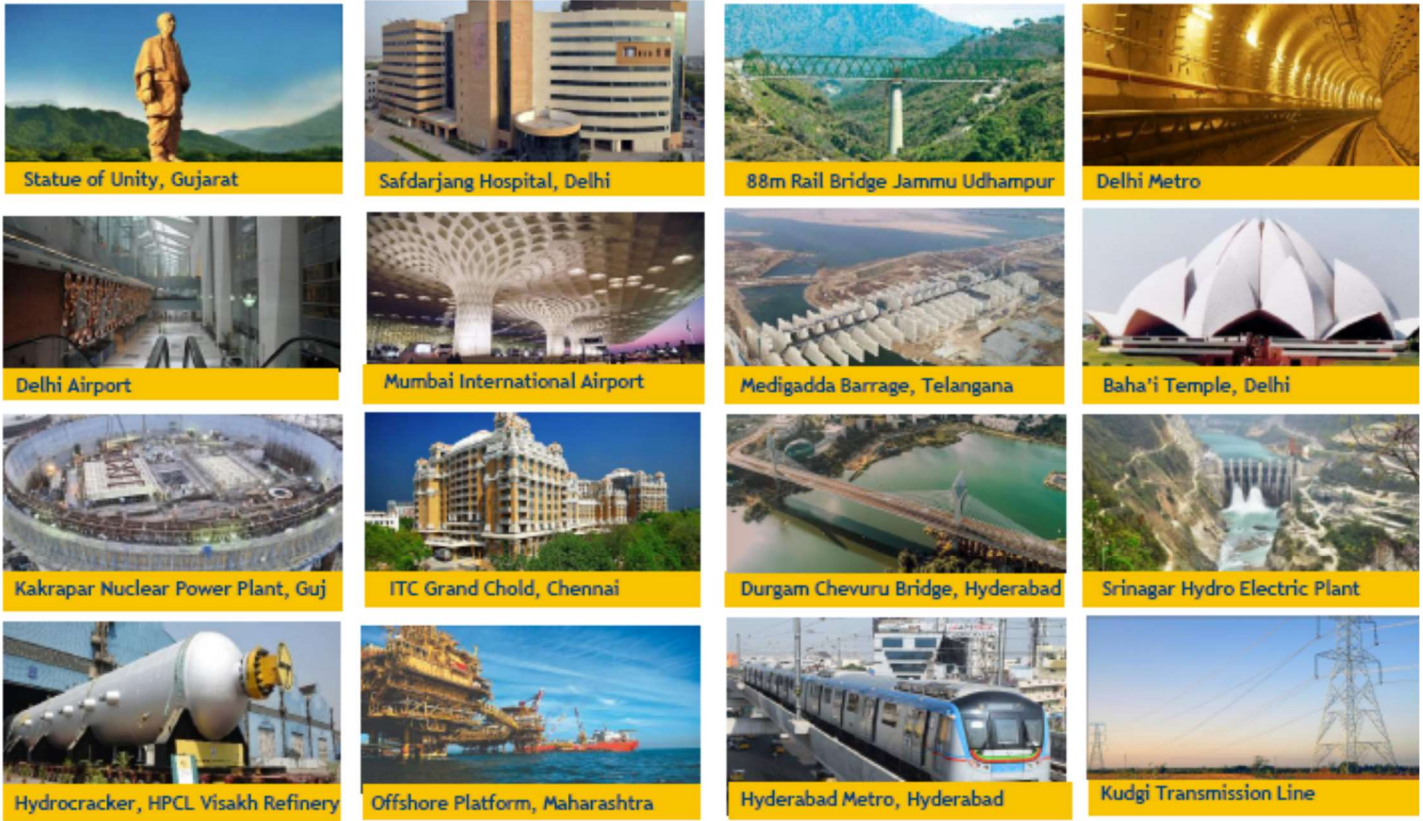
Year	Demand scenario & Outlook	Key events	Key performance indicators	
FY17	While capex spending in the Middle East have generally contracted, some areas in hydrocarbon and core infrastructure are still witnessing investments and these provide a favourable opportunity basket for growth in the region.	The company divested its General Insurance business in line with its stated objective of exiting non-core businesses.	Revenue growth	8%
			EBITDA growth	4%
	At a segment aggregate level, NWC as on Mar'17 decreased to 21.14% of revenues as compared to 23.95% of revenue as on Mar'16. Release in working capital is attributable to improved collections and better credit terms negotiated with vendors. Thus, the business operations generated cash flows of Rs 61.5bn, significantly higher than Rs 33bn in FY16.	As a part of L&T's goal of maximizing shareholder value creation, it listed two of its subsidiaries, Larsen & Toubro Infotech Limited and L&T Technology Services Limited, during the year.	PAT growth	43%
			Standalone Debt/Equity	0.23
			Consolidated ROE	13%
Investments in and loans to subsidiary and associate companies decreased in L&T Shipbuilding – port business, general insurance and hydrocarbon business, while additional funding was done in Hyderabad Metro and Nabha Power.	The company is in an advanced stage of divesting its ownership in a container port in Tamil Nadu to a strategic investor and has demerged that business into a separate company to facilitate the divestment.	FCF (Rs bn)	97	
		Order backlog (Rs bn)	2,613	
Capacity under-utilization in some of the capital-intensive businesses continued resulting in lower returns.		Order inflow (Rs bn)	1,430	
FY18	Execution was impacted in FY18 due to disruptions caused by the implementation of GST as well as bottlenecks in some projects due to tardy customer payments, delayed clearances, and land acquisition / right of way issue.	Considering the returns potential and business opportunities, the company has infused additional capital of Rs 20bn in L&T Finance Holdings Limited.	Revenue growth	9%
			EBITDA growth	20%
	Business operations generated cash flows of Rs 29.5bn as compared to Rs 59.8bn in the previous year. The drop was mainly due to higher deployment of funds to support growing business volumes.	Mr. AM Naik handed over his executive charge to the CEO & MD designate Mr. S.N. Subrahmanyam and continued as Chairman of the Group.	PAT growth	22%
			Standalone Debt/Equity	0.21
			Consolidated ROE	14%
	The overarching goal is to enhance RoE. Levers to achieve this include maintaining steady growth in revenues with improvement in margins, control on working capital, divestment of non-core businesses, endeavour to turn around under-utilized facilities, minimizing capital expenditure, avoiding investment in long gestation or asset heavy businesses and higher pay-outs to shareholders. Both FY17 and FY18 have shown that the company's efforts are yielding positive results and it is thus confident of continuing its RoE enhancement journey during the current year as well.	The Company is awaiting regulatory approval for conclusion of its stake sale in a container port in Tamil Nadu. In November 2017, L&T Metro Rail (Hyderabad) Limited, a subsidiary company, commissioned a 30 km stretch of the metro rail. Nabha Power project received a favourable Supreme Court judgement on matters affecting the viability of the entity.	FCF (Rs bn)	36
			Order backlog (Rs bn)	2,631
Order inflow (Rs bn)	1,529			
FY19	The volatility in crude prices due to political and economic crosscurrents led to reduced investments in OPEC regions. Having proactively readied itself for such an eventuality, the company forayed into select African countries, Bangladesh and Sri Lanka. This sustained drive over the last few years has started yielding results, with non-Middle East business contributing to around 45% of the international order book.	L&T received an approval from the Competition Commission of India (CCI) for divestment of its Electrical & Automation business, subject to compliance to certain conditions. L&T Metro Rail (Hyderabad) Limited commissioned an additional 26 km stretch of metro rail network during the year.	Revenue growth	18%
			EBITDA growth	32%
			PAT growth	20%
			Standalone Debt/Equity	0.24
	On the strength of wide-ranging digital transformations achieved successfully within the L&T group, it launched a new strategic initiative 'L&T-NxT'. Leveraging the domain expertise of L&T across diverse industry segments, L&T-NxT targets building a business using new-age technologies, such as IoT, digitalization and analytics, Artificial Intelligence, Augmented/Virtual Reality, Geo-spatial applications and Cyber Security.		Consolidated ROE	15%
			FCF (Rs bn)	57
			Order backlog (Rs bn)	2,934
			Order inflow (Rs bn)	1,768

Year	Demand scenario & Outlook	Key events	Key performance indicators	
FY20	With the onset of the COVID-19 pandemic, businesses in the IT and Technology Services segment, which could transition with relative ease to a 'work from home' environment, grew significantly, aided by the inclusion of revenues from an acquisition made in FY20.	During the year, L&T acquired a majority stake in Mindtree. Shareholding in L&T Infrastructure Development Projects Ltd (L&T IDPL) was diluted to 51% as Canadian Pension Plan Investment Board obtained statutory approvals for conversion of the Compulsorily Convertible Preference Shares (CCPS) into a 49% equity stake in L&T IDPL. L&T Shipbuilding Limited which was a 100% subsidiary company was merged with L&T standalone entity. Also, during the year, L&T exited its shareholding in L&T Kobelco Machinery by selling its stake to its JV partner Kobe Steel Ltd.	Revenue growth	8%
			EBITDA growth	6%
	Going forward, L&T is confident that the contribution of the services businesses will exceed 40% of Group turnover.		PAT growth	10%
			Standalone Debt/Equity	0.49
	The Financial Services business registered modest growth while grappling with tight liquidity constraints, stoppage of disbursements in end-March and the dominant risk-averse sentiment of the lending community. The impact of the pandemic and additional provisions in the Financial Services business led to a depressed RoE for FY20.		Consolidated ROE	15%
			FCF (Rs bn)	28
L&T sees prospects in the areas of government buildings, data centres, healthcare infrastructure, airports, metro railways, water projects including wastewater treatment and irrigation, hydel projects, expressways as well as onshore and offshore hydrocarbon projects. It is, however, uncertain of the timelines when these projects will take off.		Order backlog (Rs bn)	3,039	
		Order inflow (Rs bn)	1,928	
FY21	The decline in revenues during FY21 was mainly due to the slowdown of project execution and manufacturing activity owing to lockdown-related disruptions in the first half of the year.	Secured multiple large and prestigious orders during the year, viz., the Mumbai-Ahmedabad High Speed Rail (popularly called the 'Bullet Train'), a bridge across the Brahmaputra in Assam as well as EPCC packages for the Barmer Refinery in Rajasthan.	Revenue growth	-7%
			EBITDA growth	-7%
	While the Middle East region has remained an area of focus, the company has turned its attention to many countries in Africa as well as South-East Asia. Currently, the Middle East region constitutes 61% of the international order book of Rs 688bn.	During the year, L&T concluded the divestment of its Electrical & Automation (E&A) business, including the sale of the integrated marine automation solutions company, Servowatch Systems Limited.	PAT growth	-26%
			Standalone Debt/Equity	0.39
	The new norms of social distancing, quarantine procedures and safety protocols, coupled with supply chain disruptions, continued to impact the project performance throughout the year.		Consolidated ROE	16%
			FCF (Rs bn)	172
The interest expenses for FY21 increased sharply by 39.9% due to the higher interest cost in the Hyderabad Metro upon commencement of full operations and higher borrowings in the parent entity, retained as a buffer to address uncertainties emanating from the pandemic.		Order backlog (Rs bn)	3,274	
		Order inflow (Rs bn)	1,777	

Source: Company, Systematix Institutional Research

Builders to the Nation

Exhibit 23: L&T has constructed some of the most technologically complex projects in India across sectors



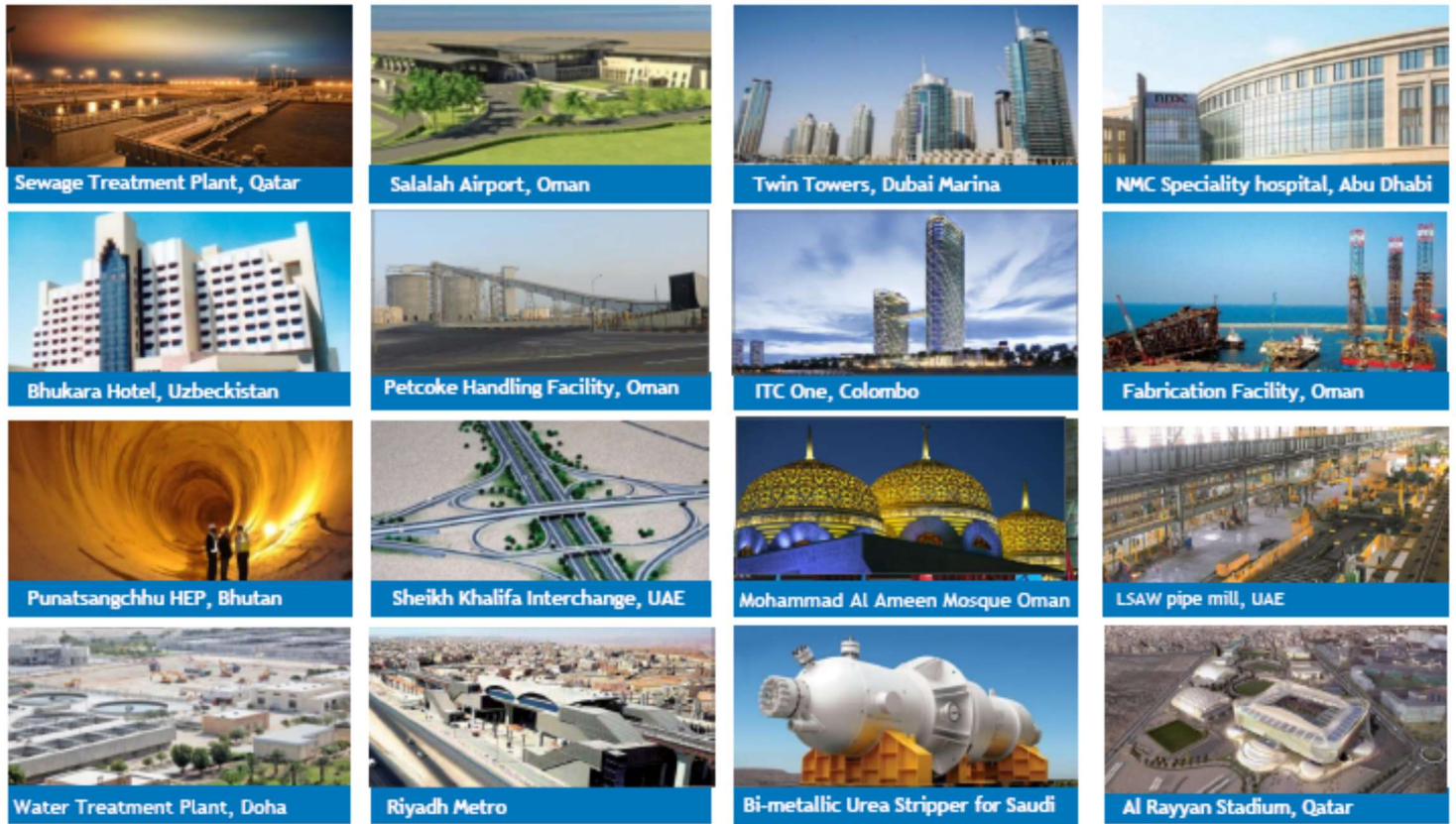
Source: Company, Systematix Institutional Research

Exhibit 24: Apart from its prowess in the infrastructure segment, it has strong capabilities in the hydrocarbon sector



Source: Company, Systematix Institutional Research

Exhibit 25: Has expanded outside India and made its presence felt in marquee jobs



Source: Company, Systematix Institutional Research

Exhibit 26: Is one of the largest integrated E&C companies globally with capabilities across all segments of infrastructure/industrial capex

One of Asia's largest vertically integrated E&C Companies



Single point responsibility for turnkey solutions

Source: Company, Systematix Institutional Research

Exhibit 27: Has grown through need-based collaborations as per technological and geographical requirements



Source: Company, Systematix Institutional Research

Investment Analysis

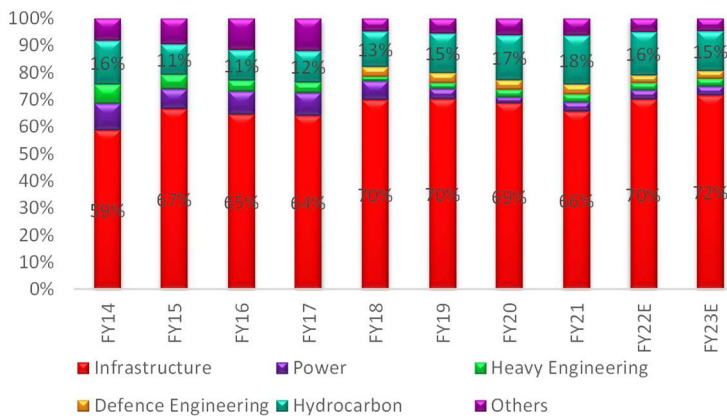
Infrastructure sector ordering is past its medium-term peak but book: bill ratio at 3.6x is still robust

The infrastructure segment is the largest business segment for L&T, contributing almost 45% to its FY21 revenues. As of Sep'21, L&T had an order backlog of Rs 3.3trn, which is ~3.6x its core E&C revenues in FY21, thus providing reasonable revenue visibility in the near-term.

We have argued earlier about an imminent slowdown in government-funded infrastructure capex over FY21-26E as the government's debt overhang is not transient and may haunt till FY26E. We estimate combined (Center and States) government infrastructure spending CAGR of 11.4% over FY21-26E (vs. 19.4% over FY13-19).

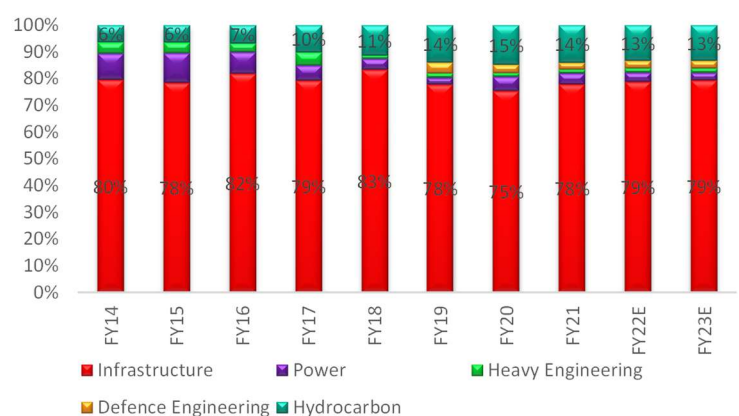
The slowdown directly impacts growth opportunities for L&T. For example, as of Sep'21, the company carries 38% of its order backlog from states, 14% from centre and 30% from PSUs.

Exhibit 28: Revenue share of infrastructure has risen to ~70% within L&T's core E&C business...



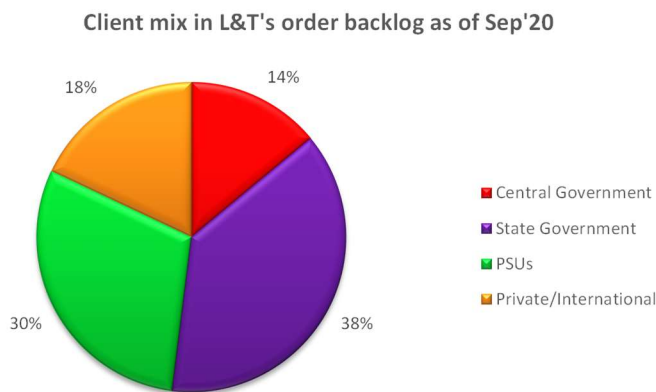
Source: Company, Systematix Institutional Research

Exhibit 29: ...with ~80% share in its order backlog



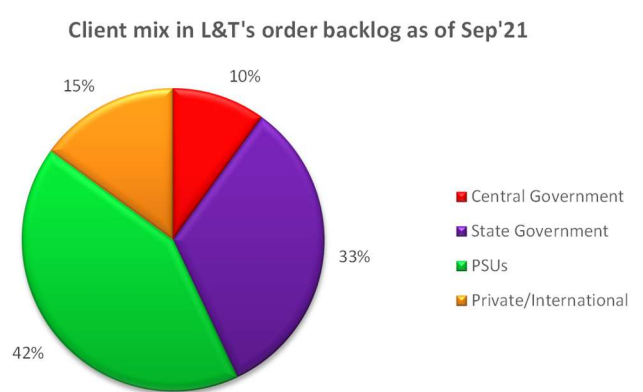
Source: Company, Systematix Institutional Research

Exhibit 30: >80% of order backlog is dependent on the central and state governments...



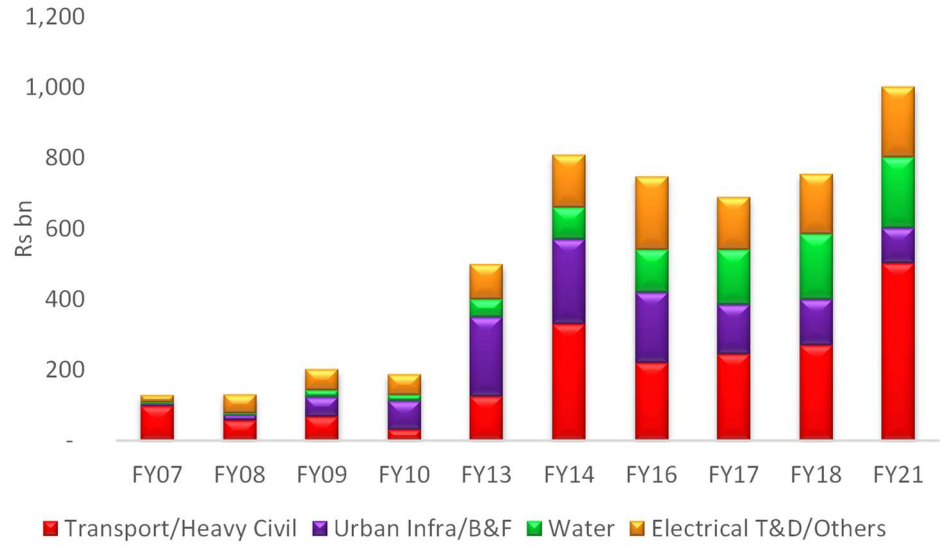
Source: Company, Systematix Institutional Research

Exhibit 31: ...as contribution from the private sector orders is still elusive



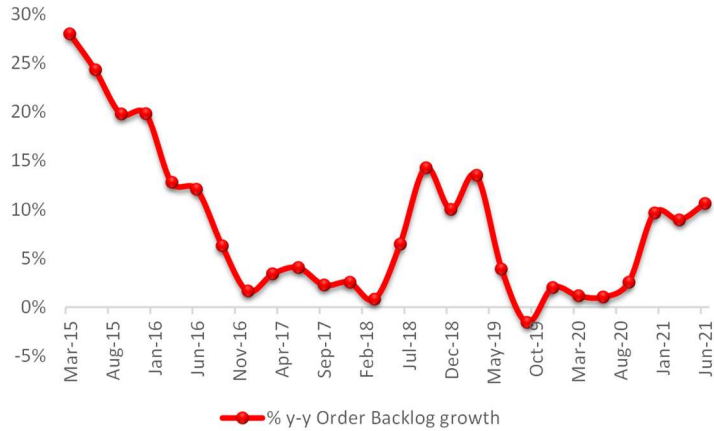
Source: Company, Systematix Institutional Research

Exhibit 32: Heavy civil (metro/rail), water and T&D have been the key drivers of order growth in the infrastructure segment over the years, while B&F has shrunk



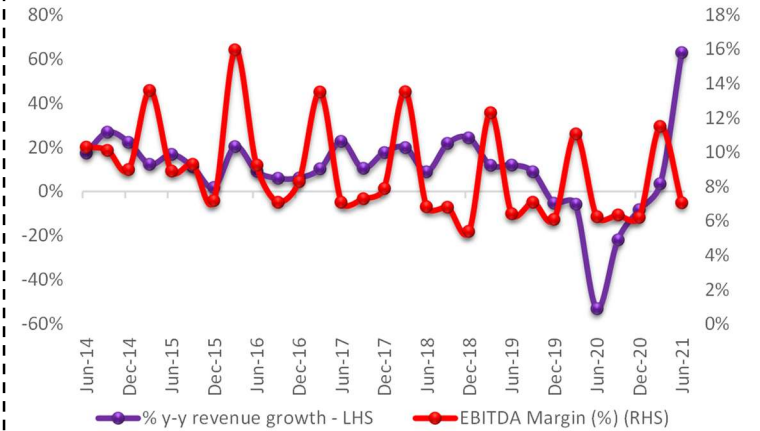
Source: Company, Systematix Institutional Research

Exhibit 33: Infrastructure segment order backlog growth has picked up in the past 12 months



Source: Bloomberg; Company, Systematix Institutional Research

Exhibit 34: ...while execution has been slow, this bodes well for an execution pick up from hereon



Source: Bloomberg; Company, Systematix Institutional Research

Revival in private capex cycle will be the key trigger but currently elusive

Without arguing about a case for private capex cycle revival, we highlight that L&T's dependence on private capex has reduced to the point that its revival or the lack of it does not impact it much.

To illustrate (Exhibit 35), during FY06-11, the share of private capex in L&T's annual order inflow used to be 50-70%, with power and hydrocarbons being the largest contributors and metals being the other important sector.

It is now a foregone conclusion that the power sector will not witness a capex boom in the coal-fired category for the near future. Hydrocarbon has held on to its share in the overall BSE500 capex but the long-term trajectory is still downward. The metal sector as a share of L&T's order inflow has now gone into oblivion.

Exhibit 35: Share of private capex used to be 50-70% in L&T orders until FY11

Sector-wise Order Inflows (Rs bn)	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13
Process	22	43	63	83	91	128	78	53
Oil & Gas	58	46	105	62	139	56	93	88
Power	22	37	59	130	230	255	148	264
Infrastructure	67	129	130	202	188	303	324	396
Overall core order inflow	170	254	357	477	647	742	643	801
% share in core order inflow	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13
Process	13%	17%	18%	17%	14%	17%	12%	7%
Oil & Gas	34%	18%	29%	13%	22%	8%	14%	11%
Power	13%	14%	16%	27%	35%	34%	23%	33%
Infrastructure	39%	51%	36%	42%	29%	41%	50%	49%
Share of ex-Infra orders (pvt capex)	61%	49%	64%	58%	71%	59%	50%	51%

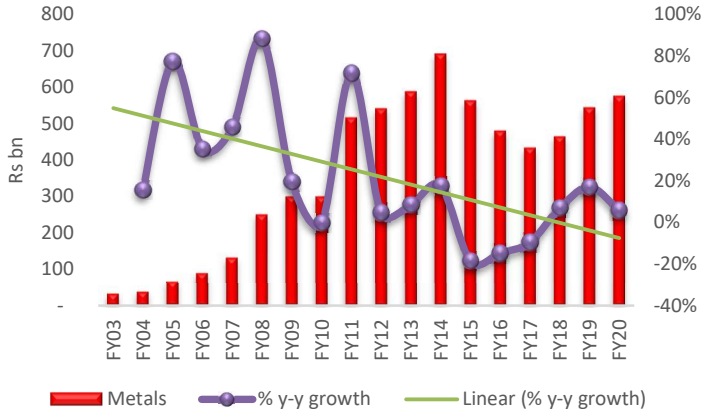
Source: Company, Systematix Institutional Research

Exhibit 36: Share of private capex is now down to ~20% in L&T orders

Sector-wise Order Inflows (Rs bn)	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21
Process	30	60	37	40	25	40	60	75
Oil & Gas	90	90	104	185	158	279	210	177
Power	30	150	30	30	25	29	120	10
Infrastructure	810	720	748	690	755	927	1,004	1,002
Overall core order inflow	960	1,170	1,044	1,095	1,138	1,346	1,441	1,325
% share in core order inflow	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21
Process	3%	5%	4%	4%	2%	3%	4%	6%
Oil & Gas	9%	8%	10%	17%	14%	21%	15%	13%
Power	3%	13%	3%	3%	2%	2%	8%	1%
Infrastructure	84%	62%	72%	63%	66%	69%	70%	76%
Share of ex-Infra orders (pvt capex)	16%	26%	16%	23%	18%	26%	27%	20%

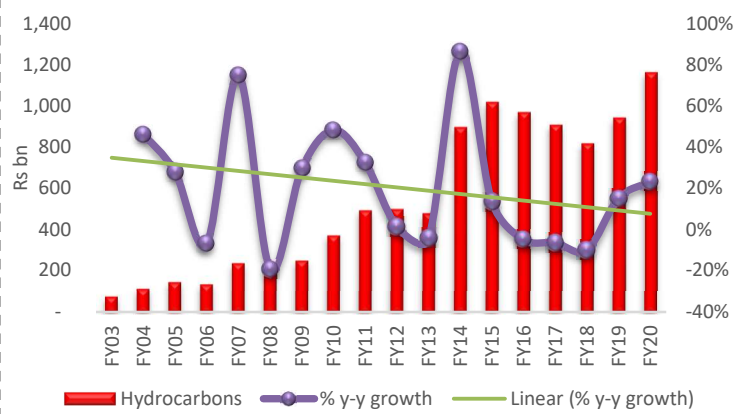
Source: Company, Systematix Institutional Research

Exhibit 37: Metals capex peaked in FY14 and has been declining



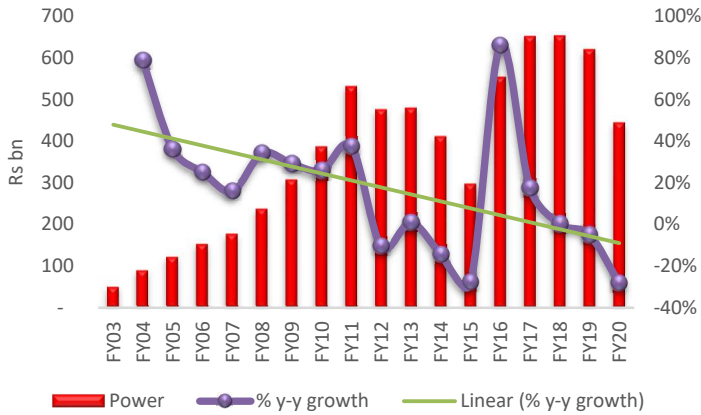
Source: Bloomberg; Company, Systematix Institutional Research

Exhibit 38: ...while hydrocarbon capex has been steadily improving



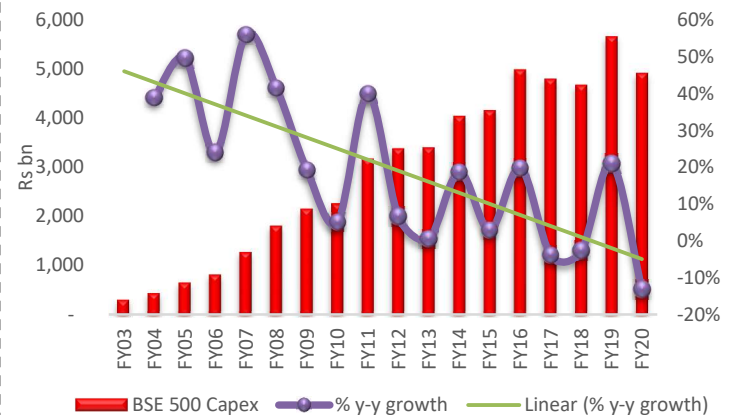
Source: Bloomberg; Company, Systematix Institutional Research

Exhibit 39: Traditional power capex has already peaked



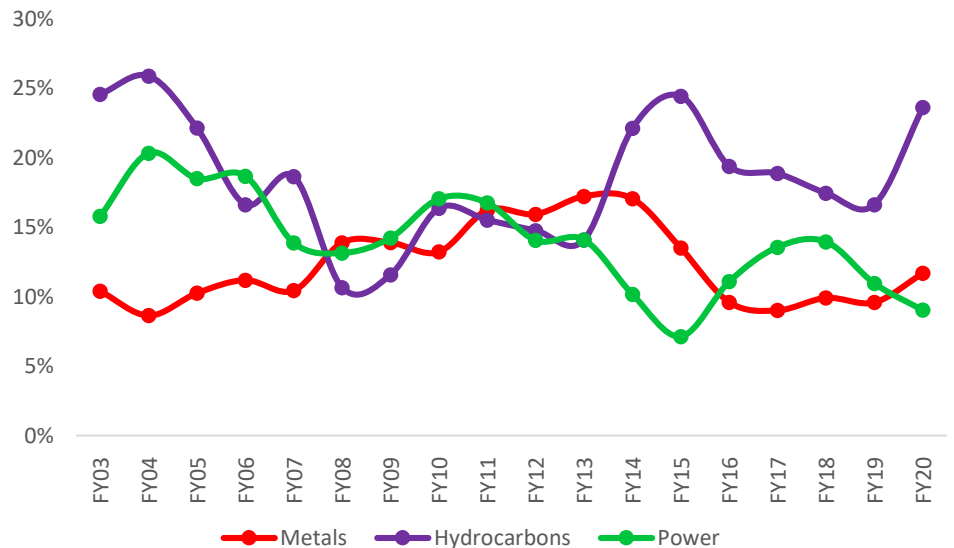
Source: Bloomberg; Company, Systematix Institutional Research

Exhibit 40: Overall private capex has been in a long slowdown



Source: Bloomberg; Company, Systematix Institutional Research

Exhibit 41: Metals & Power now small in BSE500 capex share; Hydrocarbon has held on



Source: Company, Systematix Institutional Research

Production-linked incentive (PLI) schemes may not lead to an order inflow uptick for L&T

The total proposed incentive under the production-linked-incentive scheme is pegged at ~Rs 1.9trn over FY21 to FY25. The average incentive is 5%, implying a revenue target of ~Rs 40trn by FY25.

Asset turnover for the various sectors varies significantly (for example, mobile phone manufacturing may have an asset turnover of as high as 25-50x to as low as 2x). This asset turnover would also include land costs in some instances.

In some sectors, given that the incentives are front-loaded, companies are expected to import capital equipment (anecdotal evidence suggests that companies are even airlifting equipment from abroad to fasten production), reducing the opportunity for domestic players.

Nevertheless, we still assume an average 8x asset turnover for the sectors (see table below), implying a total capex requirement of Rs 4.88trn over the next five years or Rs 975bn p.a.

Even in its core sectors such as process and hydrocarbons, at best L&T bags 10% of overall capex by the sector historically. For sectors like mobiles or electronics as well there is limited scope for L&T. Still, hoping for an optimistic 2-10% share across the various sectors, we calculate Rs 241bn of potential revenue opportunity for L&T over the next 5 years due to the PLI scheme. This does not encompass the substitution of capex that would have anyway happened without PLI and will now be subsumed under this benefit.

The incremental revenues for L&T's core E&C business are thus ~4% on our FY23E revenue. These orders will have better margins, working capital and execution cycle and thus the PAT (core E&C) impact may be higher at ~5%.

We value the core E&C business at Rs 823/share and accordingly, the best-case upside that we foresee from the PLI scheme for L&T is Rs 41/share.

Exhibit 42: Best-case potential from the PLI scheme for L&T will be Rs 241bn over 5 years, which is only 4% of its core E&C revenues

Rs bn	Incentives	Revenue	Asset	Capex	L&T	L&T revenue potential
	outlay	potential	turnover		target share	
Mobile Phones	420	10,500	25	420	2%	8
Advanced Chemistry Cell (ACC) Batteries	181	3,620	25	145	2%	3
Electronics and Technology Products	50	1,000	25	40	2%	1
Automobiles and Auto Components	570	11,408	5	2,282	5%	114
Pharmaceuticals and Drugs	150	3,000	25	120	2%	2
Telecom and Networking Products	122	2,439	15	163	2%	3
Textiles Products	107	2,137	3	712	5%	36
Food Products	109	2,180	10	218	3%	7
High Efficiency Solar PV Modules	45	900	15	60	3%	2
White Goods	62	1,248	15	83	3%	2
Specialty Steel	63	1,264	2	632	10%	63
	1,880	39,696	8.14	4,875	5.00%	241

Source: Company, Systematix Research

Despite our weak medium-term outlook on order inflow for L&T, execution push can drive growth for the company along with select large order wins

In our base-case scenario, after factoring in a continued slowdown in execution due to strained government finances, we estimate core E&C revenues to still deliver a CAGR of 17.9% over FY21-23E.

Services revenue (31% of FY21 revenues) are expected to grow at a 20.7% CAGR over the same timeline, leading to consolidated revenue growth of 18.1%.

Despite a weak margin trend in the past for the key infrastructure segment, we expect margins to improve modestly by 50 bps to 9% in FY22 and remain stable at that level. We thus estimate core E&C business EBITDA to grow at an 18.8% CAGR, while services EBITDA is likely to grow at a 32.2% CAGR, leading to a consolidated EBIT CAGR of 23.4%.

L&T's stringent focus on containing NWC levels is already visible in 1HFY22; we thus expect NWC levels to fall to 23% from the FY21 peak of 26.8%. At 23%, NWC levels are still high compared to L&T's previous levels of 18-20% as recently as FY19. Nevertheless, even if L&T can contain its NWC levels to 23% and grow revenues as per our estimates, it should still be able to generate strong OCF/FCF over FY21-23E.

Together with the already visible debt reduction on the back of monetization of non-core assets, this will aid in further interest cost saving; thus, we estimate core E&C PAT to grow at a higher rate of 25% CAGR over FY21-23E (vs. revenue/EBITDA CAGR of 17.9%/18.8%), while consolidated PAT CAGR is estimated at 32.2%.

Revenue growth for the core E&C segment slowed due to its elongated execution cycle; normalization began from FY18.

Over FY10-FY15, L&T witnessed a deceleration in the execution rate as it had an influx of large orders in its Buildings & Factories (B&F) segment, which had a longer-than-average execution cycle of approximately five years. This led to disappointing revenue growth rates over subsequent years, together with a general slowdown in other business segments as well as an economic slowdown.

As shown in Exhibit 43, L&T's core E&C order inflow has remained stagnant for several years now and YTD FY22 orders are still below the run-rate of the past few years. Nevertheless, slower execution at the same time has meant that order backlog has continued to grow (8% growth even in FY21 and 12% estimated in FY22).

Order backlog by itself is not much of a challenge for L&T. A stronger push on the execution of the existing order backlog would help but much of it is also due to the overall macroeconomic constraints impacting the execution rate.

Despite an overall weak outlook on infrastructure capex by the government, order inflow will remain just enough to replenish revenues for that year and some more.

After FY15, B&F order inflow (a part of Urban Infra) began to decline. At the same time, core EPC orders from transportation and water segments have increased, which have a shorter execution cycle. Thus, the order mix has now turned favourable, leading to a shorter execution cycle overall.

Historically, as shown in Exhibit 47, revenues grew in tandem with order backlog, although with a lag of two years. However, this relationship came to a halt around FY15 and the revenue growth rate fell much behind order backlog growth. This was primarily due to the elongating execution cycle of the overall order backlog.

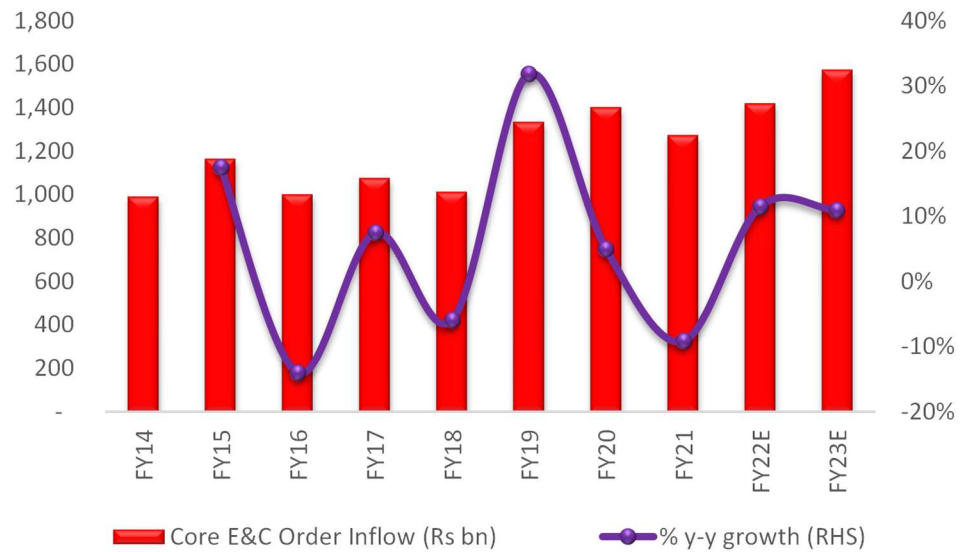
As highlighted in Exhibits 35 earlier, the elongated execution cycle was mostly due to an increase in urban-infrastructure projects in the overall backlog. However, according

to our estimates, the share of urban-infrastructure (and other longer execution cycle orders within transport IC) in the overall backlog peaked around FY17. As a result, revenue growth is now gradually normalizing and set to mirror order backlog growth.

The COVID-19 pandemic impacted execution during the lockdown and after that as social distancing and health norms followed by the company led to longer execution timelines than earlier. Over a period, assuming economic conditions normalize, the execution cycle should come back on track, driving better revenue booking for L&T from FY21 lows.

Accordingly, we are now building in a 17.9% revenue (core E&C) CAGR over FY21-23E for L&T, compared with 9.5% CAGR delivered over FY14-20. We estimate this turnaround in revenue growth also to drive margins and FCF.

Exhibit 43: Core E&C orders to grow at a CAGR of 11% between FY21-23 vs. 6% between FY14-20



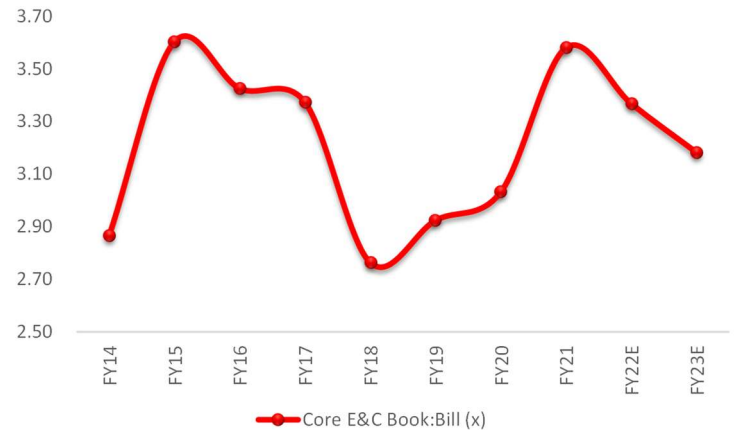
Source: Company, Systematix Institutional Research

Exhibit 44: Order backlog for L&T has continued to grow despite slow order inflow growth



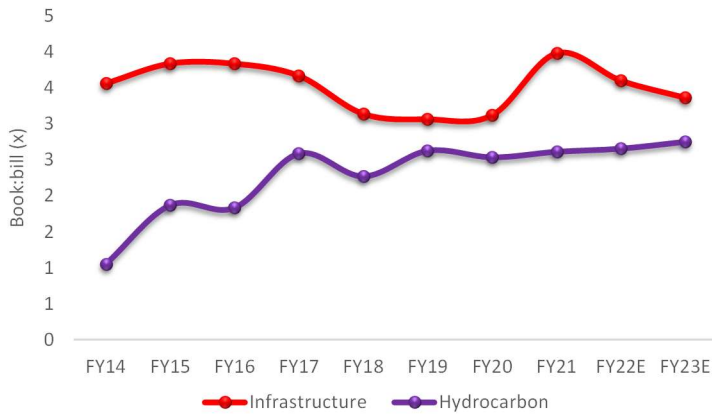
Source: Company, Systematix Institutional Research

Exhibit 45: Overall book: bill ratio still healthy, while core E&C book: bill ratio at 3.7x (TTM basis)



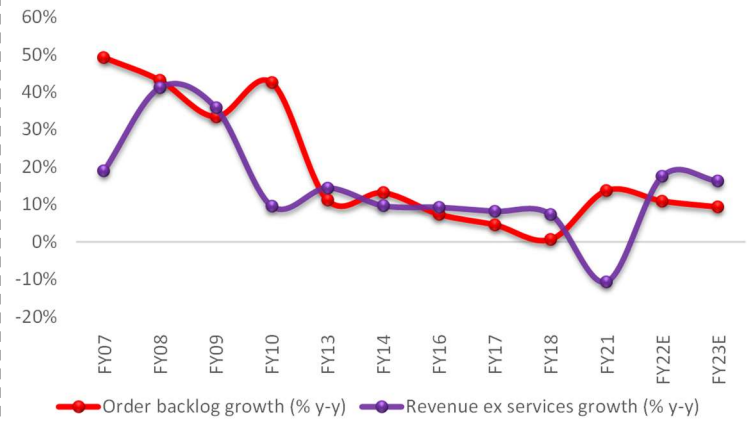
Source: Company, Systematix Institutional Research

Exhibit 46: Infra segment book: bill has been stable while it has improved for the hydrocarbon segment



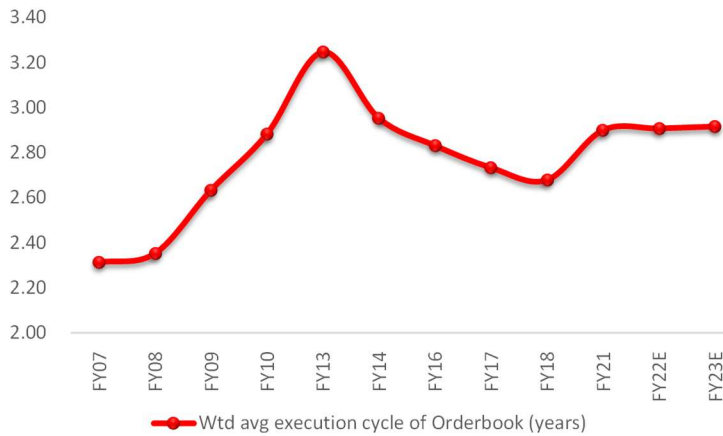
Source: Company, Systematix Research

Exhibit 47: Order backlog growth has outpaced revenue growth



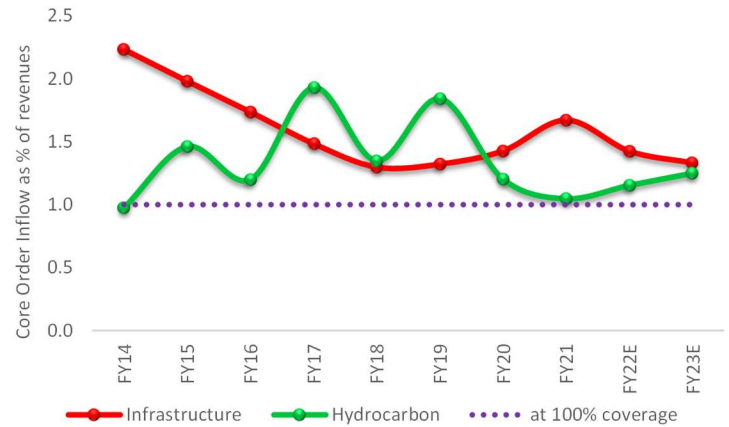
Source: Company, Systematix Research

Exhibit 48: Average execution cycle of the existing orderbook has elongated in recent times but still better than the FY12-13 peak



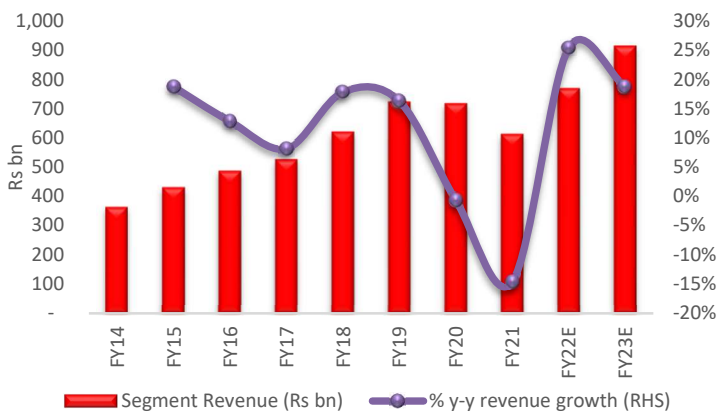
Source: Company, Systematix Research

Exhibit 49: ...Annual order inflow for key segments - infra and hydrocarbon have replenished annual execution



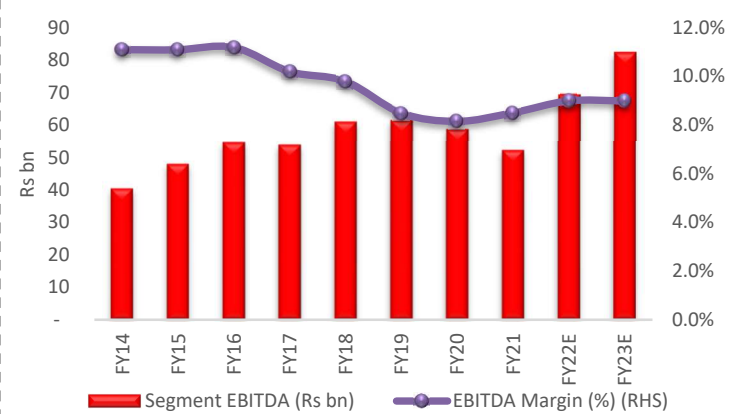
Source: Company, Systematix Research

Exhibit 50: Infra segment revenue growth should continue on robust order backlog...



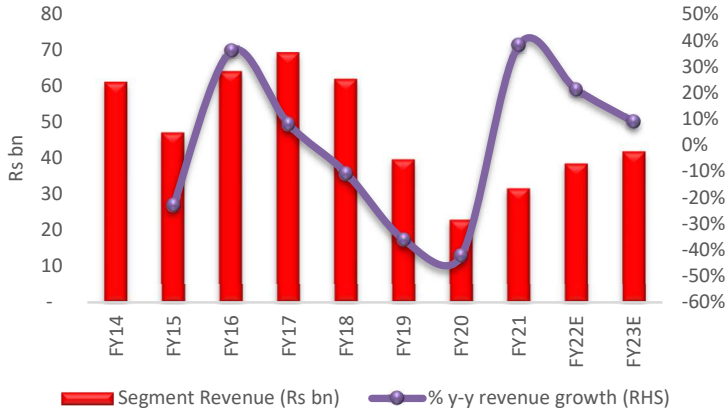
Source: Company, Systematix Research

Exhibit 51: ...while normalization of margins should help drive EBITDA growth



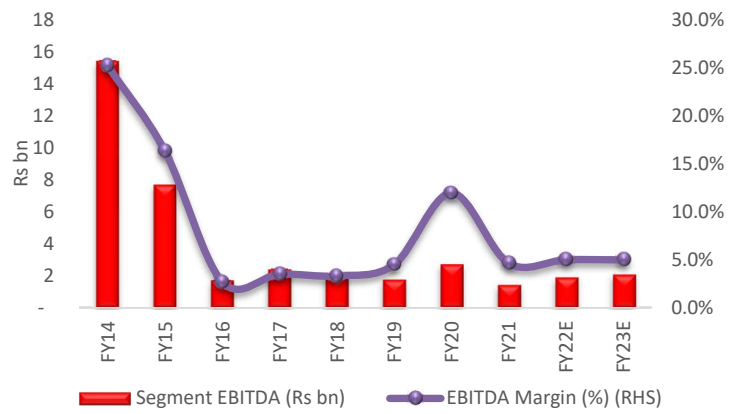
Source: Company, Systematix Research

Exhibit 52: Power segment has lost relevance in the overall mix..



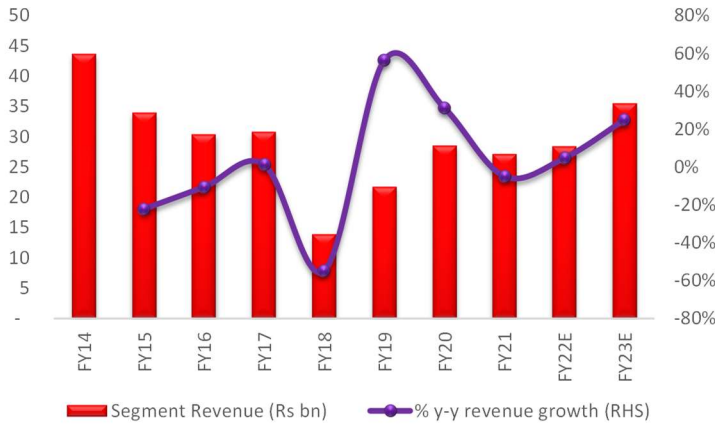
Source: Company, Systematix Research

Exhibit 53: ...as both growth and profitability have shrunk sharply



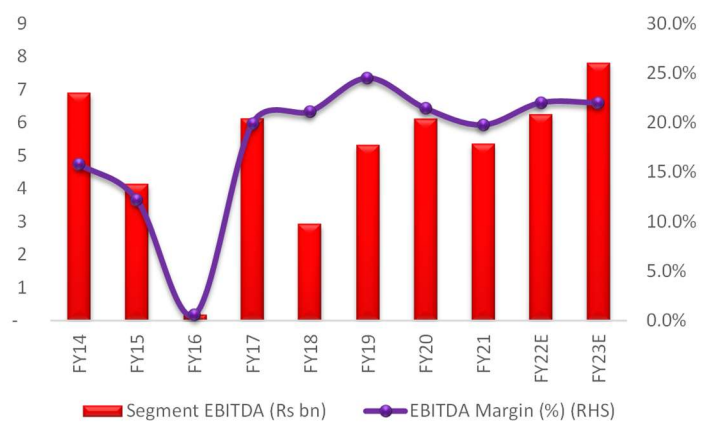
Source: Company, Systematix Research

Exhibit 54: Heavy Engineering segment is looking up since FY18



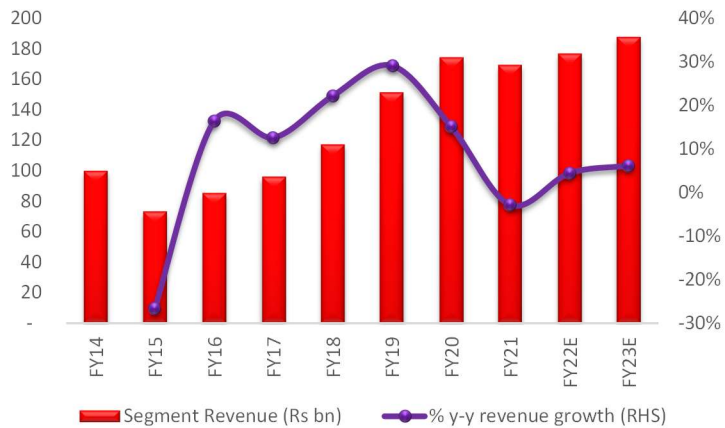
Source: Company, Systematix Research

Exhibit 55: ...and also enjoys strong margins



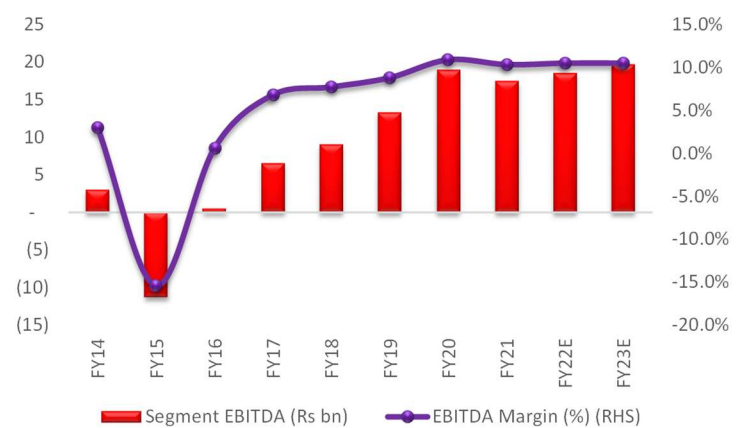
Source: Company, Systematix Research

Exhibit 56: Despite weak oil prices in the past, strong order backlog in the hydrocarbon segment helped L&T maintain steady growth; rising oil to provide an upside



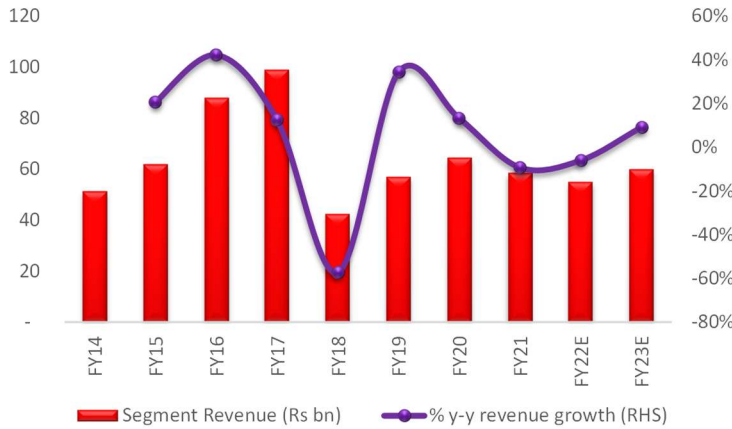
Source: Company, Systematix Research

Exhibit 57: ...Rising capability and order wins in the hydrocarbon segment now also reflecting in its improving margin profile



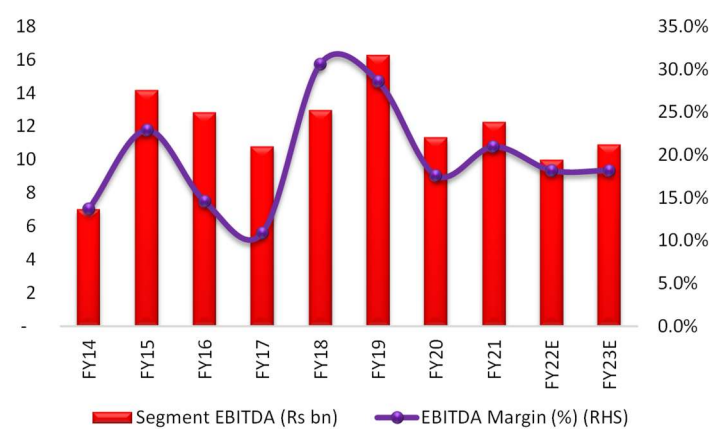
Source: Company, Systematix Research

Exhibit 58: 'Others' segment is now primarily dependent on L&T's realty segment completions...



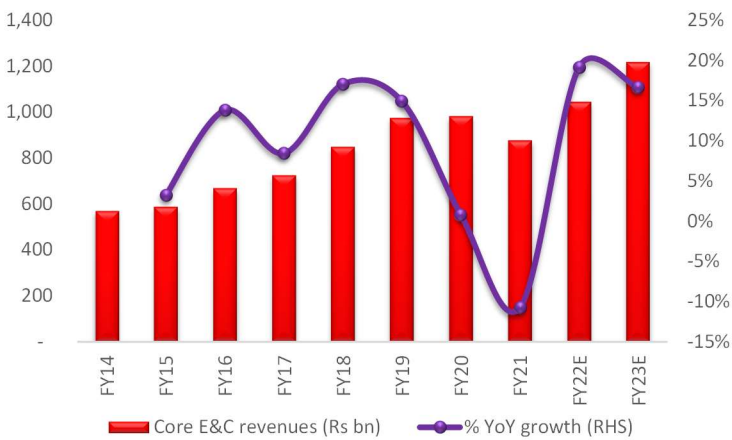
Source: Company, Systematix Research

Exhibit 59: ...margin profile for 'Others' is strong due to the contribution from the realty segment



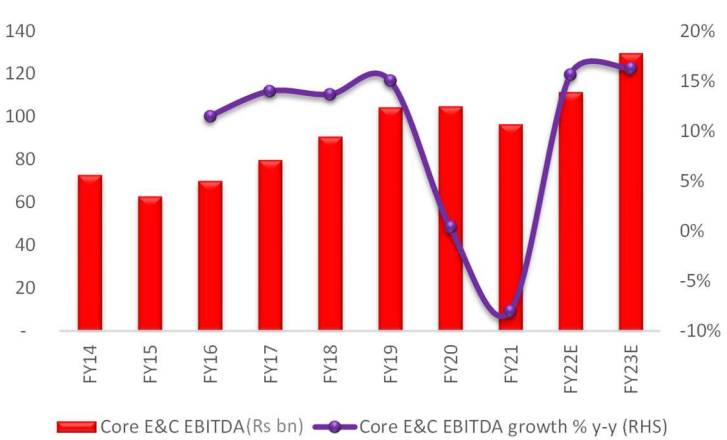
Source: Company, Systematix Research

Exhibit 60: Core E&C revenue growth to mirror industry growth



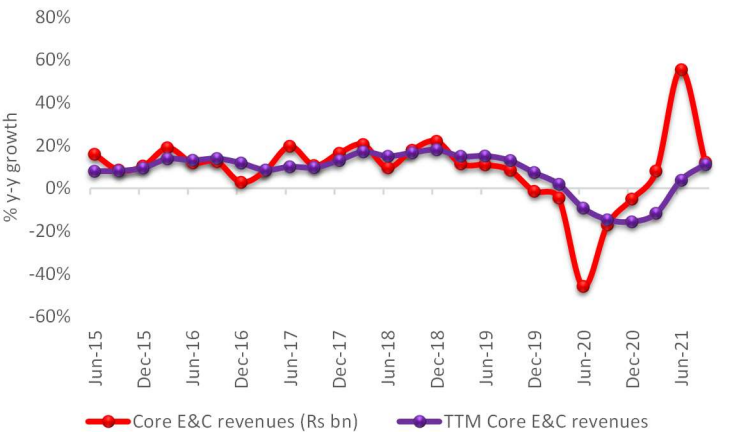
Source: Company, Systematix Research

Exhibit 61: ...while core E&C margins should do better on improving trends and mix



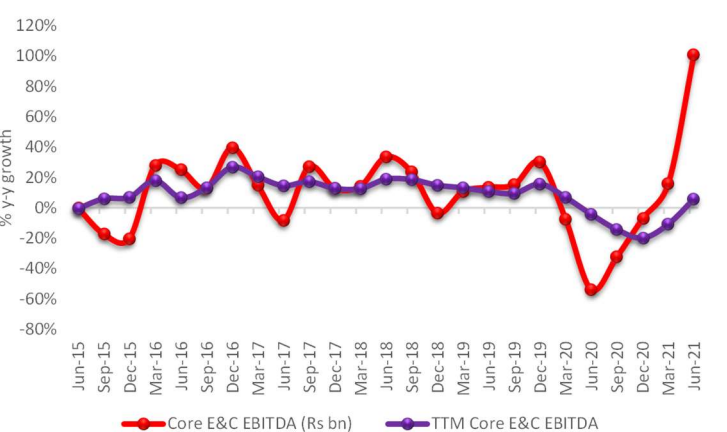
Source: Company, Systematix Research

Exhibit 62: Core E&C revenue growth trajectory is already improving though on a lower base



Source: Company, Systematix Research

Exhibit 63: ...and so is the EBITDA trend



Source: Company, Systematix Research

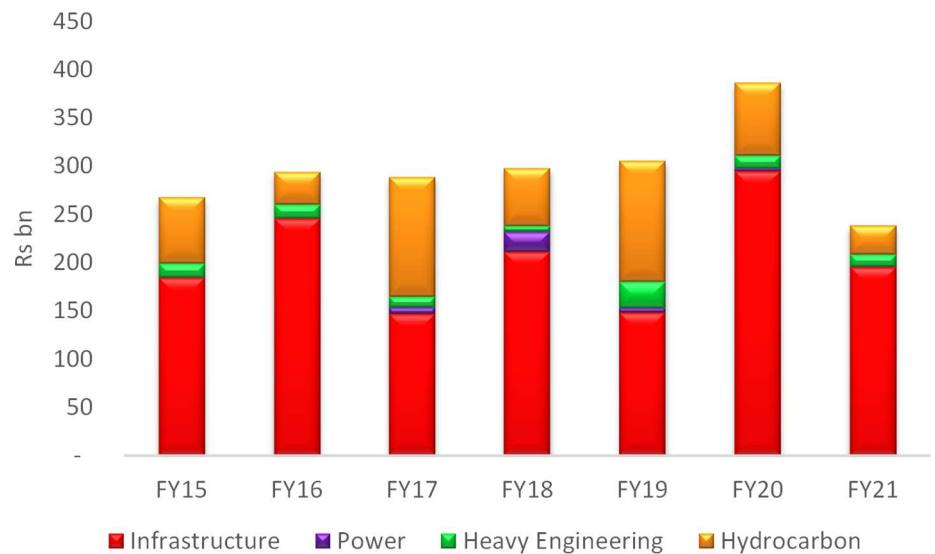
International orders have been stagnant and primarily driven by roads and B&F

In the past decade, L&T ventured into the international markets, primarily the Middle East, South East Asia, SAARC and Africa, with a focus on hydrocarbon and infrastructure orders. While its initial entry into these markets was not very encouraging, as it suffered a significant loss in FY15 in the hydrocarbon projects it took up in the Middle East, corrective actions have enabled it to return to a profitable trend.

~20-30% of L&T's annual order inflows in the infrastructure segment have come from the international markets. While the base orders from these markets have been for roads, buildings & factories and power T&D, where L&T enjoys strong competence, occasionally there have been large ticket orders in the metro segment as well, such as Riyadh metro and Doha metro projects.

Unfortunately, most of these markets went into an ordering slowdown after the oil price meltdown, at least for the large ticket B&F (Buildings & Factories) and metro/rail projects. Similarly, hydrocarbon orders have been slow post FY19. With oil prices now looking up, there is a case for the international segment to pick up for L&T as and when ordering revives in these markets.

Exhibit 64: International order inflow has been lumpy; not grown since FY15



Source: Company, Systematix Institutional Research

The rise of the service businesses – Tech and Finance subsidiaries now contribute to over 50% of L&T’s value

L&T has swiftly and successfully transformed into a services-driven conglomerate with tech and finance subsidiaries contributing to over 50% of its EBITDA and value

On the back of both organic and inorganic growth routes, L&T has, over the past two decades, seeded strong technology and financial services businesses through individually managed teams.

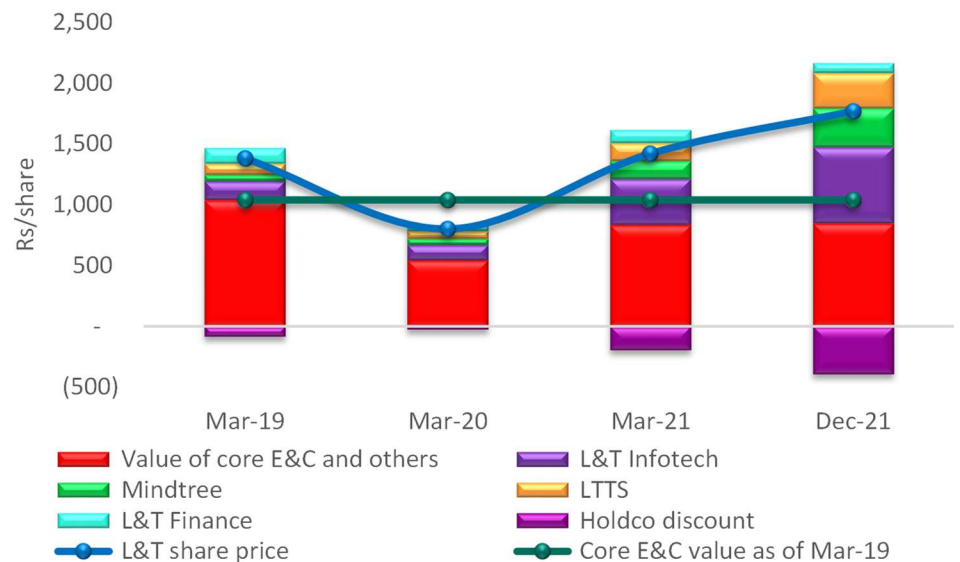
While the journey has been full of hiccups, especially for the financial services arm, the technological verticals have exploded in growth and profitability over the past three years.

The revenue contribution from these businesses to L&T has been gradually rising but is still likely to be under 30% as of FY23E. However, the EBITDA contribution is likely reaching 50% now, while over 55% of the overall value in our SoTP for L&T is driven by the tech and finance subsidiaries.

In fact, since Mar’19, L&T’s share price has been driven more by the value creation due to the technology services businesses than by the core E&C vertical. During this period, while core E&C value has gone down, the value of tech subsidiaries has jumped 4x.

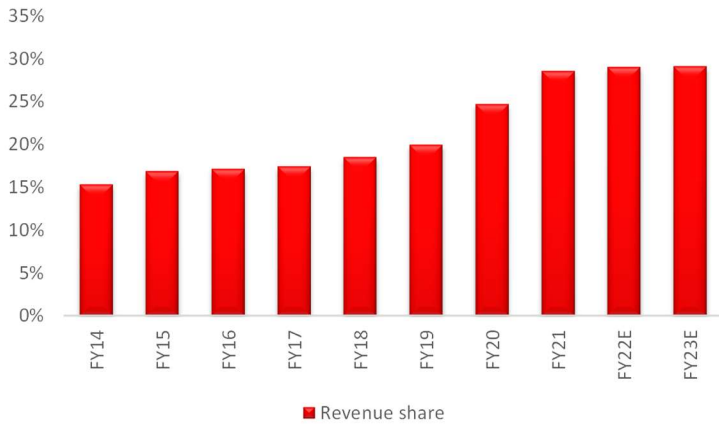
<50% of L&T’s share price is attributable to the core E&C business as against 75% as of Mar’19. Thus, L&T is as much a play on its tech subsidiaries now as it is on the investment cycle in India.

Exhibit 65: Core E&C value has declined in the past 2.5 years, while tech businesses have created value for L&T shareholders



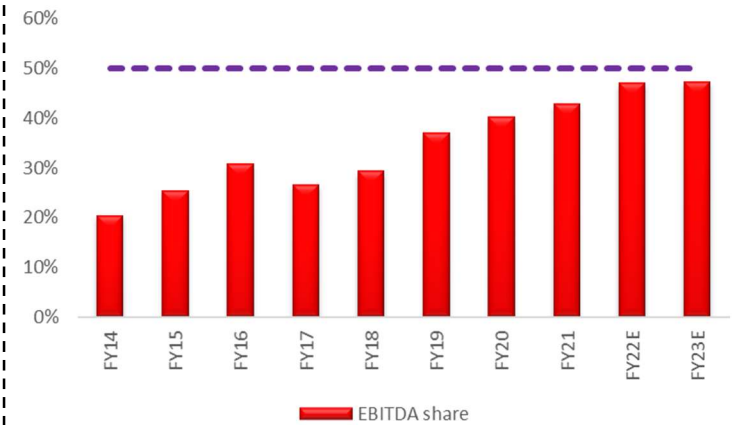
Source: Company, Systematix Institutional Research

Exhibit 66: Tech and finance subsidiaries now account for ~30% of consolidated revenues



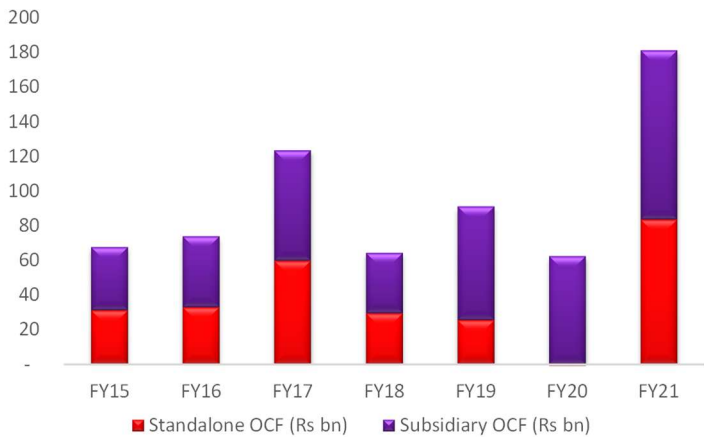
Source: Company, Systematix Institutional Research

Exhibit 67: ...and all set to contribute to ~50% of consolidated EBITDA



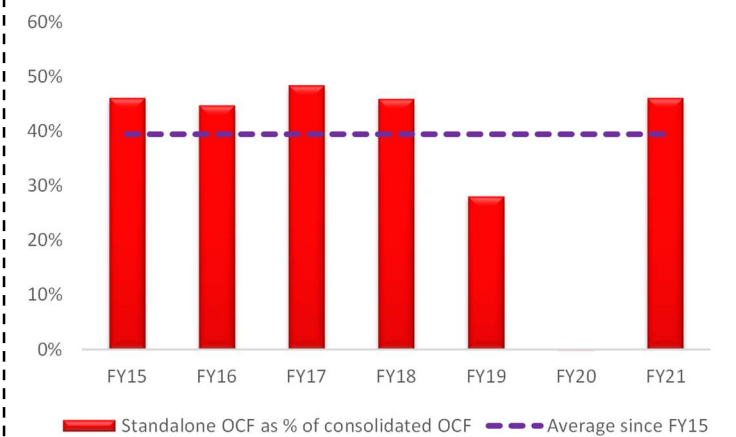
Source: Company, Systematix Institutional Research

Exhibit 68: ...Bulk of the consolidated operating cash flow (OCF) driven by tech subsidiaries



Source: Company, Systematix Institutional Research

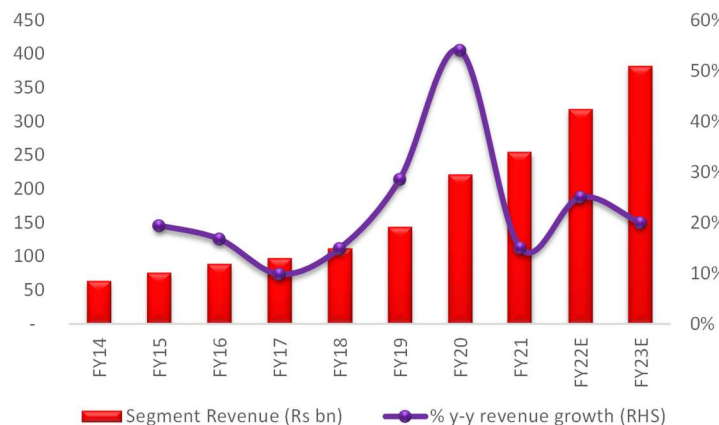
Exhibit 69: ...as standalone OCF has averaged only around 40%



Source: Company, Systematix Institutional Research

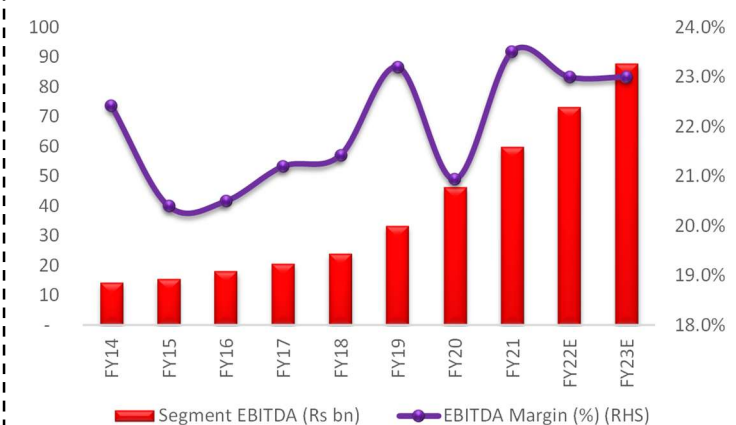
Technology businesses have positively surprised L&T investors and necessitate a holistic view of the company as a services conglomerate against just an infrastructure major.

Exhibit 70: IT&TS have driven overall growth for L&T in recent years



Source: Company, Systematix Institutional Research

Exhibit 71: ...delivering 21% organic EBITDA CAGR over FY15-19; likely to deliver similar growth over FY21-23E



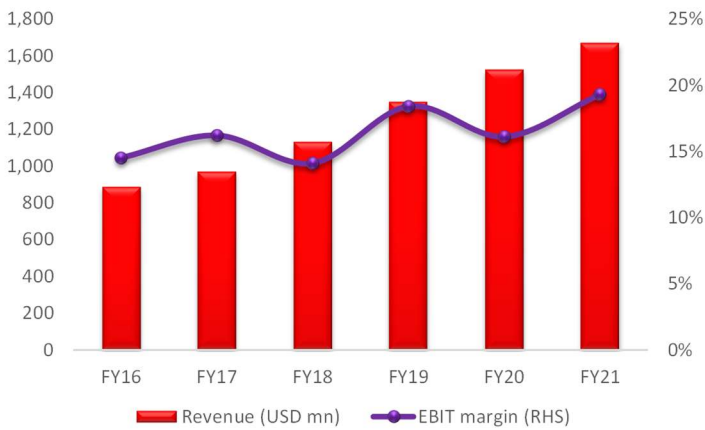
Source: Company, Systematix Institutional Research

Exhibit 72: L&T Infotech (LTI) business snapshot

LTI (USD 1.75bn TTM revenues)						
Vertical	BFSI	Insurance	Manufacturing	Energy & Utilities	CPG, retail and Pharma	High-tech, media & entertainment and Others
TTM Revenues (USD mn)	540.8	262.5	283.5	169.8	190.8	302.8
Revenue mix	31%	15%	16%	10%	11%	17%
CAGR (FY17-21)	18.5%	6.1%	11.7%	11.9%	24.3%	19.3%
Product/service wise mix	ADM & testing	Enterprise solutions	Cloud Infrastructure & security	Analytics, AI & Cognitive	EI/Mobility	
TTM Revenues (USD mn)	598.5	547.8	257.3	197.8	148.8	
Revenue mix	34%	31%	15%	11%	9%	

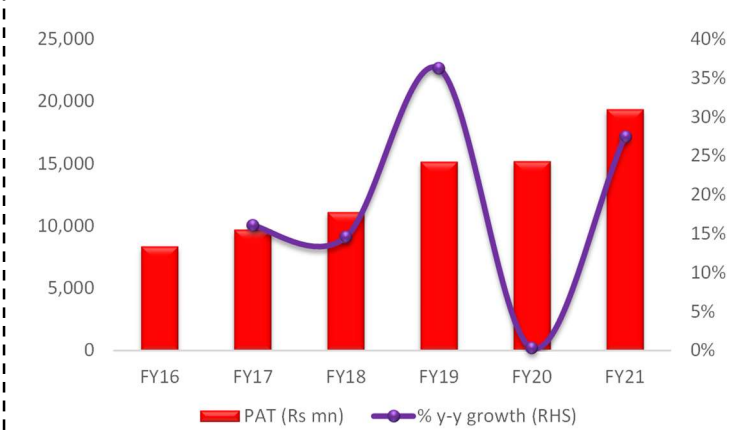
Source: Company, Systematix Research

Exhibit 73: LTI has delivered 13.5% constant currency revenue CAGR over FY16-21 with an improving margin trend



Source: Company, Systematix Institutional Research

Exhibit 74: ...thus driving a strong 18% PAT CAGR



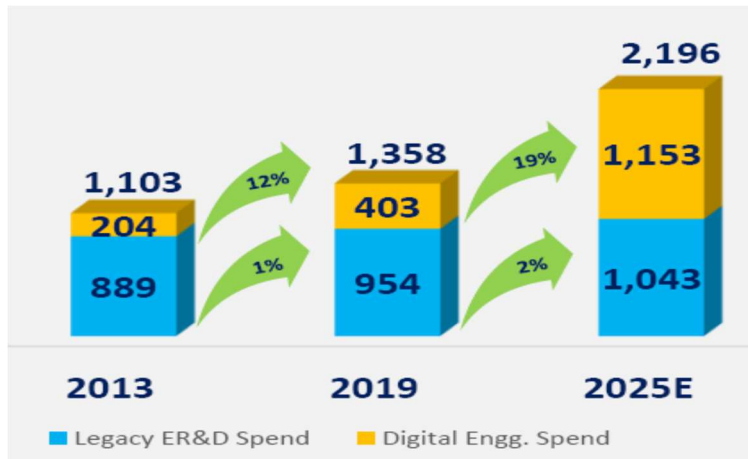
Source: Company, Systematix Institutional Research

Exhibit 75: LTTS business transformation



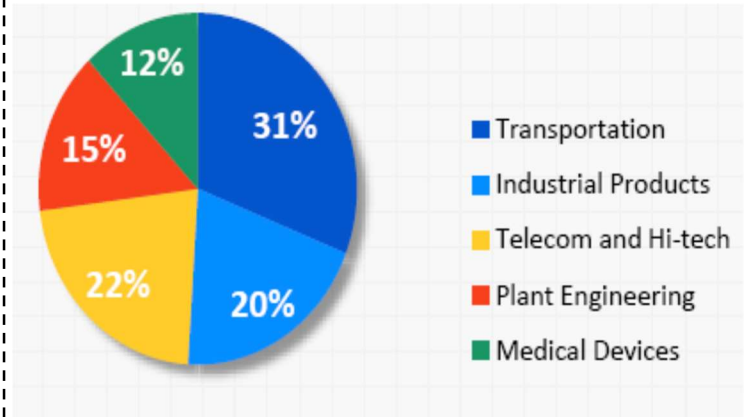
Source: Company, Systematix Institutional Research

Exhibit 76: LTTS has rapidly transformed into a high-tech play, leveraging the sector tailwinds



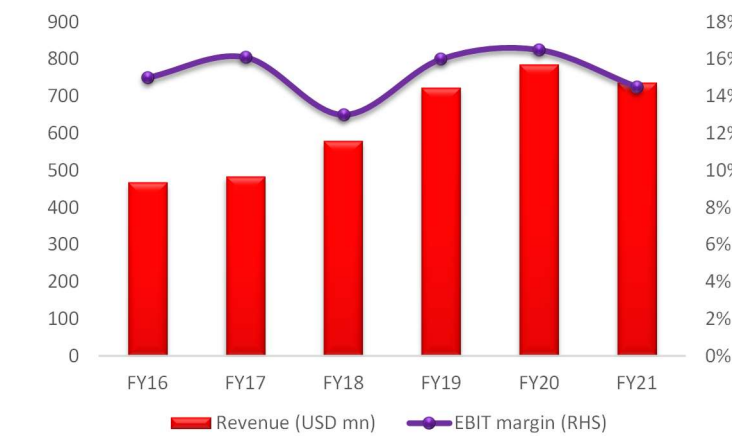
Source: Company, Systematix Research

Exhibit 77: Diversified sector revenue mix for LTTS



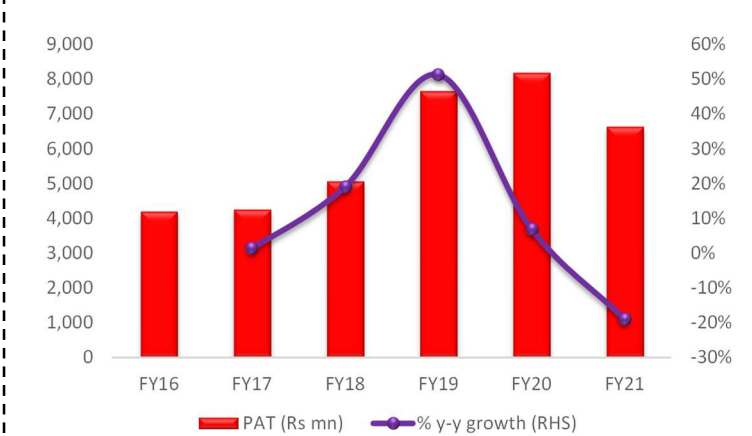
Source: Company, Systematix Research

Exhibit 78: LTTS has delivered a 10% CAGR in organic revenue over FY16-21



Source: Company, Systematix Research

Exhibit 79: ...which reflects in a similar trajectory in PAT



Source: Company, Systematix Research

Exhibit 80: Mindtree business snapshot – acquired in 2019

Vertical	Mindtree (USD 1.08bn FY21 revenues)			
	High-tech and media	BFSI	CPG, retail and manufacturing	Travel & hospitality
TTM Revenues (USD mn)	540.0	211.7	232.2	95.0
Revenue mix	50%	20%	22%	9%
CAGR (FY17-21)	17.2%	2.5%	5.7%	-4.7%

Source: Company, Systematix Research

Exhibit 81: Mindtree is a strong addition to L&T's portfolio

Industry groups		
Revenue (%)	FY20	FY21
BFSI	21.2%	19.6%
CMT	40.9%	50.0%
RCM	21.2%	21.5%
TTH	16.7%	8.8%

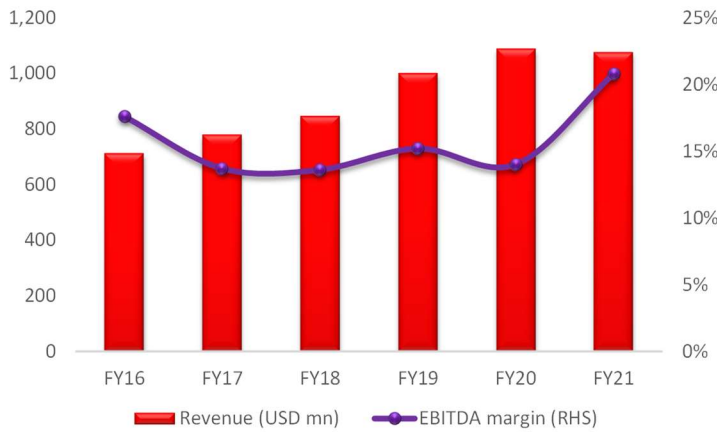
Source: Company, Systematix Research

Exhibit 82: ...with heavy dependence on high-tech business

Service Lines		
	FY20	FY21
Customer Success	41.1%	38.8%
Data & Intelligence	13.4%	14.8%
Cloud	15.1%	19.4%
Enterprise IT	30.5%	27.0%

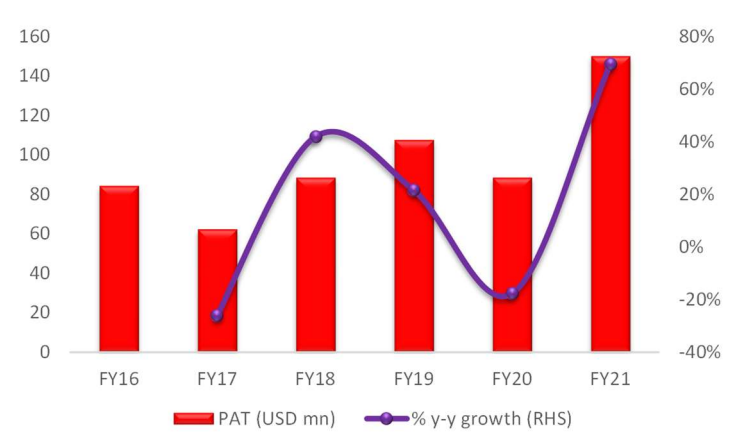
Source: Company, Systematix Research

Exhibit 83: Even as Mindtree revenues have grown at a 9% CAGR over FY16-21...



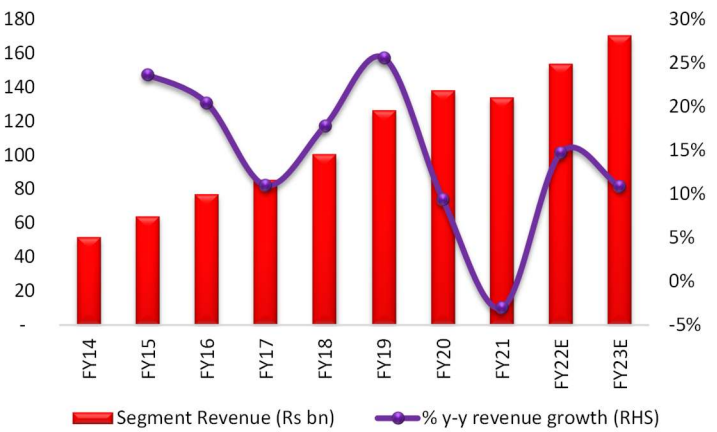
Source: Company, Systematix Research

Exhibit 84: ...PAT has grown at a 12% rate owing to strong margin tailwinds



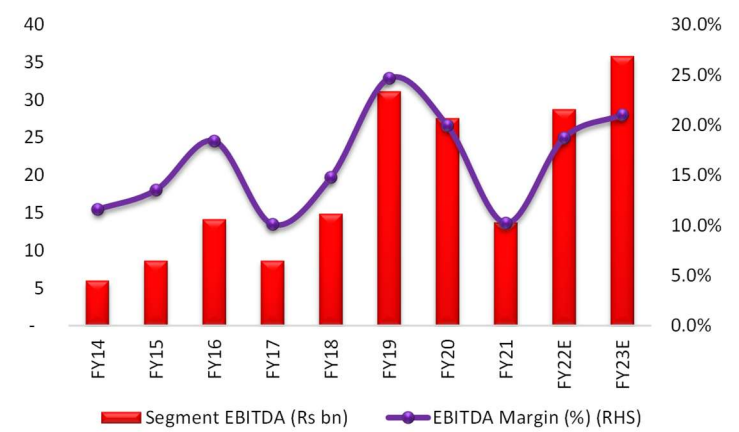
Source: Company, Systematix Research

Exhibit 85: Financial services business too has been a key growth driver in the past



Source: Company, Systematix Research

Exhibit 86: ...but has faced headwinds recently, in-line with the rest of the NBFC sector



Source: Company, Systematix Research

Financial and cash-flow analysis

Base case RoE to inch up to ~15% by FY23E, slightly offset by the Hyderabad metro impact

L&T's consolidated RoE has improved from <10% in FY16 to about 13.8% in FY19. L&T was on track for further improvement by FY21, closer towards 18% levels, but COVID-19-related disruptions have pushed this recovery forward. We estimate RoE to improve to ~15% by FY23E. This is lower than the management's long-term range of 18% primarily due to higher losses on Hyderabad metro.

Our estimated RoE improvement is without factoring in further divestments and share buyback. This is despite building in significant losses from the Hyderabad metro project over FY21-23E as it is now fully commissioned.

DuPont analysis: Asset-heavy strategy was the key cause for lower RoEs

While RoE for L&T on a consolidated basis more than halved from FY10 levels, our five-factor DuPont analysis suggests that this was largely due to higher interest impact, lower asset utilization and falling EBIT margins – most of which are now behind the company (we expect EBIT margins to recover as execution ramps up).

Operating cash flow (OCF) impacted by working capital build-up

Operating cash flow (excluding finance) declined from FY11 until FY14 due to a continued build-up in working capital. However, L&T's efforts to contain the working capital have led to a strong pick-up in the OCF (excluding finance) generation since FY15. We expect the OCF generation to remain strong given the continued focus on working capital containment.

High capital intensity phase now over

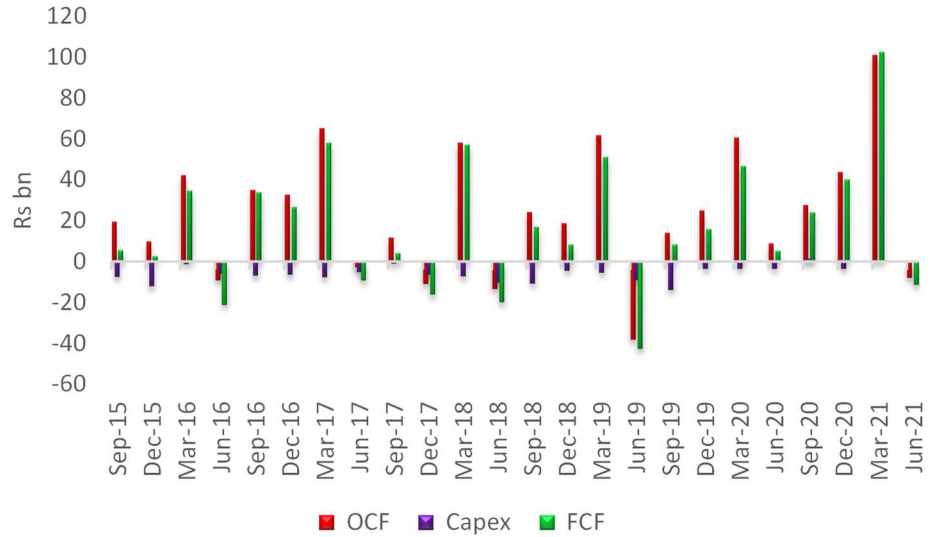
L&T was engaged in a highly capex-intensive phase after FY10 as it focused on an asset ownership model. The capex intensity peaked in FY13 and has seen a downtrend since then. With further completion of major projects such as the Hyderabad Metro, we expect the capital intensity to fall further. Together with planned asset/stake sales in non-core businesses (already evident since FY17), we expect this to reflect in improved cash flows.

Operating cash flows expected to improve again

Given an increase in revenue and improving margins, we expect net income to grow at a ~32% CAGR over FY21-23E, which should be ahead of the sales CAGR of 18.1% during the same period. Further, with a continued focus on working capital, we expect cash flows (excluding loans and advances for financial activities) to improve significantly.

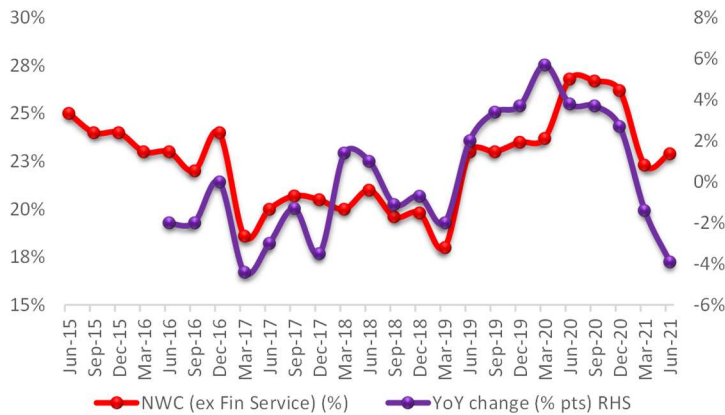
At the reporting level, OCF may appear negative as loans and advances necessary for the growth of the financial services segment are likely to distort the outcome. However, we estimate OCF, excluding loans and advances for financial activities, to be significantly positive over FY21-23E.

Exhibit 87: OCF/FCF has been improving



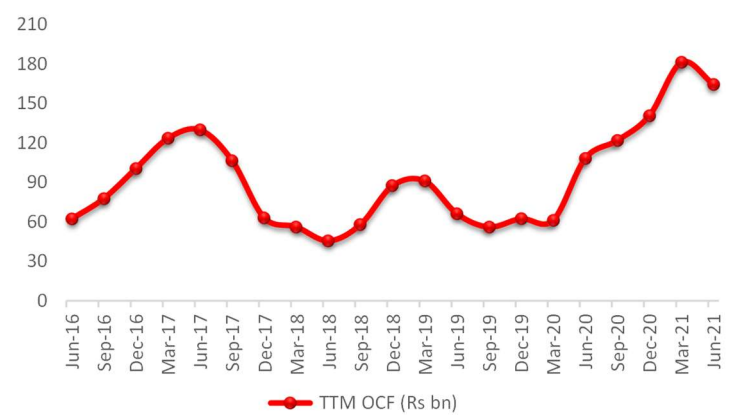
Source: Company, Systematix Institutional Research

Exhibit 88: Improvement in NWC in the past 2-3 quarters...



Source: Company, Systematix Research

Exhibit 89: ...is the key reason for OCF improvement



Source: Company, Systematix Research

Exhibit 90: Key assumptions

Rs bn	FY18	FY19	FY20	FY21	FY22E	FY23E
Core order inflow	1,013	1,336	1,403	1,275	1,421	1,577
Core E&C revenue growth	17%	15%	1%	-11%	19%	17%
Order book	2,631	2,934	3,039	3,274	3,651	4,009
Core E&C execution cycle (%)	35%	42%	34%	29%	33%	35%
Core E&C Book:bill (x)	2.76	2.92	3.03	3.58	3.37	3.18

Source: Company, Systematix Institutional Research

Valuation & view

L&T is as much a play on the infrastructure business as it is now an alternative way of playing the growth in its tech subsidiaries

We value L&T on a sum-of-the-parts (SOTP) basis –

- 1) We value its listed subsidiaries at mark-to-market of the current market capitalization and adjust for proportionate holding by L&T.
- 2) We assign a 20% holdco discount for the listed companies' MTM valuation.
- 3) We value the core E&C business at a FY24E P/E of 16x, which is justified given the sustainable growth forecast of 9% and core RoE of ~20%.
- 4) EPC players trade at a wide valuation range over the cycle due to their volatile order backlog growth and margin/OCF generation. The valuation range can be as wide as 5-20x depending on the company profile based on these parameters. However, L&T scores better as compared to peers on size, sustainability, cash generation and leverage and hence deserves to trade at the higher end of that valuation range.

Accordingly, we derive a fair value of Rs 2,287/share for L&T, suggesting an upside of 23% from the current levels.

Exhibit 91: SoTP valuation yields a fair value of Rs 2,287/share

	FY23E PAT (Rs bn)	P/E (x)	Equity value (Rs bn)	Stake	L&T value (Rs bn)	L&T value per share (Rs)
L&T Core E&C	95.1	16x	1,522	100.0%	1,5220	1,084
L&T Finance			207	63.5%	131	93
L&T Infotech			1,301	74.1%	964	686
LTTS			602	74.2%	447	318
Mindtree			814	61.0%	497	354
BOT Assets value						52
Total subsidiaries value after 20% holding discount						1,203
L&T fair value						2,287

Source: Systematix Institutional Research

The stock performance is attributable to the re-rating of its tech subsidiaries

L&T's core E&C business has not re-rated even after significant improvements in growth and RoE metrics since early 2016. It continues to hover around its long-term mean of 14-15x one-year forward P/E for the last three years. This is despite its RoE having already improved about 400bps from the FY16 lows, while core E&C business growth has also revived from low single-digits to mid-teens.

The outlook looks much better, thanks to a stronger balance sheet, management credentials and efforts to boost shareholder value.

Essentially, the stock has only tracked the re-rating of its tech subsidiaries over the past year, with the core E&C value declining. In contrast, its peer group has seen multiples expand.

Key risks & risk mitigating measures

Rising competition in infrastructure orders

Over the years, infrastructure projects, especially road EPC business, have attracted significant competition with several regional players vying for orders. However, L&T has been selective in its bid strategy and opted to stay focused on its core areas of large and complex projects. It has also diversified into opportunistic growth areas such as water supply and irrigation projects when these segments are growing fast.

Commodity price risk

Steel and cement prices have run up sharply over the past year, exposing all infrastructure EPC players to cost escalation. While government EPC contracts tend to have a price variation clause covering most such cost increases, not all the increase may be passed through. In the near-term, this may thus pose margin risks for L&T and other EPC players. In the longer term, however, new bids would ideally bake in such as cost escalations, nullifying the higher cost.

Continued challenges on execution due to macro risks

Land acquisition for most infrastructure projects is a critical factor. There are often delays in handing over encumbrance-free land and Right of Way, impacting the progress of work and idling of resources. Commercial terms in the business are getting tougher, resulting in working capital pressures. The infrastructure sector is also exposed to delays in various approvals, leading to a domino effect. Extreme environmental events (such as unprecedented rainfall), National Green Tribunal bans and construction bans due to pollution pose an adverse risk to the business.

Working capital strategy dependent on government finances

Though some projects secured are funded through Union and State budgetary allocations, payment terms continue to pose working capital challenges. Projects with certain state authorities need close monitoring due to delays in handing over of sites, delays in certifications due to the involvement of multiple agencies and the challenges faced in timely budgetary allocations.

Litigation

There are no major litigations that L&T is involved in apart from some smaller cases which are part of the 'business as usual' scenario. As of FY20, it had provided about Rs 2.14bn as cost in its P&L towards litigation-related obligations, which is a minuscule amount considering its revenue.

Some of the important pending disputes though where clarity is awaited are – The Hyderabad metro project where the alignment was changed by the state government; clarity on compensation for L&T due to the same is awaited. The Mumbai monorail project was deferred significantly due to delays in land acquisition and approvals, leading to cost overruns.

Views on ESG

Infrastructure construction as a business is bound to involve methods and processes that impact the environment and natural resources. It also involves working with government departments/ministries; in the past, L&T was barred from World Bank-funded projects (for an incident in 2005, which led to a 6 months debarment for L&T from participating in World Bank-funded projects). The company also manufactures defence equipment (including weapons) for India as well as for export purposes.

Environment protection and the conservation of natural resources are part of L&T's business philosophy. The company's Corporate Environment, Health & Safety (EHS) Policy emphasizes on incorporating environmental consideration into all business processes. A separate Code of Conduct has been extended to vendors and service providers. L&T continues to conduct water assessment surveys at its campuses. All 24 campuses maintained their 'Water Positive' status in FY20-21.

L&T also invests in lower emission and clean energy programmes, thus promoting sustainable growth. Renewable energy at manufacturing campuses is utilized, wherever feasible. Currently, eight campuses are sourcing renewable energy (wind and solar) from external sources and all 24 campuses are generating renewable energy onsite.

The company has established systems and procedures to ensure that its Board of Directors is well informed and well equipped to fulfil its overall responsibilities and to provide the management with the strategic direction needed to create long term shareholder value. The four-tier governance structure, besides ensuring greater management accountability and credibility, facilitates increased autonomy to the businesses, performance discipline and development of business leaders, leading to increased public confidence.

FINANCIALS (CONSOLIDATED)

Profit & Loss Statement

YE: Mar (Rs mn)	FY20	FY21	FY22E	FY23E	FY24E
Net sales	1,455	1,360	1,626	1,896	2,110
RM expenses	-840	-737	-1,042	-1,231	-1,373
Gross Profit	614	623	584	665	737
Employee expenses	-231	-248	-285	-313	-345
Other expenses	-220	-219	-102	-112	-124
EBITDA	163	156	197	240	269
Margin %	11.2%	11.5%	12.1%	12.6%	12.7%
Depreciation	-25	-29	-30	-31	-32
EBIT	139	127	167	209	236
Interest expenses	-28	-39	-36	-35	-32
Other Income	24	34	31	35	34
Pre-tax profit	134	122	162	208	238
Taxes	-33	-40	-44	-55	-63
PAT	102	82	118	153	175
Margin %	7.0%	6.0%	7.3%	8.1%	8.3%
Share in profit/loss from JVs	1	0	2	4	4
Minority Interest	-13	-13	-21	-26	-29
Recurring PAT	89	69	100	132	150
Non-recurring Items	7	47	0	0	0
Reported PAT	95	116	100	132	150
Recurring EPS (Rs)	63.4	49.1	71.0	93.6	107.0
Cash EPS (Rs)	80.9	69.8	92.2	115.7	129.9
DPS (Rs)	28.0	35.0	32.0	42.1	48.1

Source: Company, Systematix Institutional Research

Cash Flow

YE: Mar (Rs mn)	FY20	FY21	FY22E	FY23E	FY24E
Pre-tax profit	143	195	118	153	175
Depreciation	25	29	30	31	32
Chg in working capital	-92	90	-170	-215	-228
Other non-cash items	17	-60	-31	-35	-34
Total tax paid	-40	-35	0	0	0
Operating Cash Flow	53	218	-54	-66	-54
Capital expenditure	-151	-38	-35	-29	-29
Free Cash Flow	-98	180	-89	-94	-83
Investments	43	-166	0	0	0
Other investing Cash flow	25	150	26	30	30
Investing Cash Flow	-83	-54	-9	1	1
Equity raised	0	0	0	0	0
Debt raised/(repaid)	141	-87	172	127	125
Dividend (incl. tax)	-46	-40	-45	-59	-68
Other Financing Cash Flow	-32	-26	23	29	33
Financing Cash Flow	64	-153	150	97	91
Net chg in cash	34	11	88	33	38
Opening cash balance	117	151	162	250	284
Closing cash balance	151	162	250	284	321
Mkt Cap	2,620	2,621	2,621	2,621	2,621
Net Debt	1,339	1,241	1,326	1,420	1,507
EV	3,958	3,862	3,947	4,041	4,128
# of shares	1,404	1,405	1,405	1,405	1,405

Source: Company, Systematix Institutional Research

Balance Sheet

YE: Mar (Rs mn)	FY20	FY21	FY22E	FY23E	FY24E
Cash & bank balance	151	162	250	284	321
Debtors	407	422	482	542	585
Inventory	57	58	66	74	81
Loans & advances	1,032	963	1,101	1,286	1,465
Other current assets	681	636	735	833	868
Total current assets	2,329	2,241	2,634	3,018	3,320
Investments	238	433	433	433	433
Net fixed assets	396	331	337	334	331
Goodwill	80	81	81	81	81
Total assets	3,043	3,086	3,485	3,866	4,165
Current liabilities	780	780	908	1,032	1,059
Provisions	35	38	40	47	52
Total current liabilities	814	818	948	1,079	1,111
Borrowings	1,490	1,404	1,576	1,704	1,829
Net Deferred Tax liability	(24)	(15)	(15)	(15)	(15)
Total liabilities	2,280	2,207	2,509	2,767	2,925
Paid-up capital	3	3	3	3	3
Reserves & surplus	664	756	831	929	1,041
Net Worth	667	759	834	932	1,044
Minority Interest	95	121	141	167	196
Total equity & liabilities	3,043	3,086	3,485	3,866	4,165
Book Value/share (Rs)	475.3	540.2	593.9	663.6	743.2

Source: Company, Systematix Institutional Research

Ratios

YE: Mar	FY20	FY21	FY22E	FY23E	FY24E
P/E (x)	29.5	38.0	26.3	19.9	17.4
P/BV (x)	3.9	3.5	3.1	2.8	2.5
EV/EBITDA (x)	16.0	16.8	13.3	10.9	9.8
EV/Sales (x)	1.8	1.9	1.6	1.4	1.2
Dividend Yield (%)	1.5%	1.9%	1.7%	2.3%	2.6%
RoE (%)	13.8%	9.7%	12.5%	14.9%	15.2%
RoCE (%)	7.7%	7.2%	8.3%	9.1%	9.3%
Fixed Asset turnover (x)	3.7	4.1	4.8	5.7	6.4
Receivable days	102	113	108	104	101
Inventory days	25	29	23	22	22
Payable days	190	225	182	172	148
Working Capital Cycle (days)	90	86	81	77	79
Revenue Growth (%)	8%	-7%	20%	17%	11%
EBITDA Growth (%)	7%	-4%	26%	22%	12%
EPS Growth, %	10%	-28%	45%	32%	14%
Net Debt/Equity (x)	2.0	1.6	1.6	1.5	1.4
Net Debt/EBITDA (x)	8.2	7.9	6.7	5.9	5.6

Source: Company, Systematix Institutional Research



TM

20 December 2021

NCC Limited

Strong order backlog and balance sheet to revive growth

NCC Limited (NJCC) is among India's largest construction companies after L&T and has a presence across geographies with EPC capabilities spanning infrastructure and private capex. Unlike many of its peers, it has witnessed several economic cycles and survived the '04-10 cycle aftermath. It has repaired its balance sheet with a standalone D/E of just 0.25x in FY21 and should be almost debt-free at the standalone level by FY24. In a bid to improve its balance sheet, the company has trodden a cautious path of order accretion and escaped equity exposure on asset-heavy projects, resulting in a relatively slow but steady revenue/EBITDA growth. Amongst the listed peers, it has the largest order book after L&T (Rs 390bn as of Sep'21, 4.5x TTM book: bill), which provides strong revenue growth visibility. We estimate a PAT CAGR of ~33% over FY21-24E, even as it trades at just 8.7x FY23E P/E. We initiate coverage on the stock with a BUY rating and a target price of Rs 132 (75% upside).

Strong order book provides revenue growth visibility

NJCC is among India's few EPC players that can undertake complex projects across the country and various EPC segments. It also stands out with a strong order book of Rs 390bn (4.5x book: bill), which provides revenue visibility over FY22-24E. On the back of its strong order backlog, we estimate NJCC to deliver a PAT CAGR of ~33% over FY21-24E.

Likely to reach a debt-free position at the standalone level by FY24

While the company went overboard in the previous cycle with its exposure to asset-heavy infrastructure projects and real-estate (in India and outside), it has shifted focus back on the core EPC business with an asset-light approach. This has yielded results with its net D/E as of FY21 shrinking to a healthy level of 0.25x; it also generated positive OCF/FCF (net of finance cost) in FY20/21. The company is likely to be almost debt-free at the standalone level by FY24.

Consistently monetizing loans to subsidiaries

Over the past decade, NJCC has monetized its investments and loans/advances given to its subsidiaries. Its total exposure to subsidiaries (through direct equity investments and loans/advances) has come down to Rs 15bn as of Sep'21 from the peak of Rs 25bn in FY15. The remaining amount is expected to be monetized gradually over the next 3-4 years; we are only factoring in Rs 6.4bn (Rs 10.5/share) out of this in our SoTP.

Outlook and valuations

We value the company at 12x FY24E EPS and add 0.5x BV for its investments in its subsidiaries (mostly road concessions and real-estate or landholdings) to arrive at our target price of Rs 132. We prefer a valuation range of 10-18x P/E for the sector, with NJCC landing in the middle of the band due to a weaker past track record of cash generation and leverage, partly compensated by the improvements it has made. Better than expected execution and OCF/FCF conversion will be key upside triggers.

Key risks

1) Rising competition in EPC contracts; 2) Delayed payments by government entities, leading to NWC (net working capital) elongation; 3) Margin impact due to the recent sharp commodity price rise; and 4) low promoter shareholding and history of high share pledge (though now down to 17.2% of shares held).

INITIATING COVERAGE

Sector: Infrastructure Rating: BUY

CMP: Rs 75 Target Price: Rs 132

Stock Info

Sensex/Nifty	58,117/ 17,325
Bloomberg	NJCC IN
Equity shares (mn)	610
52-wk High/Low	Rs 100/ Rs 47
Face value	Rs 2
M-Cap	Rs 46bn/ USD 0.6bn
3-m Avg traded value	USD 3mn

Financial Snapshot (Rs bn)

Y/E Mar	FY22E	FY23E	FY24E
Revenue	92.5	105.8	117.3
EBITDA	10.3	12.2	13.5
PAT	3.9	5.3	6.2
EPS (Rs)	6.4	8.7	10.1
RoE %	7.0%	8.9%	9.6%
RoCE %	9.8%	11.6%	12.7%
P/E (x)	11.7	8.7	7.4
P/BV (x)	0.8	0.7	0.7

Shareholding pattern (%)

	Jun'21	Mar'21	Dec'20
Promoter	19.7	19.7	19.7
-Pledged	3.4	3.3	4.0
FII	13.3	13.4	13.1
DII	11.5	12.2	12.2
Others	55.5	54.8	55.0

Stock Performance (1-year)



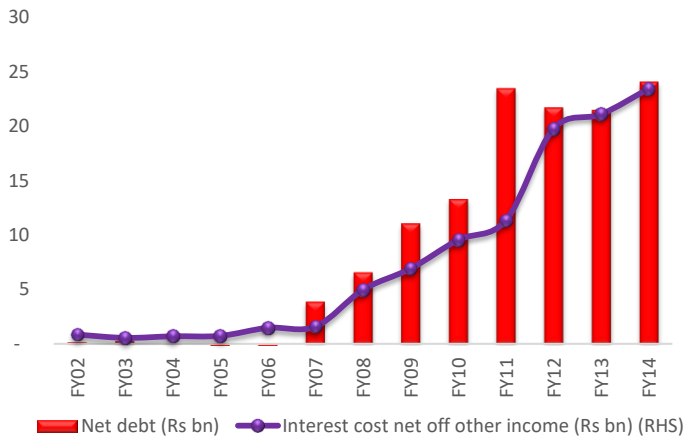
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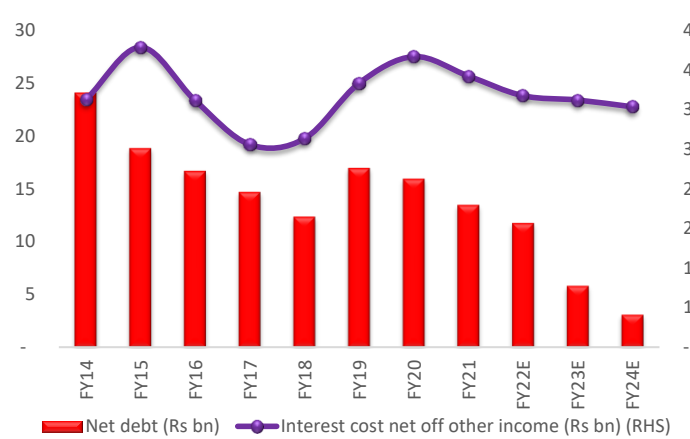
Story in charts

Exhibit 1: Debt piled up in the last capex cycle as NJCC expanded across newer geographies and asset-heavy businesses..



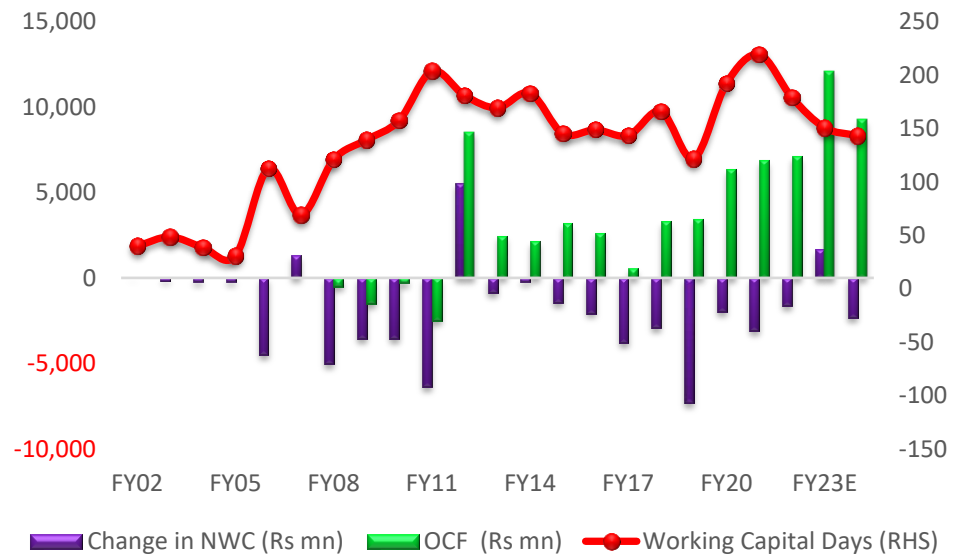
Source: Company, Systematix Institutional Research

Exhibit 2: ...post FY14, a concerted effort towards debt reduction has been paying off well



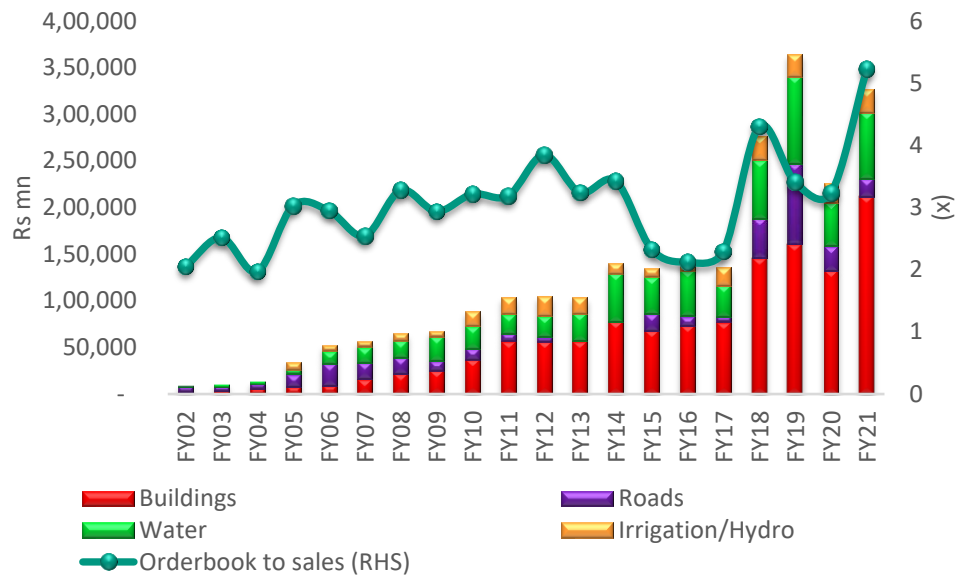
Source: Company, Systematix Institutional Research

Exhibit 3: NWC cycle improving (except for temporary COVID-19 related disruptions) after a serious deterioration post FY08



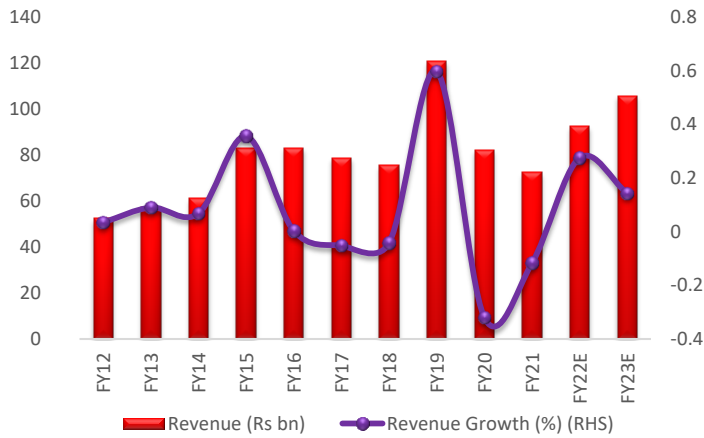
Source: Company, Systematix Institutional Research

Exhibit 4: Strong order backlog growth since FY18 despite the 2019 order cancellation setback



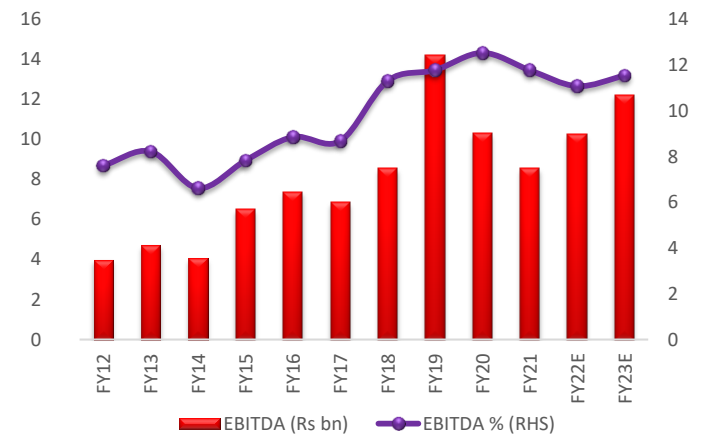
Source: Company, Systematix Institutional Research

Exhibit 5: Revenue growth should ultimately follow its order backlog growth over FY22-25E



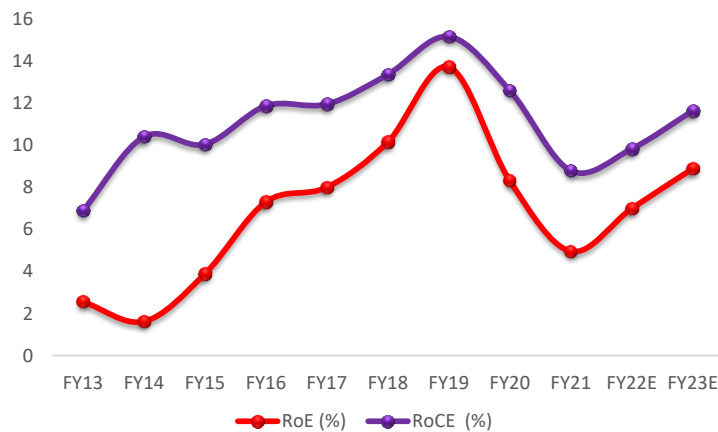
Source: Company, Systematix Institutional Research

Exhibit 6: Despite commodity impact, EBITDA growth should be healthy on account of strong revenue growth



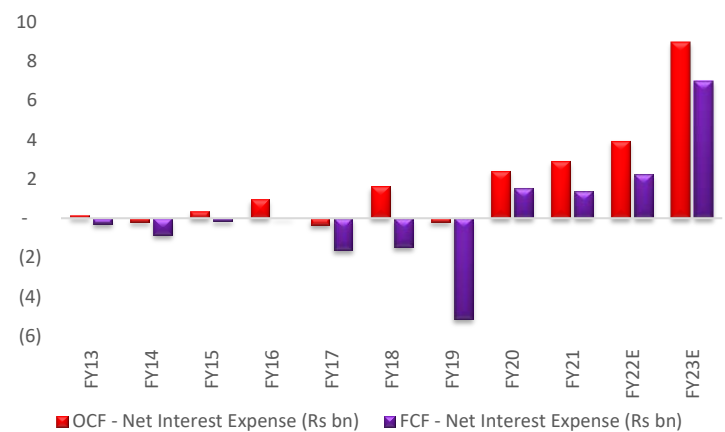
Source: Company, Systematix Institutional Research

Exhibit 7: Improvement in execution, subsidiary investment monetization and NWC reduction has led to better RoCE



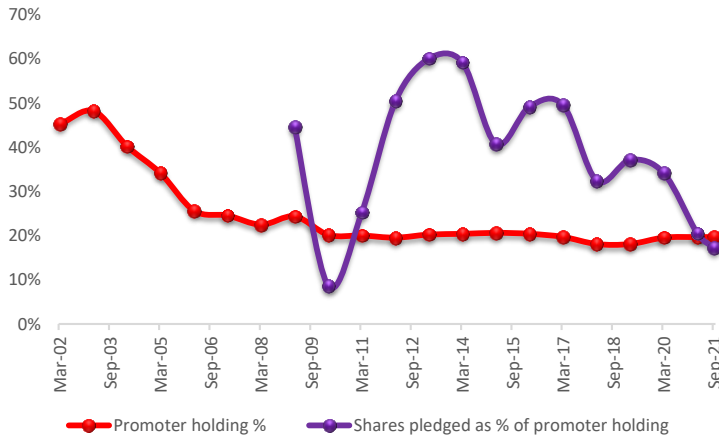
Source: Company, Systematix Institutional Research

Exhibit 8: OCF and FCF generation to get a boost (Rs bn)



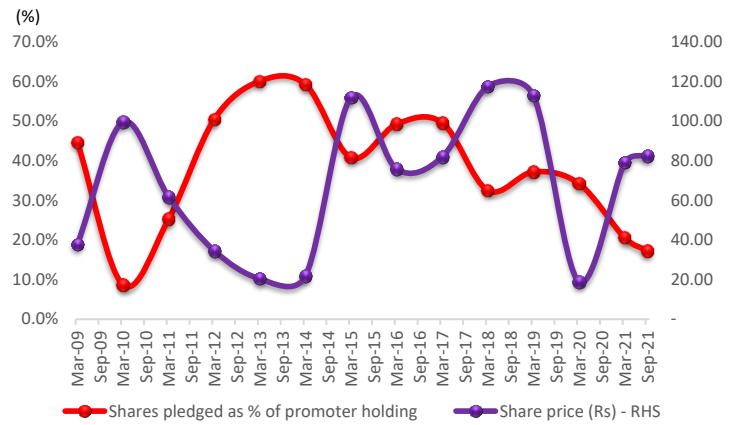
Source: Company, Systematix Institutional Research

Exhibit 9: Concerns over low promoter shareholding and share pledge have abated



Source: BSE, Systematix Institutional Research

Exhibit 10: Promoter pledge inversely correlated to NJCC's share price in the past



Source: BSE, Bloomberg, Systematix Institutional Research

Company background

NJCC is one of India's largest listed construction companies in terms of revenue and has a pan-India focus with capabilities across most EPC sub-segments. It has a well-diversified order book with a presence across segments such as buildings & housing, roads, water & environment, irrigation, electrical, metals, mining and railways.

It has offices across 13 cities in the key states of Maharashtra, Andhra Pradesh, Telangana, Karnataka, Gujarat, Uttar Pradesh, West Bengal, Tamil Nadu and an experienced management team supported by a skilled workforce that includes 5,007 employees (including 3,311 Technical) executing around 120 active sites at various locations (as on Jun-21).

The company was set up in 1978 as a partnership firm and listed in 1992. It achieved its peak turnover of Rs 120bn in FY19. At a consolidated level, the bulk of the business is accounted for in its parent entity (91%), while the remaining 9% of the revenues is through its subsidiaries that are into road BOT projects and real estate.

It started its journey as Nagarjuna Construction Company Limited. It started as a pure EPC focused company, and it expanded into several asset-heavy businesses such as infrastructure BOT, Realty and International businesses over the years.

NJCC offers services that cut across multiple divisions to address the various facets of infrastructure needs. It has forayed into new divisions by leveraging insights from over four decades of experience in the construction business. It has largely been able to complete projects on time and has earned respect for its brand among customers, financial institutions and associates.

Its journey to date has been very challenging with several business and economic cycles in the interim. It is one of the few companies apart from L&T that have survived these cycles and their financial impact.

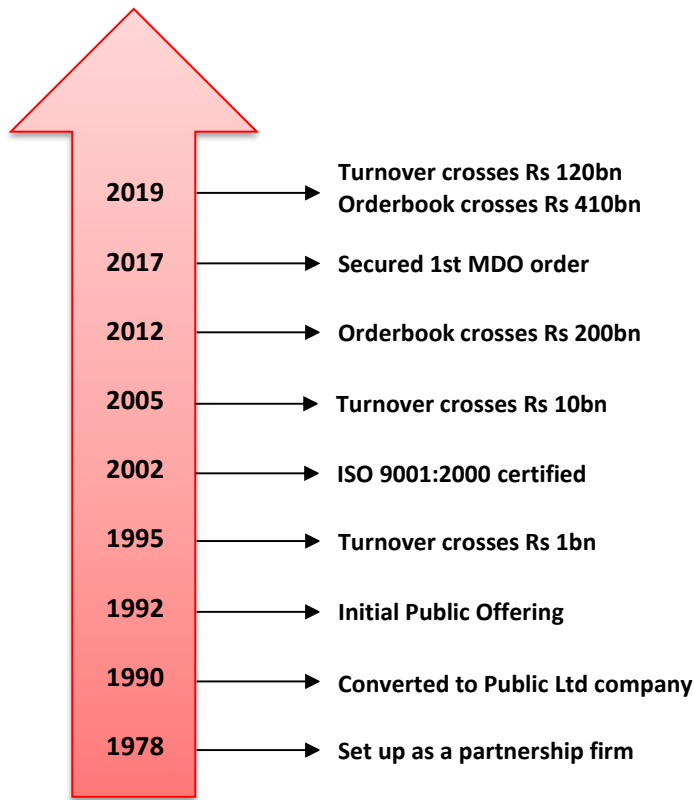
Key management team

Exhibit 11: NJCC – Board of Directors

Padma Shri Awardee Dr A V S Raju Chairman Emeritus	
Board of Directors	
Mr. Hemant M Nerurkar	Chairman - Independent
Ms. Renu Challu	Independent Director
Dr A S Durga Prasad	Independent Director
Mr. O P Jagetiya	Independent Director
Mr. Utpal Hemendra Sheth	Director
Mr. A A V Ranga Raju	Managing Director
Mr. A G K Raju	Executive Director
Mr. A S N Raju	Whole time Director
Mr. A V N Raju	Whole time Director
Mr. J V Ranga Raju	Whole time Director

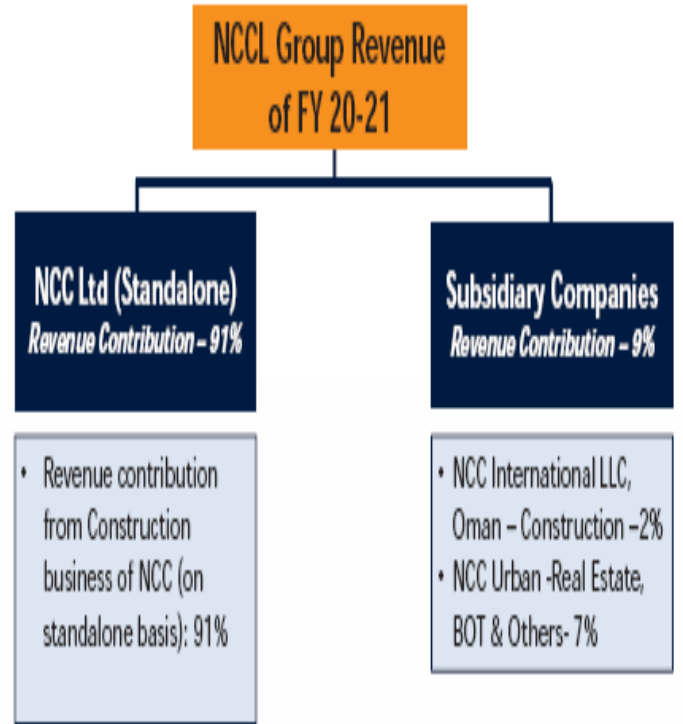
Source: Company, Systematix Research

Exhibit 12: NJCC - Key milestones



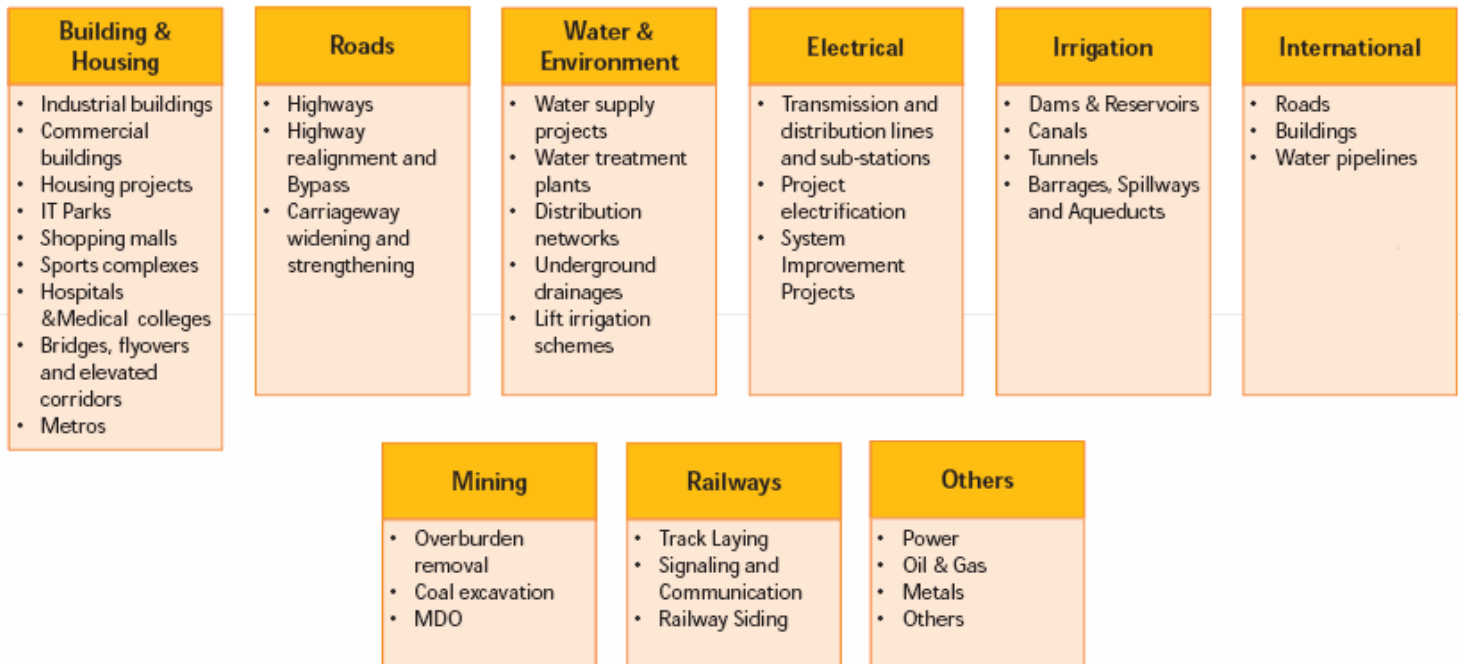
Source: Company, Systematix Institutional Research

Exhibit 13: Group structure



Source: Company, Systematix Institutional Research

Exhibit 14: Key segments that NJCC operates in



Source: Company, Systematix Institutional Research

Exhibit 15: Ability to win and execute large projects pan-India and across verticals

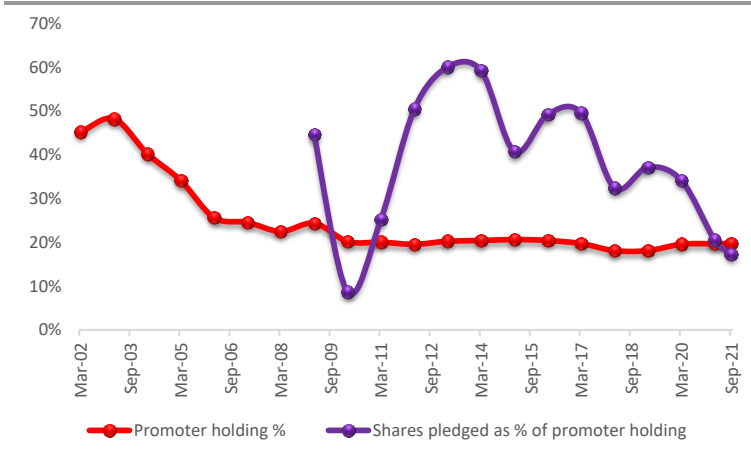
Ability to win large projects			
Project Name	Sector	Location	Value (Rs mn)
State water & Sanitation Mission Govt of UP	Water & Environment	10 Districts of UP	82,550
AIIMS	Buildings & Housing	4 locations	37,170
Nagpur Mumbai express way	Roads	Maharashtra	28,500
Project Seabird (2 projects) (Seabird project Phase 2A Karwar)	Buildings & Housing	Karnataka	24,420
APTIDCO	Buildings & Housing	2 Locations	17,890
AAI	Buildings & Housing	3 locations	16,930
Agra Lucknow Expressway	Roads	Uttar Pradesh	15,600
TDWSP – RR	Water & Environment	Ranga Reddy District	15,170
Sauniyojana L-3 Phase 1 and 2	Water & Environment	2 Locations	12,470
Namami Gange & Rural Water Supply	Water & Environment	Mirzapur & Jhansi	10,840
Lift Irrigation Project (PRLIS)	Irrigation	Telangana	10,080
MMRDA Mumbai metro	Buildings & Housing	Mumbai	8,570
NBCC KIDWAI NAGAR	Buildings & Housing	New Delhi	6,980

Source: Company, Systematix Research

Concerns over low promoter shareholding and high share pledge levels abating

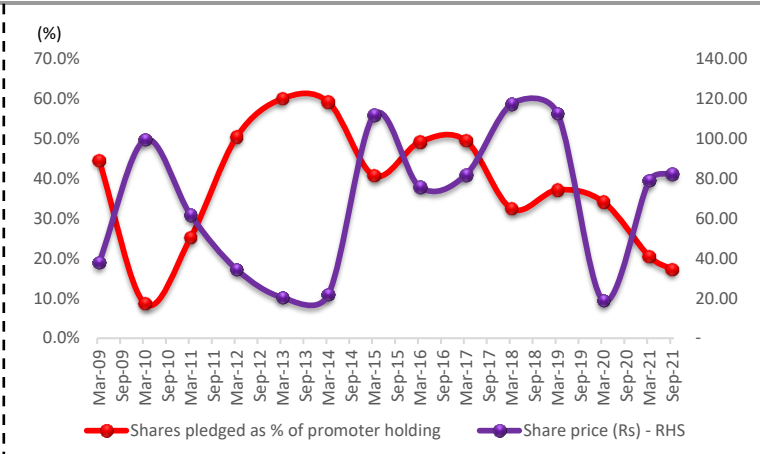
One of the key overhangs for the stock has been the low promoter shareholding and high share pledge levels. We note that the promoter shareholding has now stabilized and they have even raised their stake modestly from 18.1% in Mar'19 to 19.7% as of Sep'21. Share pledge level has also reduced significantly over the years and was down to 17.2% as of Sep'21 from a high of 60.1% in Mar'13.

Exhibit 16: Concerns over low promoter shareholding and rising share pledges abating



Source: BSE, Systematix Institutional Research

Exhibit 17: Promoter pledge inversely correlated to NJCC's share price in the past



Source: BSE, Bloomberg, Systematix Institutional Research

Annual Report Analysis

Exhibit 18: NJCC – Annual Report Analysis

Year	Demand scenario & Outlook	Key events	Key performance indicators	
FY17	During the year (and in FY16), the company monetized several of its investments via the subsidiaries such as - Himachal Sorang Hydel Project, stake sale in Coal-based Thermal Power Project to Sembcorp and two road assets — Western UP and Bengaluru Elevated Tollway — thereby managing to slash a significant portion of the debt in the consolidated balance sheet.	Loans and advances to group companies also reduced to Rs 5.58bn in FY17 compared to Rs 11.22 bn in FY16.	Revenue growth	71%
			EBITDA growth	50%
			PAT growth	4%
			Debt/Equity	0.12
			ROE	21%
			FCF (Rs mn)	1,700
			Order backlog (Rs mn)	37,689
			Order inflow (Rs mn)	18,400
FY18	FY18 was the best-ever year for NJCC in terms of its order inflow at Rs 253bn (almost 3x of FY17 inflow levels) driven by buildings, roads and water segments.	The company launched a QIP issue, raising Rs 5.5bn in the process and thus helping the company reduce its net D/E to 0.29x in Mar'18 from 0.43x as of Mar'17.	Revenue growth	25%
			EBITDA growth	67%
			PAT growth	62%
	Despite the strong order inflow and execution, FY18 witnessed significant working capital stress (inched up to a peak of 166 days).	NJCC also issued warrants worth Rs 1.1bn to the promoters to raise Rs 11bn subsequently.	Debt/Equity	0.15
			ROE	27%
			FCF (Rs mn)	(680)
FY19	Its debtor collection days improved substantially from 102 days in FY18 to 84 days in FY19. Net working capital days improved to 96 days from 129 days in FY18. Finance cost reduced to Rs 4.51bn (3.7% of turnover as against 4.9% of the turnover in FY18). Its overall investments in subsidiaries and group companies have come down from Rs 10.24bn in FY18 to Rs 9.19bn. The year also witnessed asset rationalization by subsidiaries; receivables from them to the parent company improved.	FY19 was the best-ever year for NJCC as it reached a peak turnover of ~Rs 120bn and an order backlog of ~Rs 410bn led by significant tailwinds in the sector and chunky order wins across sub-segments.	Revenue growth	11%
			EBITDA growth	11%
			PAT growth	-2%
			Debt/Equity	0.16
			ROE	21%
			FCF (Rs mn)	330
			Order backlog (Rs mn)	65,000
Order inflow (Rs mn)	37,312			
FY20	The year had a significant impact on NJCC as the change in the Andhra Pradesh government at the start of FY20 led to significant disruption on its order backlog and execution & payments. NJCC had to cancel and descope orders worth over Rs 120bn while its execution was disrupted for ongoing projects as well. Even for the work done, payments were withheld leading to significant industry-wide disruption.	NJCC issued and allotted 9.2mn equity shares at a price of Rs 119.37 per share against share warrants issued on a preferential basis to the company's promoters. The company had received a part payment (25% of total consideration) of Rs 274.5 mn in FY19 and the balance amount of Rs 823.6mn was received in FY20.	Revenue growth	5%
			EBITDA growth	14%
			PAT growth	-11%
			Debt/Equity	0.11
			ROE	16%
			FCF (Rs mn)	1,863
			Order backlog (Rs mn)	78,489
Order inflow (Rs mn)	34,583			
FY21	The company issued and allotted 18mn convertible warrants at Rs 59 per warrant on a preferential basis to the specified promoters. It received 25% of the total consideration, while the warrants would be converted into an equivalent number of equity shares on payment of the balance amount prior to the expiry of 18 months from the date of issue of convertible warrants.	NJCC invested Rs 1.2bn in NJCC Urban by converting an equivalent amount of debt into equity. Together with other repayments, this led to a decrease in loans outstanding from subsidiaries to Rs 3bn as against Rs 5.95bn as of Mar'20.	Revenue growth	-11.7%
			EBITDA growth	-17.1%
			PAT growth	-37.0%
			Debt/Equity	0.25
	Borrowings declined from Rs 19.1bn to Rs 17.9bn during FY21 for the company.	The company won a significant order worth over Rs 62bn relating to Jal Jeevan Mission in Uttar Pradesh and hopes to win more such orders as the opportunity in water is still unfolding.	ROE	5.0%
			FCF (Rs mn)	1,396
			Order backlog (Rs mn)	379,110
			Order inflow (Rs mn)	189,430

Source: Company, Systematix Research

Investment Analysis

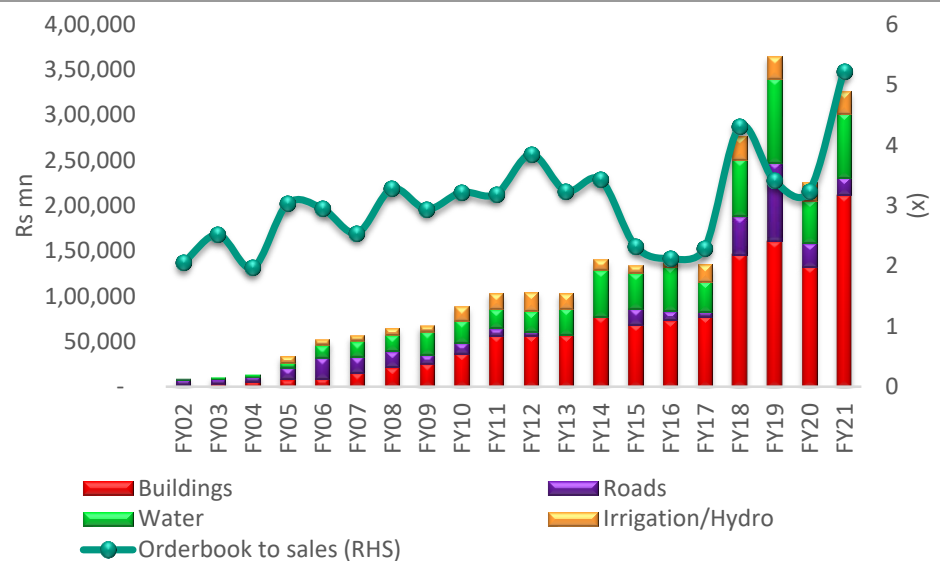
Order backlog of Rs 390bn (4.5x TTM book: bill) is one of the strongest amongst the peer group

As of Sep'21, NJCC has an order backlog of Rs 390bn (4.5x TTM book: bill), which is amongst the strongest in its peer group, especially of this size. This is despite the setback the company faced in 2019 following the cancellation of several orders by the newly formed Andhra Pradesh government.

Following the cancellation of orders, its order backlog dipped from its then peak of Rs 411bn in Mar'19 to ~Rs 250bn as of Dec'19. It has, however, grown to the current high of Rs 390bn since then on the back of a resurgence in order flows from the buildings & housing and water segments.

At the current level of order backlog, NJCC's TTM book: bill of 4.5x is at its highest level ever. Even if we ignore the low base of FY21 revenues, NJCC's current order book is 3.23x FY19 reported revenues, which is still amongst the best it has ever had. Previous such book: bill peaks have been followed by a strong revenue booking as the orders go into execution mode.

Exhibit 19: Has built up a strong order backlog since FY18 despite the 2019 order cancellation setback

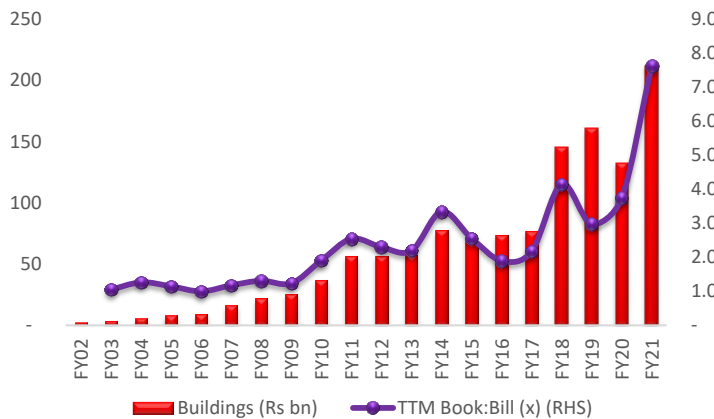


Source: Company, Systematix Institutional Research

Buildings & Housing (B&H) segment is now more diversified and caters to airport terminals, metro and several Center/PSU funded projects among others

57% of NJCC's order backlog is contributed by the B&H segment, which has grown at a CAGR of 20% over FY13-21 despite the order cancellations faced in 2019. Contrary to its order backlog composition until FY19, where its B&H segment had majority orders from state-funded projects, today, over 40% of the B&H order backlog comprises centre-funded or PSU orders. These orders range across the spectrum of the infrastructure sector, such as airport terminals, metro projects, hospital buildings, naval base (Karwar) etc.

Apart from providing necessary diversification to its order backlog, these orders also insulate NJCC from risks such as the one it witnessed in 2019 upon the change in Government in Andhra Pradesh. Book: bill for the B&H segment stands at 7.6x on a TTM basis, and even if we take FY19 revenues as a base (given that it was the peak revenue for NJCC), the book: bill stands at 3.9x.

Exhibit 20: Buildings & Housing (B&H) has been the key driver of orders for NJCC accounting for 57% of its backlog (RHS)

Source: Company, Systematix Institutional Research

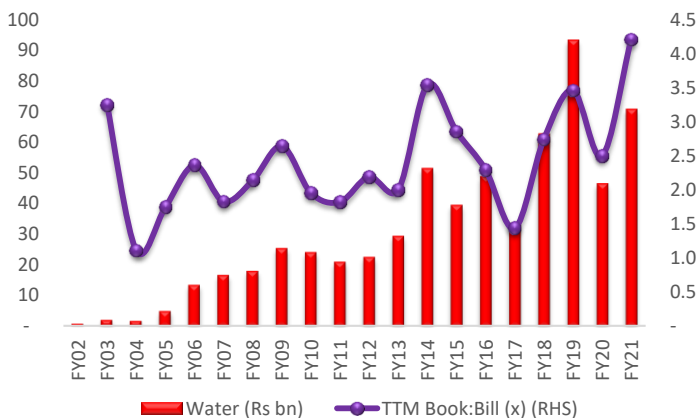
Exhibit 21: Key B&H projects under execution – Top-4 projects account for ~40% of the total B&H orderbook

Details of major projects under execution		
Project Name	Location	Value (Rs mn)
AIIMS	4 locations	37,170
Project Seabird (2 projects) (Seabird project Phase 2A Karwar)	Karnataka	24,420
AAI	3 locations	16,930
MMRDA Mumbai metro	Mumbai	8,570

Source: Company, Systematix Institutional Research

Water & Environment (W&E) segment is now spread pan-India with state water supply projects being the primary driver

20% of NJCC's order backlog is contributed by its W&E segment at Rs 84.7bn as of Sep'21 and has grown at a CAGR of 12% over FY13-21 despite the order cancellations in 2019. A large part of the current order backlog in this segment is driven by state water supply projects, particularly in UP. With the significant opportunity forthcoming in the segment under the Jal Jeevan Mission and NJCC's pan-India presence, we believe W&E will continue to witness a steady pipeline of opportunities. As of Sep-21, the book: bill in this segment stood at 3.2x on FY19 revenues.

Exhibit 22: Water & Environment (W&E) is the other key segment contributing to ~20% of the total order book

Source: Company, Systematix Institutional Research

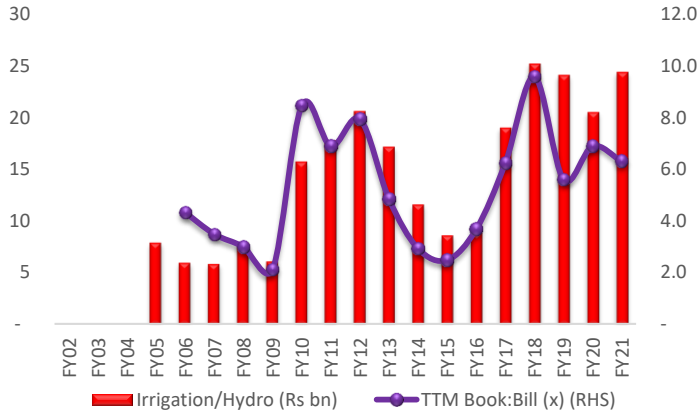
Exhibit 23: Key W&E projects under execution – Top-4 projects account for the bulk of W&E order book

Details of major projects under execution		
Project Name	Location	Value (Rs mn)
State water & Sanitation Mission Govt of UP	10 Districts of UP	82,550
Namami Gange & Rural Water Supply	Mirzapur & Jhansi	10,840
TDWSP - Warangal	Warangal	7,210
SAUNI Package 6 Phase II L-4	Amreli	6,810

Source: Company, Systematix Institutional Research

The irrigation segment contributes to just 6% of the overall order backlog now and has not grown much beyond Andhra Pradesh/Telangana

Only about 6% of NJCC's order backlog is contributed by the irrigation segment, which has not grown much in the past few years. Even when compared to FY13 levels, it has grown at a CAGR of just 4% over FY13-21. The bulk of the orders in this segment are from Telangana and Andhra Pradesh and relate to lift irrigation, reservoirs and canal work. Book: bill for the segment as of Sep'21 stood at 6.2x on a TTM basis.

Exhibit 24: Irrigation contributes to ~6% of the total order book

Source: Company, Systematix Institutional Research

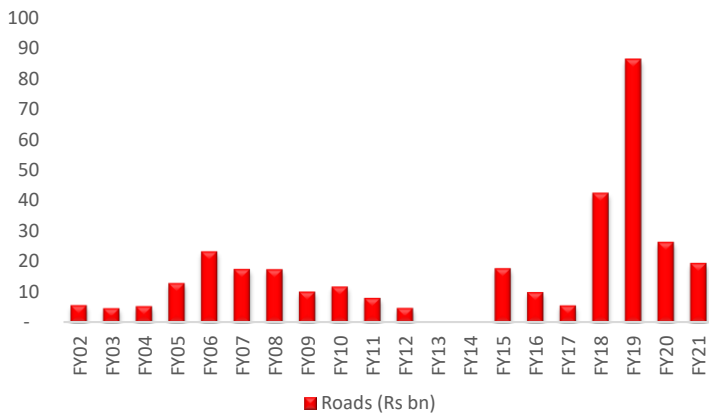
Exhibit 25: Key irrigation projects under execution

Details of major projects under execution		
Project Name	Location	Value (Rs mn)
Lift Irrigation Project (PRLIS)	Telangana	10,080
Formation of Reservoir project – Baswapur	Telangana	5,920
Modernization of Midpennar South Canal Package 43 and 44	Andhra Pradesh	4,410

Source: Company, Systematix Institutional Research

Roads is now a small segment for NJCC as the lack of traditionally large EPC orders and rising competition has kept it away from aggressive bidding

At just Rs 13.4bn of orders in the roads segment, it contributes only 4% of NJCC's order backlog as of Sep'21. Like L&T, it has stayed away from HAM projects in its bid to remain asset-light and not invest own equity for infrastructure projects. With a major part of road orders being placed on the HAM model in the last few years, NJCC has missed out on the segment growth opportunity, though arguably also remained conservative, given the high competitive intensity. We do not foresee a major change to the road sector order backlog for the company as the bulk of the future segment growth will still hinge upon NHAI orders under HAM and NJCC may continue to refrain from participating in those orders.

Exhibit 26: Roads contributes to ~4% of the total order book

Source: Company, Systematix Institutional Research

Exhibit 27: Key roads projects under execution – Top-5 projects account for bulk of the roads orderbook

Details of major projects under execution		
Project Name	Location	Value (Rs mn)
Nagpur Mumbai express way	Maharashtra	28,500
Jabalpur Flyover	Jabalpur City	6,860
Madurai Ring Road	Tamil Nadu	4,400
Double Deck Flyover - Chandni chowk - Chhapra town	Maharashtra	3,310
White topping of Roads - Bengaluru	Karnataka	2,670

Source: Company, Systematix Institutional Research

Electricals segment, though small, has grown at a 13% CAGR since FY13

5% of NJCC's order backlog is contributed by the Electricals segment that has grown at a CAGR of 13% over FY14-21. Orders in the segment comprise mostly those relating to power distribution companies and/or those under the Saubhagya scheme.

Book: bill for the segment on a TTM basis stood at ~2.9x as of Sep'21.

Exhibit 28: Electrical projects contribute to ~5% of the total order book – Top-3 projects account for the bulk of the electrical segment order book

Details of major projects under execution		
Project Name	Location	Value (Rs mn)
PVVNL-Saubhagya-Meerut	Uttar Pradesh	4,750
Jharkhand Bijili Vitran Nigam Limited Ranchi	Jharkhand	5,380
BESCOM Kengeri Indiranagar Jayanagar	Bangalore	6,100

Source: Company, Systematix Research

Balance sheet has improved substantially over the past decade; focus is now on an asset-light business model

A different story over two decades

Along with many other infrastructure companies, NJCC possibly went overboard during the previous capex cycle venturing out into asset-heavy businesses and diversifying internationally as well.

This led to substantial investments via equity and loans & advances into its subsidiary and associate companies during FY04-14. Together with the rising working capital cycle, this led to a period of rising debt for the company - it hit a peak debt of Rs 24bn in FY14 (Net D/E of 1x).

Since then, the company had a strategic intent to reduce debt by –

1) Focusing on its core competency

- Construction business (EPC and item rate contracts) with asset-light strategy
- Monetizing BOT and real estate assets exposure
- Limited exposure to selective HAM projects in roads

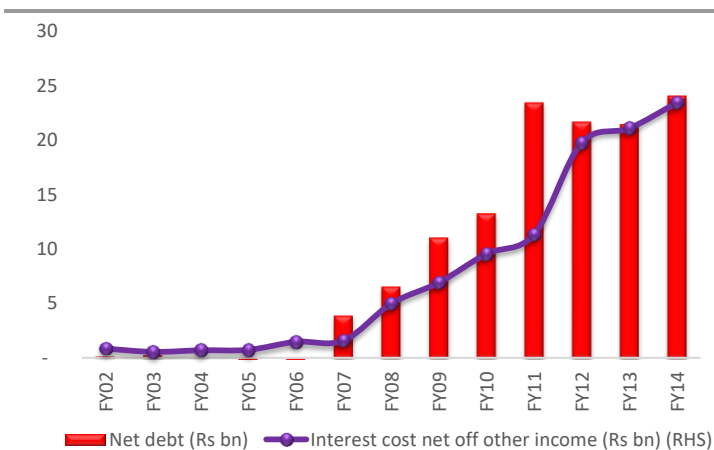
2) Focusing on India

- With the government's sustained push on infrastructure development and housing for all in India, NJCC is now focusing solely on bidding for construction projects in India
- Exited from the Middle East construction business

3) Improving operational efficiency and return metrics

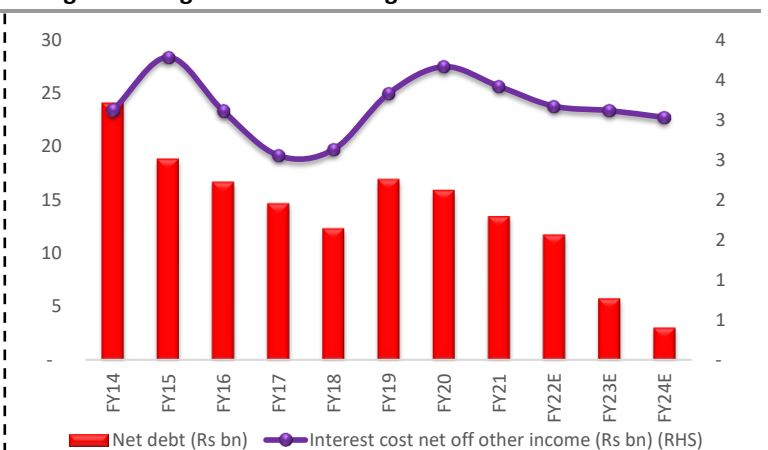
- Continuing efforts in improving operational efficiency and reducing costs
- Focusing on superior management and better control of projects by strengthening internal MIS and review system
- Sustained efforts on improving EBITDA and net profit margins
- Reduction of debt and interest costs

Exhibit 29: Debt piled up in the last capex cycle as NJCC expanded across newer geographies and asset-heavy businesses



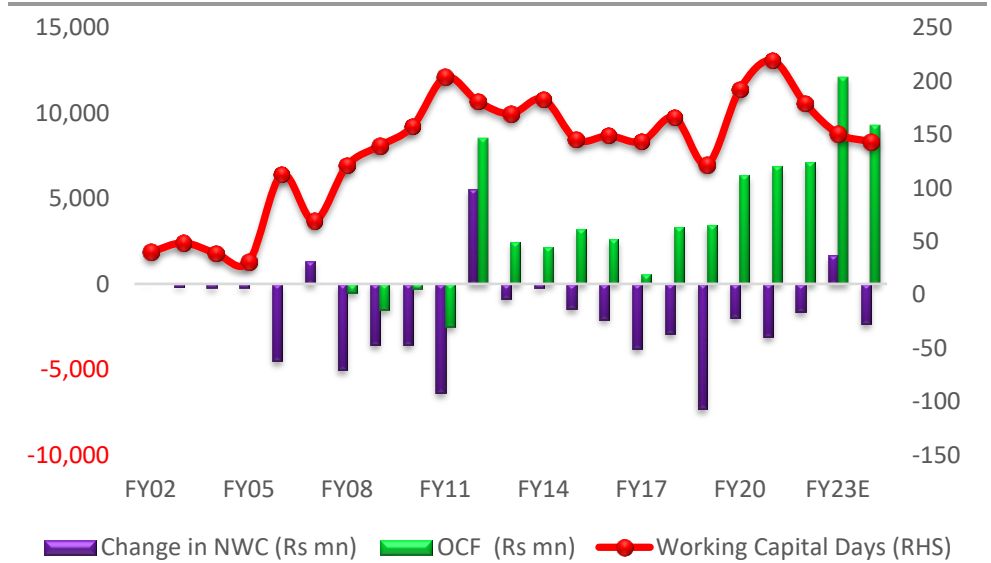
Source: Company, Systematix Institutional Research

Exhibit 30: ...Since FY14, a concerted effort towards debt reduction has been paying off well; sustained high finance cost is a function of higher bank guarantees now ingrained in the sector



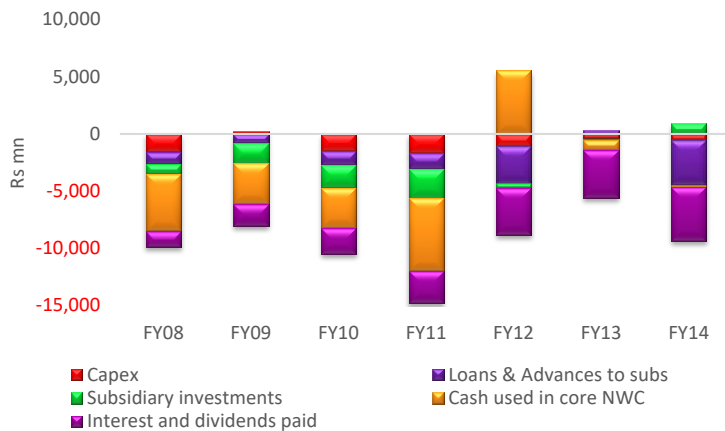
Source: Company, Systematix Institutional Research

Exhibit 31: NWC cycle now improving (except for temporary COVID-19 related disruptions) after the deterioration post FY08



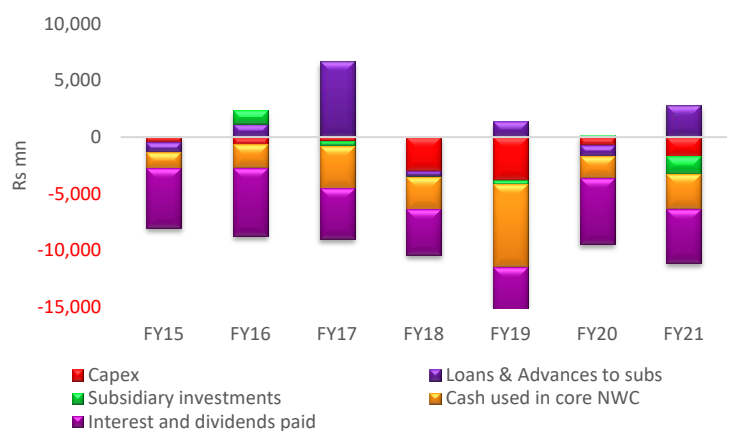
Source: Company, Systematix Institutional Research

Exhibit 32: Working capital and investments & loans to subsidiaries between FY08-14 used up significant cash



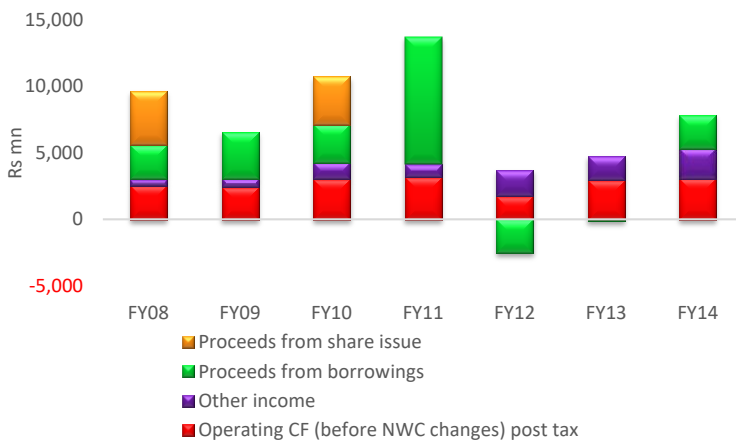
Source: Company, Systematix Institutional Research

Exhibit 33: Cash flow improved post FY14 through asset sales, return of loans from subsidiaries and a reduction in NWC



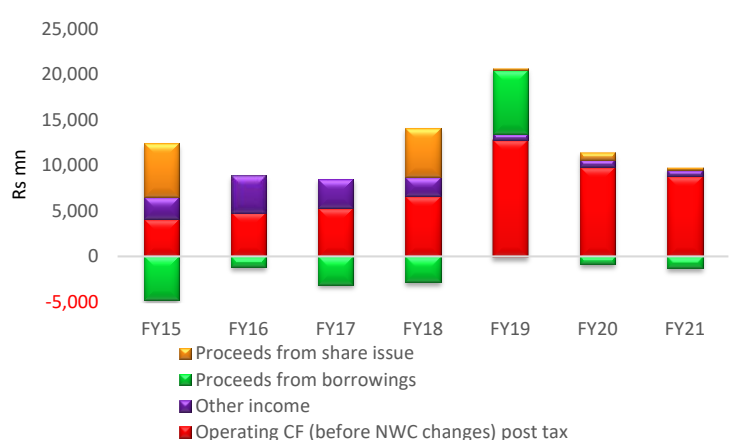
Source: Company, Systematix Institutional Research

Exhibit 34: Between FY08-14, equity and debt issuance were the key sources of funding



Source: Company, Systematix Institutional Research

Exhibit 35: Post FY14, funding has been led by operating cash flow improvement leading to debt reduction



Source: Company, Systematix Institutional Research

Monetization of investments and loans/advances to subsidiaries largely done; remaining investments still almost 30% of market cap

As of Sep'21, NJCC has over Rs 15bn (over 30% of its market cap) locked into investments and loans/advances mostly into its subsidiaries.

Over the past decade, it has reduced its investments as well as recovered loans/advances partially, while also writing off some loss-making investments. While we do not foresee any major incremental investment into these subsidiaries, the recovery of the balance amount will lead to an upside to the current valuation as it accounts for almost 30% of the current market cap.

- 1) NCC Infra is an infrastructure development company that undertakes infrastructure projects through government concessions. It has three road projects in its portfolio currently and is awaiting pending claims from NHA (and other clients). The management is confident of recovering the amount and does not foresee any write-off.
- 2) NCC Urban is a full-fledged real-estate development entity with operations spanning residential, commercial, SEZ, townships etc. It has ongoing projects in Bengaluru, Hyderabad, Kochi, Chennai and Ranchi. It has also acquired land around Goa, Gurgaon, Kakinada, Lucknow, Raipur and Vizag for its future projects.
- 3) NCC Infra Mauritius is largely dependent on receivables fructifying from NCC Urban, Dubai, which in turn is developing NCC Harmony, a mixed-use real estate development consisting of 2 towers of 32 floors each. The project was launched in 2010 and is currently under construction. The receivables may be realized only upon completion of this project, which may take a while.
- 4) NCC Vizag Urban Infra had signed a JV with the Andhra Pradesh state government in 2007 for joint development of a land parcel spread over 97.3 acres in Madhurawada of Vizag, now one of the proposed executive capitals of the state. However, the state government cancelled the JV in 2013 and NCC filed a case in the High court. As per media reports, the land is valued at over Rs 10bn and NCC has now offered to convert this land to freehold to withdraw the case filed in HC. Monetization of the land bank can begin only after the approval. The management expects to monetize net Rs 4bn from this JV.

In our SoTP though, we only capture Rs 6.4bn (Rs 10.5/share) out of the total investments on a conservative basis.

Exhibit 36: Investments and loans/advances to subsidiaries account for over 30% of the market cap

Investments and loans to subsidiaries as of Mar-21 (Rs mn)	NJCC stake	Investments	Loans/Advances	Total investments	Net assets of sub as of Mar-21
NCC Urban Infra	80%	2,400	1,495	3,895	3,207
NCC Infra Holdings	62.84%	3,885		3,885	3,883
NCC Infra Mauritius	100%	1,759	452	2,211	545
NCC Vizag Urban Infra	95%	500	1,109	1,609	267
NCC Intl, Oman	100%	1,149		1,149	783
Total		9,693	3,056	12,748	8,685
Investment property – Land & Building		2,465	-	2,465	
Grand Total		12,158	3,056	15,213	

Source: Company, Systematix Institutional Research

Financial and cash-flow analysis

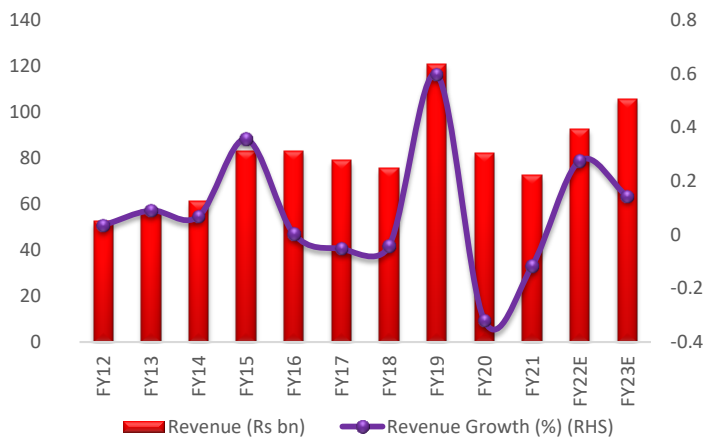
Revenue growth should follow the strong order book built over the past few years

NJCC's order backlog has grown at a CAGR of 21% over FY17-21 despite order cancellations in the interim and the pandemic impact. During the same time, however, its revenues have lagged, declining by 8% partly due to pandemic-related slowdown and execution-related challenges after order cancellations and change in the Andhra Pradesh government.

However, with a strong order backlog built up again with TTM book: bill exceeding 4.5x, we believe NJCC is well-placed for a strong execution revival over FY21-24E. We estimate the company to deliver a revenue CAGR of 17.4% over FY21-24E, translating into a similar EBITDA CAGR over the same period.

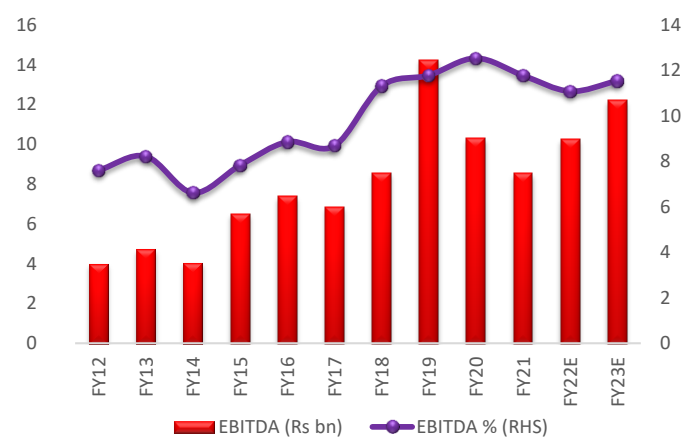
While we factor in the commodity price impact in FY22, we believe margins should normalize over a period as the company will be able to pass on the cost hike in line with its peers.

Exhibit 37: Revenue growth should ultimately follow its order backlog growth over FY22-25E



Source: Company, Systematix Institutional Research

Exhibit 38: ...Despite commodity impact, EBITDA growth should be healthy on account of strong revenue growth



Source: Company, Systematix Institutional Research

We estimate strong OCF/FCF generation on higher conversion from EBITDA compared to the past...

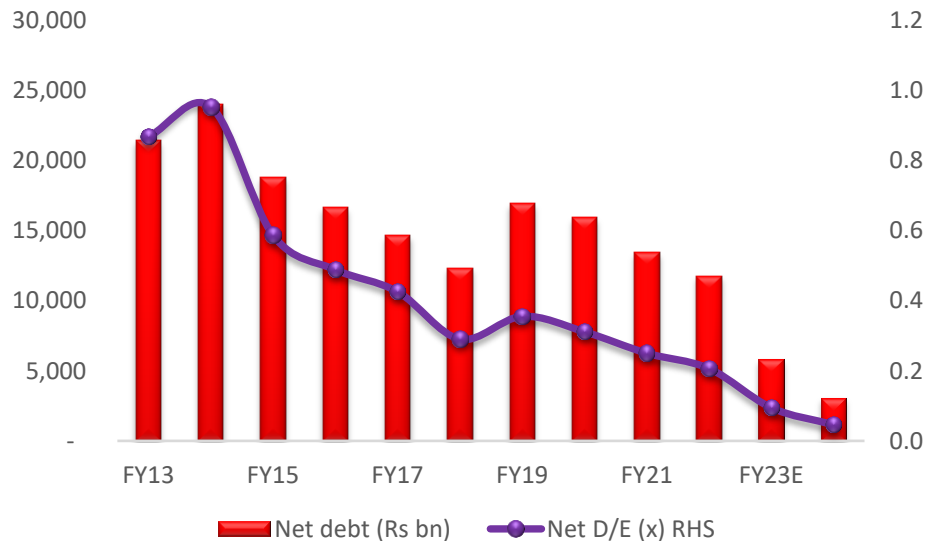
NJCC has had negligible OCF/FCF (net of interest expenses) for over a decade owing to the worsening working capital cycle and high finance cost. However, with its focus on execution and collections, an improvement in its NWC and a reduction in finance cost (through debt reduction) has led to a strong revival in FY20 and FY21, where it generated Rs 5.33bn of OCF (net of finance cost), which translates into ~30% OCF/EBITDA. While this is significantly lower than the average OCF/EBITDA levels of 80%+ by KNR and PNC, it is still a welcome change.

Even if NJCC reverts to its average NWC level of 145 days (maintained over FY15-19) by FY24E, this should translate into strong OCF/FCF generation. We estimate an average 55%+ OCF/EBITDA over FY22-24E for NJCC.

...and together with subsidiary monetization, this should lead to an almost debt-free status by FY24

On our estimates, NJCC is likely to turn almost debt-free at the standalone level by FY24 (0.05x Net D/E) compared to its FY21 Net D/E of 0.25x. This will be driven by strong OCF/FCF generation in the core EPC business and partially by the monetization of subsidiary investments. Given the company's strong execution capability across segments pan-India, a debt-free balance sheet will allow a strong re-rating of the stock.

Exhibit 39: We estimate negligible levels of net debt for NJCC by FY24E



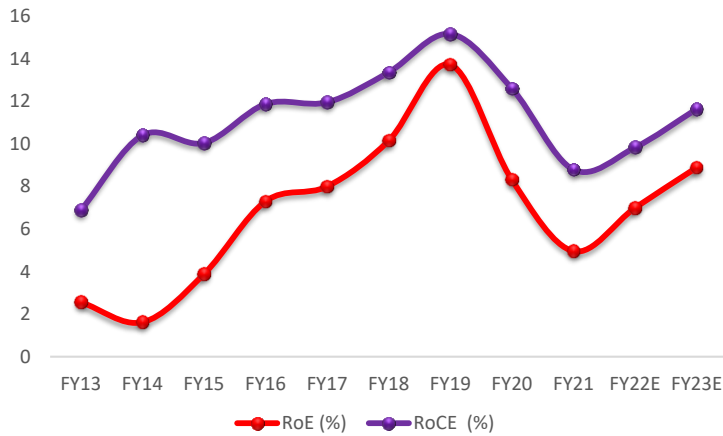
Source: Company, Systematix Institutional Research

10-13%+ RoE/RoCE with positive OCF/FCF has scope for improvement

For EPC players, looking at RoE/RoCE makes sense only if they are generating positive FCF. With NJCC now returning to a positive OCF/FCF level, its RoE/RoCE levels should gradually improve. High working capital, investments in non-profitable subsidiaries and slow execution have impacted its return ratios. By FY24E, we expect its RoCE to improve to 13% in-line with core RoE (net off impact from subsidiaries).

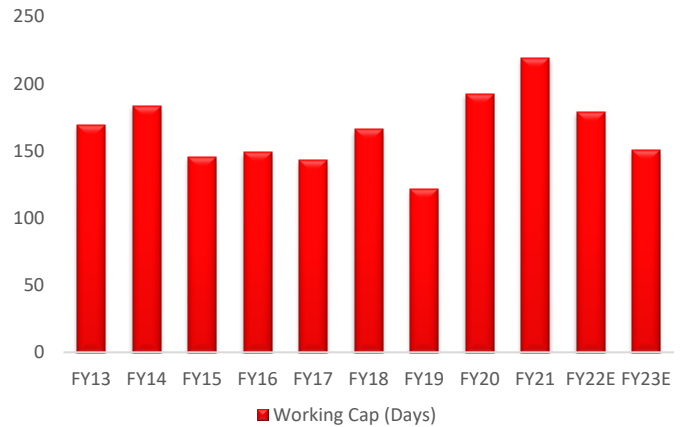
One of the key drivers of NJCC's RoE/RoCE improvement and positive OCF/FCF generation is likely to be control over its working capital cycle, which will pave the way for a sustained reduction in debt levels.

Exhibit 40: Improvement in execution, subsidiary investment monetization and NWC reduction likely led to better RoCE



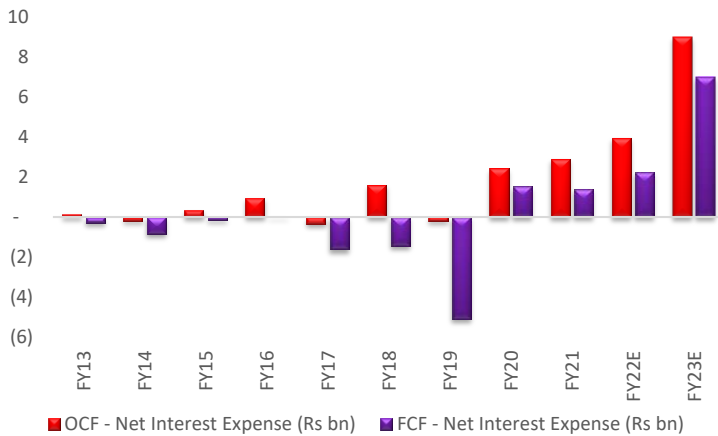
Source: Company, Systematix Institutional Research

Exhibit 41: WC cycle now under control except for the flare-up due to COVID-19



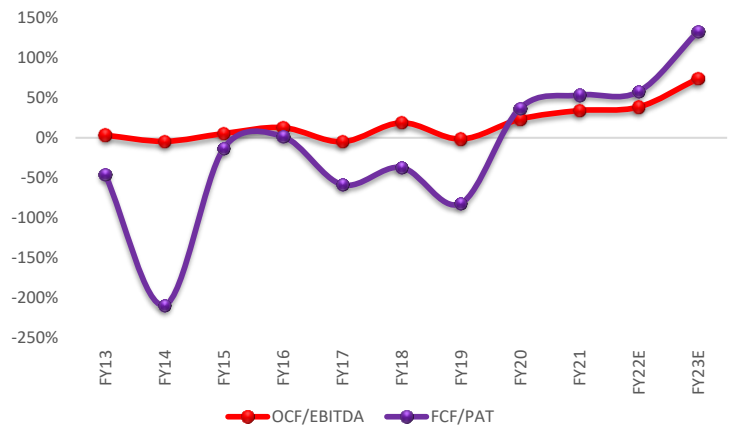
Source: Company, Systematix Institutional Research

Exhibit 42: OCF and FCF generation to get a boost (Rs bn)



Source: Company, Systematix Institutional Research

Exhibit 43: ...driven by higher conversion from EBITDA/PAT



Source: Company, Systematix Institutional Research

Exhibit 44: Key assumptions

Rs mn	FY19	FY20	FY21	FY22E	FY23E
Order inflow	223,770	71,720	189,430	148,500	155,925
Revenue	120,798	82,188	72,557	92,545	105,817
EBITDA margin	11.8%	12.5%	11.8%	11.1%	11.5%
Order book	411,970	265,720	379,110	434,576	484,159
OB to sales (x)	3.4	3.2	5.2	4.7	4.6

Source: Company, Systematix Institutional Research

Valuation & view

With sustainable growth pegged at 9% and an estimated core RoE of 14%, we value NJCC's core EPC business at 12x FY24E P/E to arrive at Rs 132/share fair value

NJCC has delivered a PAT CAGR of ~13% over FY08-19 (peak to peak). While it is well-placed for 33%+ CAGR over FY21-24E given its strong order backlog, order inflows in the past have tended to be lumpy. Hence, another cycle of lower order inflows in subsequent years may pull down growth and return ratios.

EPC players trade at a wide valuation range over the cycle due to their volatile order backlog growth and margin/OCF generation. The valuation range can be as wide as 5-20x depending on the company profile based on these parameters. Given its patchy track record on execution and working capital, leading to lower OCF/FCF, NJCC trades at the lower end of that valuation range despite its stronger book: bill numbers compared to KNR/PNC.

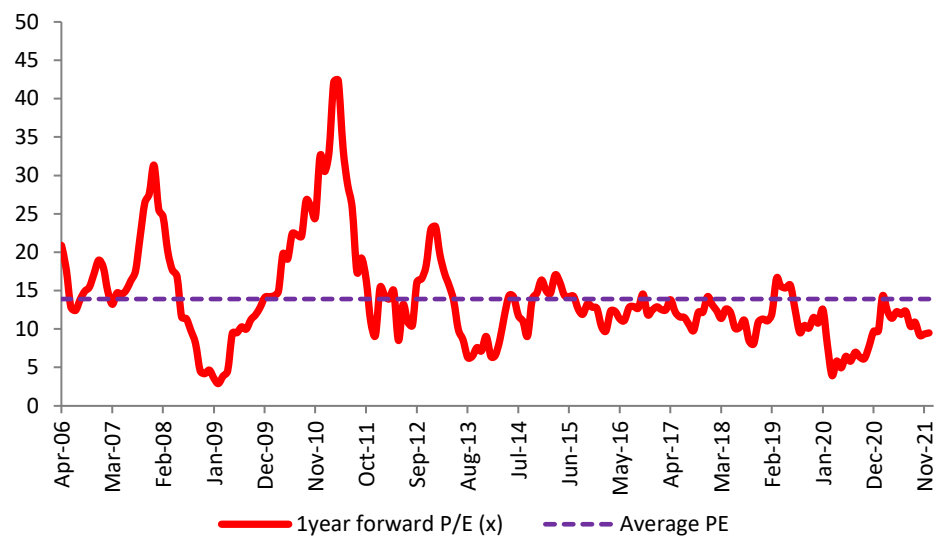
However, with the substantial improvement in its balance sheet and a further improvement likely by FY24E, we value NJCC at 12x FY24E P/E given that its long-term growth may settle around 9% with core RoE of 14% levels. It should be able to improve its OCF/FCF conversion like it has done since FY20. We value the investments and loans/advances to subsidiaries at 0.5x BV to arrive at a SoTP-based fair value of Rs 132/share.

Exhibit 45: SoTP valuation yields a Rs 132 fair value

Particulars	Segment	Driver	Multiple	Value (Rs mn)	Value per share (Rs)	Basis
EPC Business	Construction	6,161	12x	73,993	121	12x FY24E P/E
Subsidiaries	Concessions and real-estate	12,748	0.5x	6,374	10	0.5x P/BV
Total				80,308	132	

Source: Systematix Institutional Research

Exhibit 46: NJCC trading at a significant discount to long-term mean P/E



Source: Company, Systematix Institutional Research, Bloomberg

Key risks & risk mitigating measures

Rising competition in the EPC space

Over the years, the road EPC business has been highly competitive with several regional players vying for orders. However, NJCC has tuned selective in its bid strategy after bitter experience from excesses of the previous cycle. It has now opted to stay focused in its focus areas of B&H and W&E segments unless any large order comes up in the road/irrigation space where it has an opportunity to make a better margin.

Concentration risk in Andhra Pradesh/Telangana is no longer a concern

NJCC's order backlog is now diversified compared to earlier times. Uttar Pradesh accounts for ~25% of the backlog after the recent spate of order wins, while AP stands at 11%. The company also has an almost equal split of centre and state-funded projects at 47:53.

Balance sheet exposure could rise if it starts taking up HAM road projects

The company made concerted efforts to repair its balance sheet post FY14 by divesting non-core assets, containing further worsening of NWC and not participating in HAM road tenders as it involved equity exposure. With its net D/E falling to 0.25x in FY21 and further reducing to 0.1x by FY23E, we believe it may rethink its strategy of not bidding for HAM road projects. Even though this may entail equity exposure, we believe the company's balance sheet allows for leverage if it adds to the growth profile profitably.

Commodity price risk

Steel and cement prices have run up sharply over the past year, exposing all EPC players to cost escalation. However, government EPC contracts generally tend to have a price variation clause that would cover most such cost increases. This may pose a margin risk for NJCC and other road EPC players in the near term. However, in the longer term, new bids would ideally bake in such cost escalations, nullifying the higher cost.

FINANCIALS (STANDALONE)

Profit & Loss Statement

YE: Mar (Rs mn)	FY20	FY21	FY22E	FY23E	FY24E
Net sales	82,188	72,557	92,545	1,05,817	1,17,347
RM expenses	-64,949	-58,725	-75,886	-86,241	-95,638
Gross Profit	17,239	13,832	16,658	19,576	21,709
Employee expenses	-4,352	-3,494	-4,018	-4,620	-5,082
Other expenses	-2,586	-1,794	-2,386	-2,744	-3,155
EBITDA	10,302	8,545	10,255	12,212	13,472
Margin %	12.5%	11.8%	11.1%	11.5%	11.5%
Depreciation	-1,775	-1,741	-1,878	-2,030	-2,204
EBIT	8,526	6,804	8,377	10,183	11,268
Interest expenses	-5,179	-4,578	-4,406	-4,388	-4,278
Other Income	1,513	1,156	1,233	1,270	1,243
Pre-tax profit	4,860	3,382	5,204	7,064	8,233
Taxes	-713	-771	-1,310	-1,778	-2,072
Recurring PAT	4,147	2,611	3,894	5,286	6,161
Margin %	5.0%	3.6%	4.2%	5.0%	5.3%
Non-recurring Items	-327	0	0	0	0
Reported PAT	3,820	2,611	3,894	5,286	6,161
Recurring EPS (Rs)	6.8	4.3	6.4	8.7	10.1
Cash EPS (Rs)	9.7	7.1	9.5	12.0	13.7
DPS (Rs)	1.5	0.8	1.3	1.7	2.0

Source: Company, Systematix Institutional Research

Cash Flow

YE: Mar (Rs mn)	FY20	FY21	FY22E	FY23E	FY24E
Pre-tax profit	4,860	3,382	5,204	7,064	8,233
Depreciation	1,775	1,741	1,878	2,030	2,204
Chg in working capital	-3,471	-1,934	-1,827	1,693	-2,187
Other non-cash items	4,566	3,892	3,173	3,118	3,034
Total tax paid	-1,366	-188	-1,310	-1,778	-2,072
Operating Cash Flow	6,364	6,893	7,118	12,127	9,213
Capital expenditure	-1,441	-1,915	-1,700	-2,000	-2,250
Free Cash Flow	4,924	4,978	5,418	10,127	6,963
Investments	-2,082	623	242	0	0
Other investing Cash flow	1,874	928	1,233	1,270	1,243
Investing Cash Flow	-1,649	-364	-226	-730	-1,007
Equity raised	824	266	0	0	0
Debt raised/(repaid)	-832	-1,212	0	-6,572	-3,000
Dividend (incl. tax)	-1,086	-122	-779	-1,057	-1,232
Other Financing Cash Flow	-4,728	-4,619	-4,406	-4,388	-4,278
Financing Cash Flow	-5,823	-5,688	-5,185	-12,017	-8,510
Net chg in cash	-1,107	842	1,708	-620	-304
Opening cash balance	2,990	3,169	4,385	6,093	5,473
Closing cash balance	3,169	4,385	6,093	5,473	5,169
Mkt Cap	45,739	45,739	45,739	45,739	45,739
Net Debt	15,932	13,466	11,758	5,806	3,111
EV	61,671	59,204	57,497	51,545	48,849

Source: Company, Systematix Institutional Research

Balance Sheet

YE: Mar (Rs mn)	FY20	FY21	FY22E	FY23E	FY24E
Cash & bank balance	3,169	4,385	6,093	5,473	5,169
Debtors	26,180	26,602	30,426	34,789	36,972
Inventory	5,148	5,268	6,764	7,694	8,538
Loans & advances	8,331	6,144	6,397	5,932	6,009
Other current assets	61,190	61,084	66,311	70,480	77,694
Total current assets	1,04,018	1,03,483	1,15,989	1,24,367	1,34,382
Investments	11,000	12,522	12,281	12,281	12,281
Net fixed assets	10,631	10,608	10,430	10,401	10,447
Total assets	1,25,649	1,26,614	1,38,700	1,47,048	1,57,109
Current liabilities	56,067	54,459	63,439	74,012	82,077
Provisions	1,479	1,021	1,013	1,130	1,198
Total current liabilities	57,547	55,480	64,452	75,142	83,274
Borrowings	19,101	17,851	17,851	11,279	8,279
Net Deferred Tax liability (2,055)	(411)	(411)	(411)	(411)	(411)
Total liabilities	74,593	72,920	81,891	86,010	91,142
Paid-up capital	1,220	1,220	1,220	1,220	1,220
Reserves & surplus	49,837	52,475	55,590	59,819	64,748
Net Worth	51,056	53,694	56,809	61,039	65,967
Total equity & liabilities	1,25,649	1,26,614	1,38,700	1,47,048	1,57,109
Book Value/share (Rs)	83.7	88.0	93.2	100.1	108.2

Source: Company, Systematix Institutional Research

Ratios

YE: Mar	FY20	FY21	FY22E	FY23E	FY24E
P/E (x)	11.0	17.5	11.7	8.7	7.4
P/BV (x)	0.9	0.9	0.8	0.7	0.7
EV/EBITDA (x)	4.4	5.4	4.5	3.7	3.4
EV/Sales (x)	0.6	0.6	0.5	0.4	0.4
Dividend Yield (%)	2.0%	1.1%	1.7%	2.3%	2.7%
RoE (%)	8.3%	5.0%	7.0%	8.9%	9.6%
RoCE (%)	12.6%	8.8%	9.8%	11.6%	12.7%
Fixed Asset turnover (x)	7.7	6.8	8.9	10.2	11.2
Receivable days	116	134	120	120	115
Inventory days	29	33	33	33	33
Payable days	224	231	217	217	217
Working Capital Cycle (days)	192	219	179	151	143
Revenue Growth (%)	-32%	-12%	28%	14%	11%
EBITDA Growth (%)	-28%	-17%	20%	19%	10%
EPS Growth %	-34%	-37%	49%	36%	17%
Net Debt/Equity (x)	0.3	0.3	0.2	0.1	0.0
Net Debt/EBITDA (x)	1.5	1.6	1.1	0.5	0.2

Source: Company, Systematix Institutional Research



TM

KNR Constructions

20 December 2021

Slow and steady wins the race

INITIATING COVERAGE

Sector: Infrastructure Rating: BUY
CMP: Rs 295 Target Price: Rs 356

Stock Info

Sensex/Nifty	58,117/ 17,325
Bloomberg	KNRC IN
Equity shares (mn)	281
52-wk High/Low	Rs 344/ Rs 148
Face value	Rs 2
M-Cap	Rs 83bn/ USD 1.1bn
3-m Avg traded value	USD 1.6mn

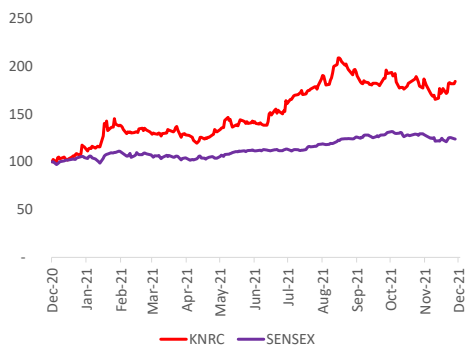
Financial Snapshot (Rs bn)

Y/E Mar	FY22E	FY23E	FY24E
Revenue	32.5	40.9	46.3
EBITDA	6.5	8.1	9.5
PAT	3.8	4.7	5.6
EPS (Rs)	13.6	16.7	19.7
RoE %	18.7%	19.1%	18.9%
RoCE %	28.3%	28.2%	28.2%
P/E (x)	21.6	17.6	14.9
P/BV (x)	3.7	3.1	2.6

Shareholding pattern (%)

	Sep'21	Jun'21	Mar'21
Promoter	51.5	53.3	55.0
-Pledged	-	-	-
FII	4.3	2.3	2.1
DII	33.9	34.4	32.4
Others	10.4	10.1	10.6

Stock Performance (1-year)



KNR Constructions (KNRC) is amongst the few construction companies to choose a careful order accretion strategy, resulting in a relatively slow but steady revenue/EBITDA growth. It is perhaps the only listed company to generate consistent OCF/FCF over the past 10 years, with a cumulative OCF (ex-interest expenses) of ~Rs 18bn and revenues increasing by over 3.5x from Rs 7bn to Rs 27bn over FY12-21. It had a strong order book (and L1 position) of Rs 116bn as of Sep-21 (3.7x TTM book: bill), providing strong revenue growth visibility and allowing the company to remain conservative in a slowing ordering environment. We estimate KNRC to deliver a PAT CAGR of ~27% over FY20-23E. The stock trades at 17.9x FY23E. We initiate coverage on KNRC with a BUY rating and a target price of Rs 356 (upside of 21%).

Primed for sustainable growth

KNRC is relatively better placed than its peers to benefit from the infrastructure capex in Southern India. While we are concerned about the slowdown in infrastructure ordering at a macro level, the company is a growth outlier with a strong order book and L1 position of Rs 116bn (3.7x TTM book: bill) that provides revenue visibility. It also has a track record of being conservative in order booking – it has a mix of NHAI, state government and municipal projects. Out of its current confirmed order book of ~Rs 65bn, eight projects make up over 80% of the total value, suggesting that it does not need to depend on aggressive bids to sustain growth.

Strong earnings growth potential

We are building in a PAT CAGR of ~27% over FY20-23E. KNRC has invested significantly in capex and workforce over the past 3-4 years, anticipating this growth. With a stable working capital cycle, its OCF/FCF growth should also sustain at similar levels. The cash generated from the sale of assets from its HAM (hybrid annuity model)/BOT (build-operate-transfer) portfolio and its strong OCF/FCF should be more than sufficient for investing in the next set of HAM projects and maintaining its growth trajectory.

Outlook and valuations

We value the stock at 18x FY23E EPS and add 1x BV for the company's investment in the BOT/HAM road projects. While we prefer a valuation range of 12-18x P/E for the sector, KNRC scores better than its peers on sustainability, cash generation and leverage and hence, deserves the higher end of the valuation range.

Key risks

1) Margin dilution due to rising competition in roads EPC (engineering-procurement-construction)/HAM contracts; 2) Higher concentration in Southern India; 3) Potential impact on margins due to the sharp increase in commodity prices recently.

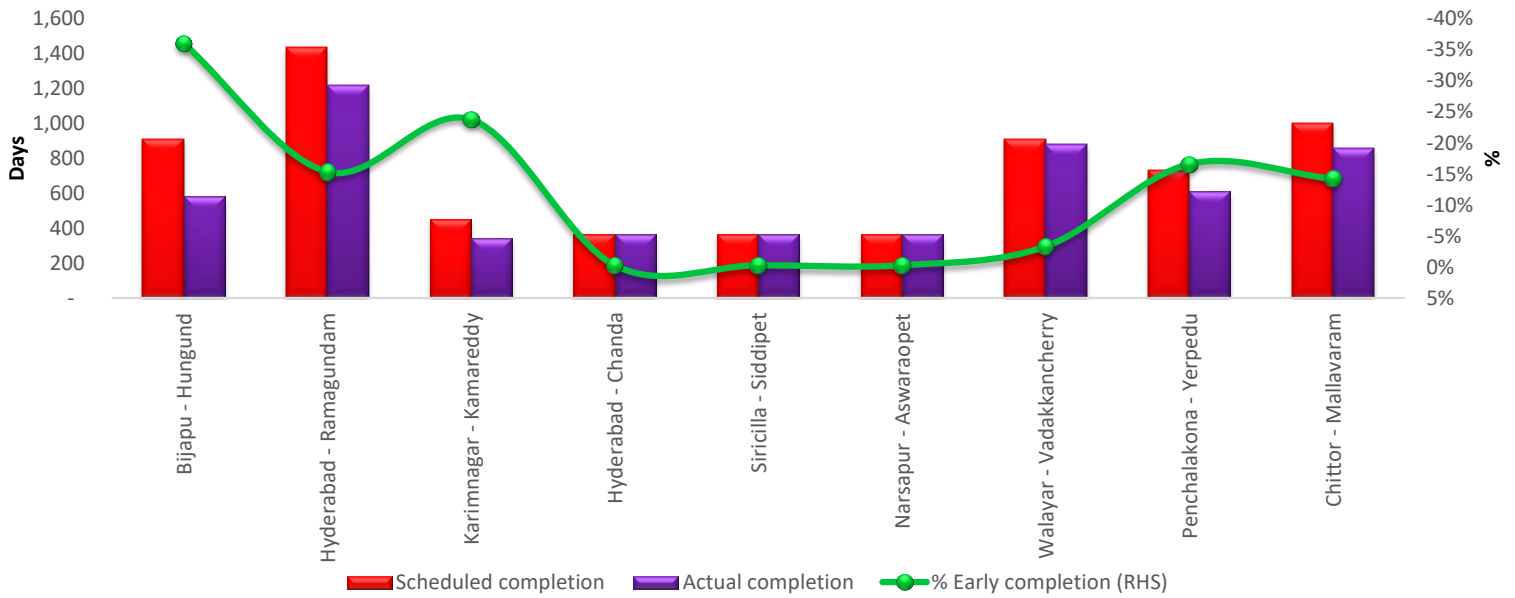
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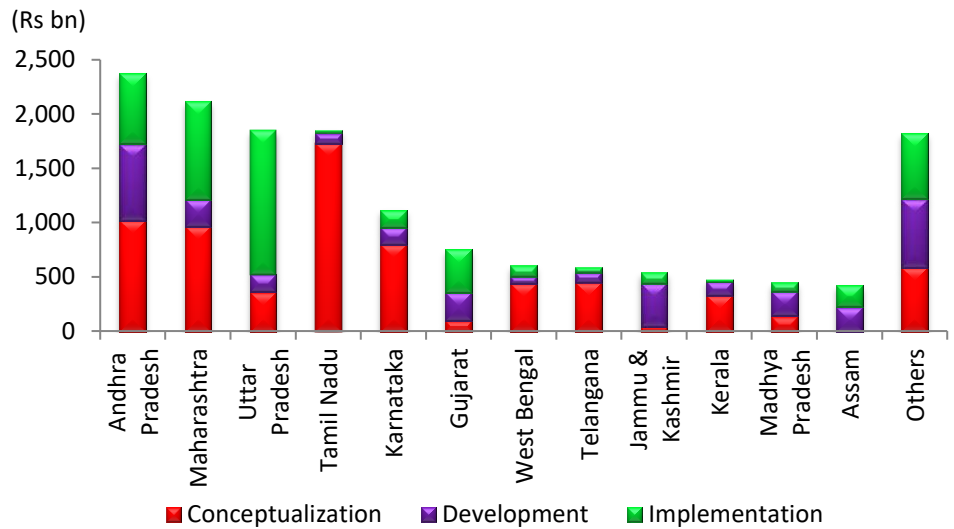
Story in charts

Exhibit 1: Strong track record of early completion of projects has supported industry-leading margins



Source: Company data, Systematix Institutional Research

Exhibit 2: Andhra Pradesh holds a high share of road projects planned under the National Infrastructure Pipeline, benefiting players like KNRC the most (Rs bn)

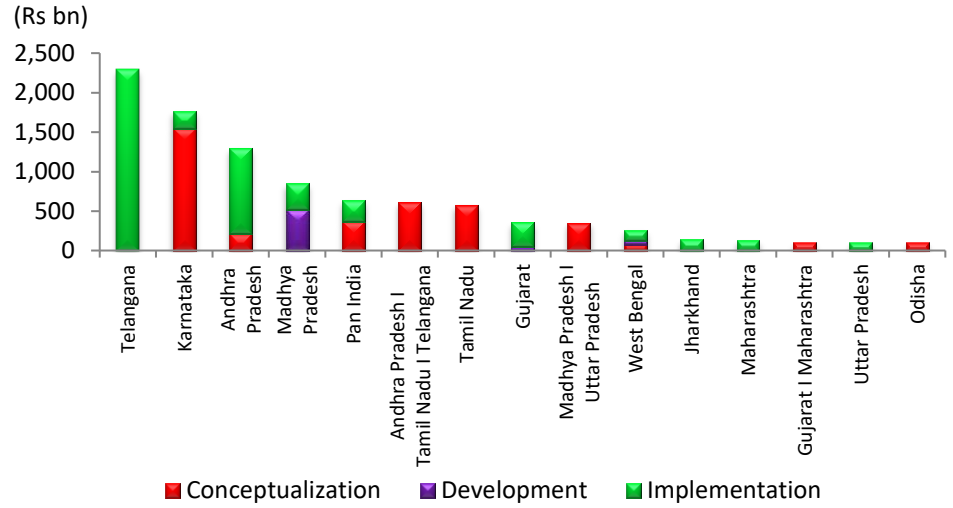


Source: Systematix Institutional Research, India Investment Grid

KNRC to benefit as most DPR (detailed project report)-ready road projects are in its core focus geographies.

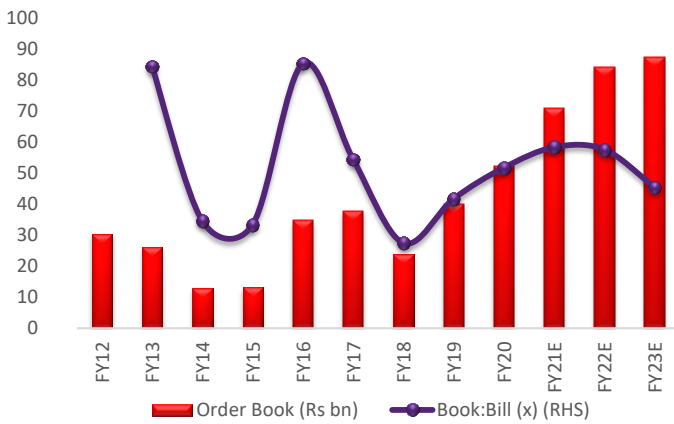
Exhibit 3: Telangana, AP, Karnataka and MP hold most of the upcoming irrigation projects, further benefitting players like KNRC (Rs bn)

KNRC, NCC, Megha and Dilip Buildcon to benefit as most of the large irrigation projects are in their core focus geographies.



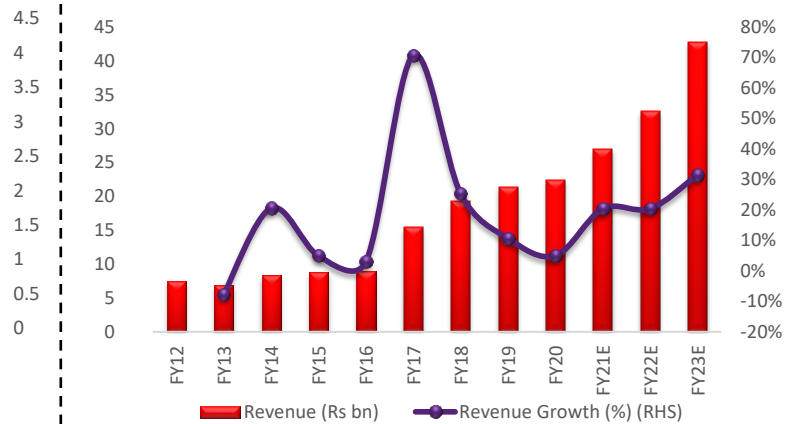
Source: Systematix Institutional Research, India Investment Grid

Exhibit 4: Lumpy order wins since FY12...



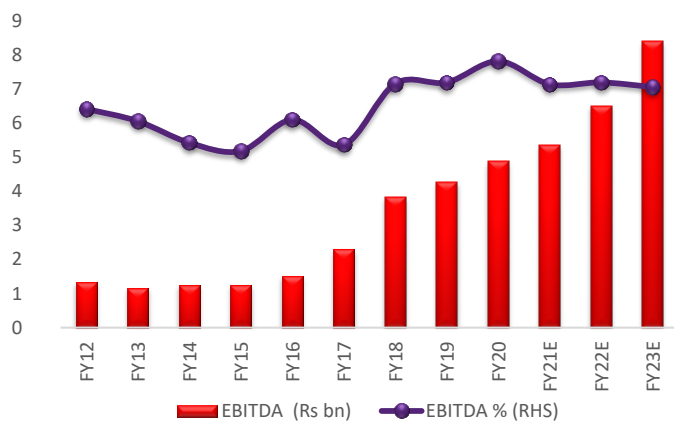
Source: Company, Systematix Institutional Research

Exhibit 5: ...yet steady and secure revenue growth



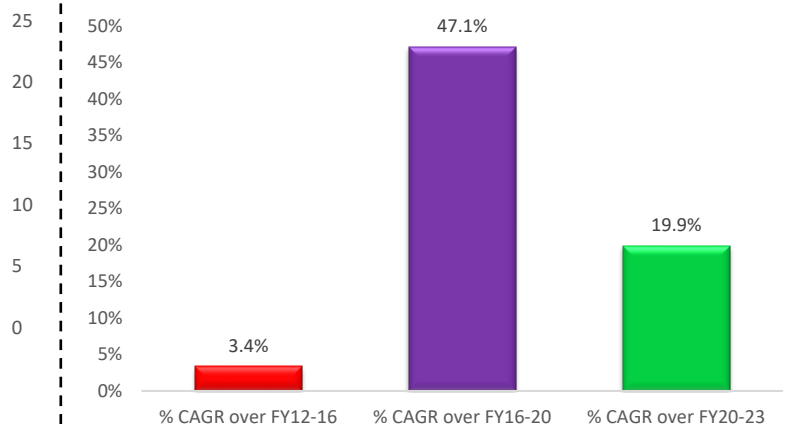
Source: Company, Systematix Institutional Research

Exhibit 6: Revenue growth led to EBITDA improvement



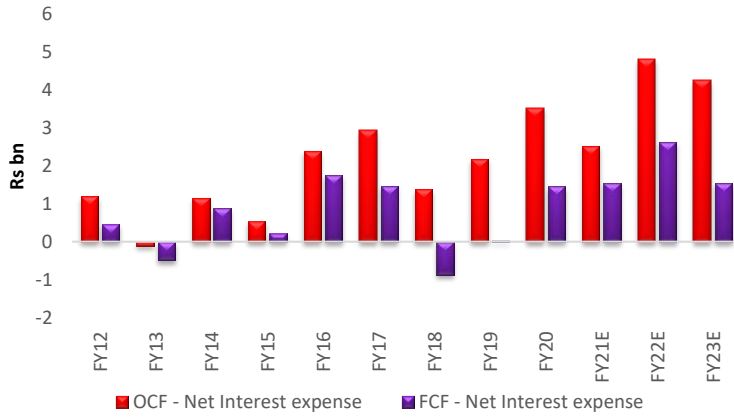
Source: Company, Systematix Institutional Research

Exhibit 7: EBITDA CAGR has been lumpy



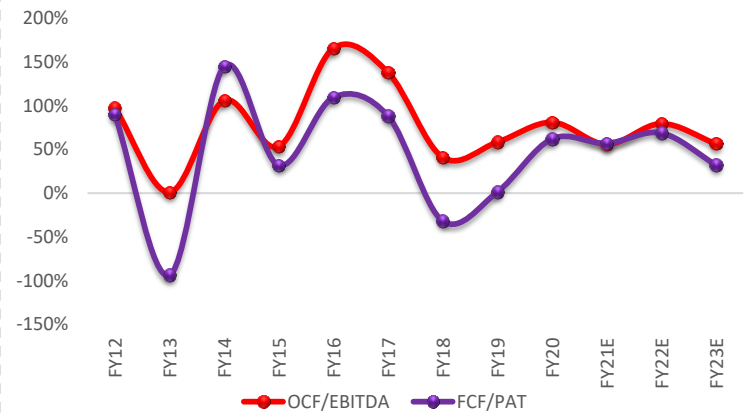
Source: Company, Systematix Institutional Research

Exhibit 8: Consistent OCF and FCF generation (Rs bn)...



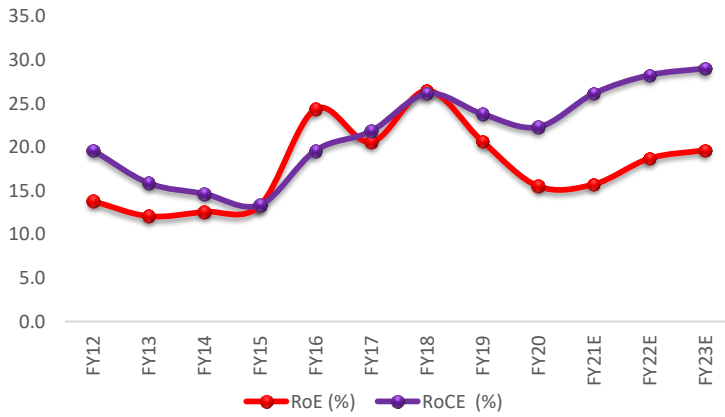
Source: Company, Systematix Institutional Research

Exhibit 9: ...driven by high conversion ratio from EBITDA/PAT



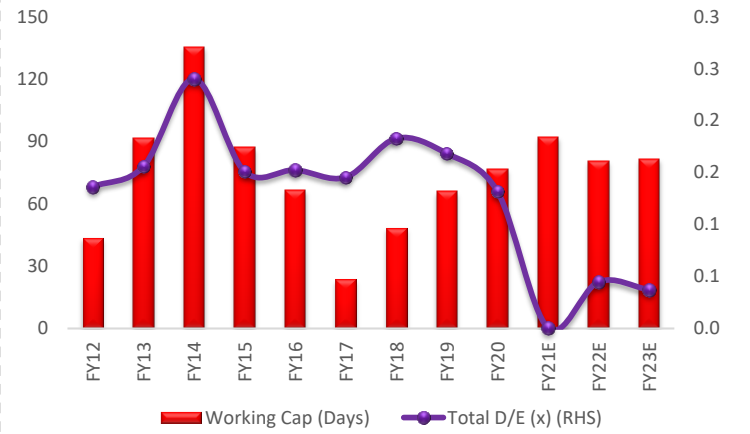
Source: Company, Systematix Institutional Research

Exhibit 10: Improvement in margins has led to better RoCE



Source: Company, Systematix Institutional Research

Exhibit 11: WC cycle and D/E under control and amongst the best



Source: Company, Systematix Institutional Research

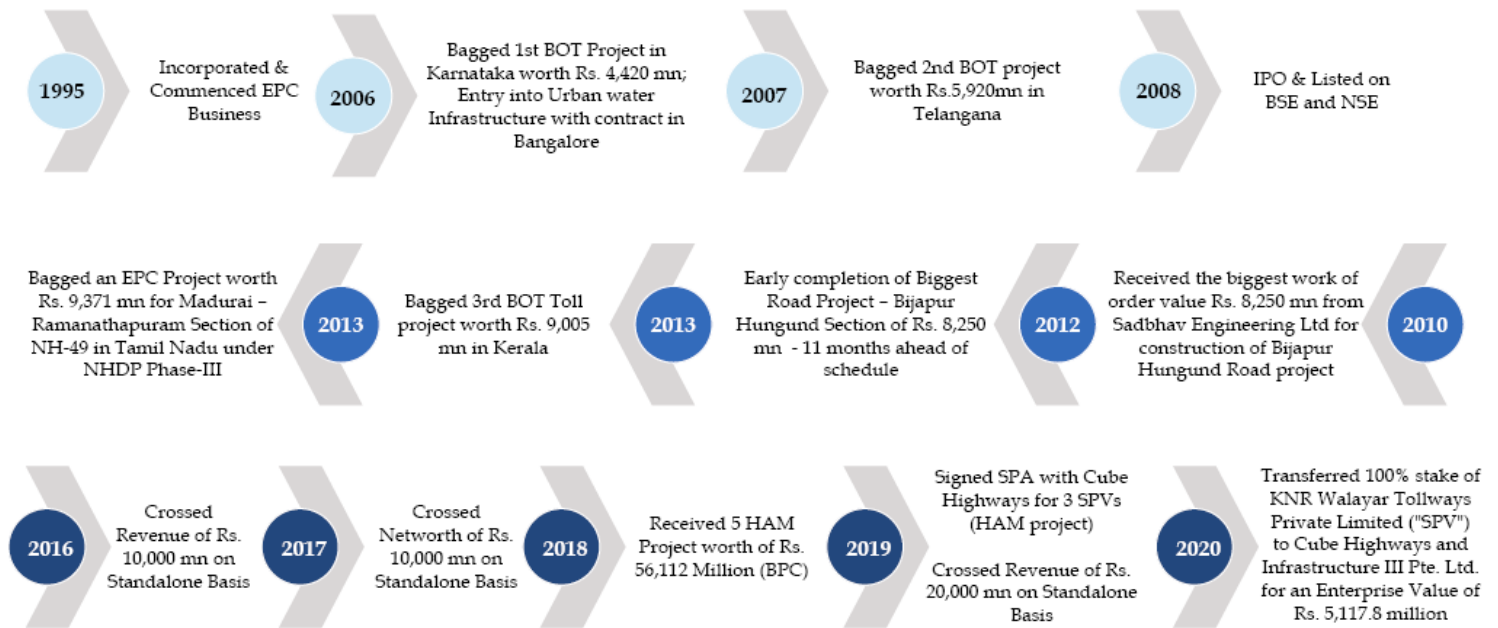
Company background

KNRC Constructions (KNRC) is a leading construction company with a strong focus on the southern states of India and a track record of early execution, focus on cash flows and a conservative but prudent bidding strategy.

The company was incorporated in 1995 by professionals experienced in infrastructure development - the promoter, Mr. K Narasimha Reddy had founded the business much earlier to carry out activities as a sub-contractor. It was listed in FY08 and has maintained a prudent and disciplined bidding strategy in an era characterised by aggressive bidding and over-leveraging by peers.

KNRC has a strong presence in machinery and manpower in the southern states of Karnataka, Andhra Pradesh and Telangana.

Exhibit 12: Transformation over the past 25 years



Source: Company, Systematix Institutional Research

Exhibit 13: 75-80% of KNRC's execution in the past has been in Southern India

State	No. of Projects	Project Value (Rs mn)
Tamil Nadu	12	36,530
Karnataka	13	17,149
Kerala	2	17,068
AP & Telangana	27	13,099
Madhya Pradesh	5	5,189
Uttar Pradesh	10	4,549
Assam	2	4,038
Gujarat	1	2,550
Arunachal Pradesh	1	2,358
Odisha	1	1,866
Haryana	1	118
Total	75	104,514

Source: Company, Systematix Institutional Research

Key management team

KNRC's top management is actively involved in site activities to settle local issues and matters concerning land availability. While land availability is NHAI's responsibility, the company has empowered its site management at various projects to get involved in the process. The management liaises with project authorities and local state officials to accelerate the acquisition process and ensure timely disbursement of compensation to those affected by the project. Consequently, KNRC has obtained physical possession of 'encumbrance-free' stretches, while its larger peers lag on this parameter.

The company has shifted its focus on central and state government orders after facing challenges in collecting payments from the private sector.

The management follows a rigorous project selection practice that covers aspects like the geographic location, the degree of difficulty in executing the project in a particular area, current and projected workload, the likelihood of additional work and the project's cost and profitability estimates. Projects are evaluated through site visits that help assess the economic availability of key construction material, manpower availability and potential sites for quarries for aggregates. The management prefers projects involving high engineering skills, implying less competition and better margins.

Exhibit 14: Board of Directors

Name	Designation	Profile
Mr. B. V. Rama Rao	Non-Executive & Independent Chairman	Joined the Indian Administrative Service in 1973 and has over 34 years of experience in development, administration and industrial management. During his stint with the Indian Administrative Service, he held positions including Chief Secretary to the Andhra Pradesh government and Chairman and Managing Director, Nizam Sugars Limited until his retirement in 1997. He holds a Master's Degree in Economics from Osmania University and MA in Public Administration from Kennedy School of Government Harvard-USA. He was also conferred the title of Overseas Fellow Member of the Economic Development Institute by the World Bank.
Mr. K. Narasimha Reddy	Founder & Managing Director	Has over 50 years of experience in the highways sector. He started as a sub-contractor in 1968 before engaging in a partnership to undertake civil and mechanical contracts in 1979. He has extensive knowledge and experience in multi projects planning, scheduling, cost control and is the driving force behind KNRC.
Mr. K. Jalandhar Reddy	Executive Director/ CFO	Has over 25 years of experience in the highways and infrastructure sector. He started as a Project manager and was elevated to the Executive Director of KNRC in 1997. He heads the tendering and bidding activities and is also in-charge of project execution.
Smt. K. Yashoda	Non-Executive Director	Wife of the company's founder promoter Mr. Narasimha Reddy.
Mr. L. B. Reddy	Independent Director	A Fellow Member of The Institute of Chartered Accountants of India and a senior partner in M/s. L. B. Reddy & Co., a Chartered Accountants firm. He started his career with Syndicate Bank and has worked in various capacities before retiring as General Manager. He has over 30 years of experience in planning, audit, monitoring accounting systems, and development. He was also on deputation from Syndicate Bank with Rayalaseema Grameena Bank as Chairman for six years.
Smt G Chandra Rekha	Independent & Non-Executive Director	A graduate in commerce from Nagarjuna University and Medical terminology, Hospital Billing and Coding from Greenville Technical College, USA. She is a medical office professional with over seven years of experience in a variety of administrative and clinical positions. She has worked as a billing and coding specialist and medical administrator in North Hills.

Source: Company, Systematix Institutional Research

Annual report analysis

Exhibit 15: Annual Report Analysis

Year	Demand scenario & outlook	Key events	Key performance indicators	
FY17	KNRC has infused Rs 2.6bn into Walayar - Vadakkancherry project in Kerala which has been used by the Project Company to pay-off debt - thereby reducing the interest burden on the project; total toll collection will take care of principal, interest and O&M payments.	KNRC along with Patel Engineering signed a share purchase agreement to sell entire equity stake in two road BOT (annuity) assets. Both are operational annuity-based BOT assets awarded by NHAI.	Revenue growth	71%
			EBITDA growth	50%
			PAT growth	4%
			Debt/Equity	0.12
			ROE	21%
			FCF (Rs mn)	1,700
			Order backlog (Rs mn)	37,689
			Order inflow (Rs mn)	18,400
FY18	KNRC bagged five HAM projects with a bid project cost of Rs 56bn in FY18.	The road ministry has recorded highest-ever awarding of 17,055km in FY18, up by 7% over FY17.	Revenue growth	25%
	For the two BOT (annuity) assets where KNRC holds 40% stake, monetization is deferred till the arbitration proceedings on claims reach a logical end.		EBITDA growth	67%
			PAT growth	62%
			Debt/Equity	0.15
	KNRC won a large irrigation order for Kaleshwaram Project (formation of Konda Pochamma Sagar for a capacity of 15.00 TMC near Pamulaparathi, Siddipet District) worth Rs 5.6bn.		ROE	27%
			FCF (Rs mn)	(680)
			Order backlog (Rs mn)	63,016
			Order inflow (Rs mn)	4,853
FY19	By 2023-24, NHAI is expected to award 32,300 km, out of which, 60% of the order book is expected to be EPC and remaining 40% to be HAM.	The notable feature of the KNRC HAM projects is the agreed participation to the extent of 49% by Cube Highways, which is investing for the first time in under-construction projects and looking to buy back all 4 HAM projects in a phased manner i.e on COD. This will facilitate KNRC's exit with an expected return of more than 1.50x on investment.	Revenue growth	11%
	The company is now focusing on foraying into other areas such as water management through irrigation canals, reservoirs, dams, pipelines, building, flyovers, metro-rails and railways to diversify the order book and widen opportunities.		EBITDA growth	11%
			PAT growth	-2%
			Debt/Equity	0.16
			ROE	21%
			FCF (Rs mn)	330
			Order backlog (Rs mn)	65,000
			Order inflow (Rs mn)	37,312

Year	Demand scenario & outlook	Key events	Key performance indicators	
FY20	The COVID-19 pandemic and subsequent nationwide lockdown disrupted the growth of infrastructure companies in FY20. Though NHAI was expected to step up ordering in 4Q, the momentum waned in March-20, partially because of the pandemic. Ordering activity is likely to remain muted at least in 1HFY21 – expect some pick up from 2QFY21, if not later.	KNRC continued to enjoy strong credit rating of AA- on account of lower dependence on external borrowing, adequate working capital cycle and financial risk management.	Revenue growth	5%
			EBITDA growth	14%
			PAT growth	-11%
			Debt/Equity	0.11
			ROE	16%
			FCF (Rs mn)	1,863
	To address the pandemic, the government has rolled out a stimulus package under the 'Atmanirbhar Bharat Abhiyan'. For roads & highways companies, an extension of up to 6 months (without contractor costs) will be provided by all central agencies. It will cover obligations like completion of work, intermediate milestones and extension of concession period in PPP contracts. It will also classify the lockdown event as a Force Majeure for the projects impacted due to lockdowns. Besides, the government agencies were also asked to release partial bank guarantees, to the extent of project completion, to ease cash flow problems. MoRTH has also decided to release Rs 75-8bn of retention money to provide liquidity support to the EPC contractors.	The construction work is progressing as per schedule in all four HAM projects; the appointed day is awaited for one NHAI HAM project. KNRC completed two BOT Toll (NHAI) projects and two annuity (NHAI) projects. The foray into irrigation paid rich dividends as the company bagged two more projects in JV to the tune of Rs 23.3bn.	Order backlog (Rs mn)	78,489
			Order inflow (Rs mn)	34,583
FY21	The government has laid a roadmap to complete a total of 200,000 km of national highways by 2022. In the next five years, NHAI can generate USD 14.3bn p.a. from toll and other sources. In the Union Budget 2021, the government has given a massive push to the infrastructure sector by allocating USD 32.02bn to enhance the transport infrastructure.	During the year, KNRC sold 100% of its stake in KNR Walayar Tollways at close to book value and received the entire consideration, thereby repaying promoters' entire un-secured loan and making KNRC debt-free.	Revenue growth	20%
			EBITDA growth	10%
			PAT growth	8%
			Debt/Equity	Nil
			ROE	16%
			FCF (Rs mn)	2,001
	KNRC is executing five HAM projects. Out of these, three HAM projects are expected to achieve COD/PCOD during June to September 2021.	Three HAM projects are set to be monetized before the end of FY22.	Order backlog (Rs mn)	71,179
			Order inflow (Rs mn)	45,088

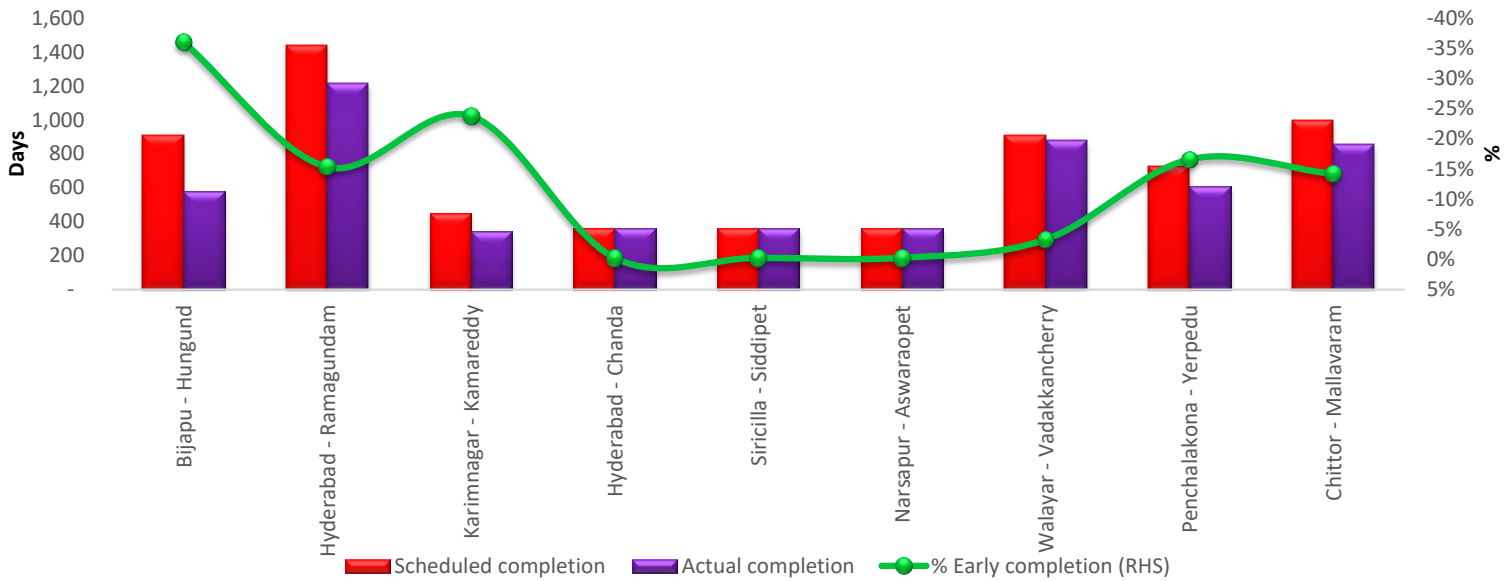
Source: Company, Systematix Institutional Research

Investment Analysis

Strong track record of timely/early project completion has aided bonus/timely payments

KNRC has a strong track record of early project completion. It has completed some of its projects one year ahead of schedule. Early completions add to its asset turnover and result in earnings upsides (early-completion bonus). This is reflected in its sustained industry-leading EBITDA margin of 17-20% vs. peer average of 12-15%.

Exhibit 16: Strong track record of early completion of projects has aided industry-leading margins

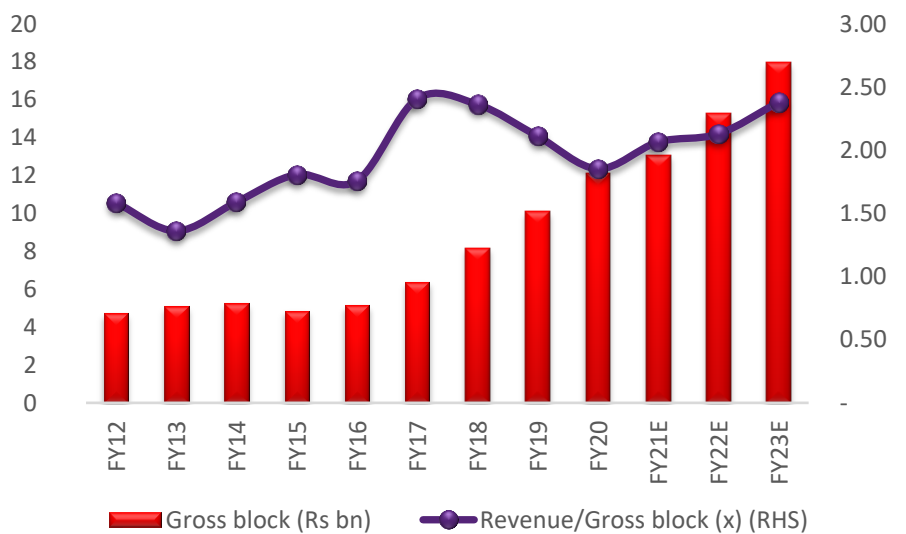


Source: Company data, Systematix Institutional Research

Maintains a strong in-house repository of construction equipment

Equipment ownership assumes significance in EPC contracts due to 1) increased control over execution, 2) equipment leasing being costly and unreliable and 3) the lead time for concrete pavers to arrive at the site – imports into India from the time of placing orders take over six months, which can lead to delayed mobilization.

Exhibit 17: Investment in equipment driving revenue growth



Source: Company, Systematix Institutional Research

Exhibit 18: Bank of in-house equipment

Sr. No.	Machinery	Quantity	Sr. No.	Machinery	Quantity
1	Tipplers & Tankers	1,172	15	Weigh Bridges	41
2	Excavators	337	16	Crushers	30
3	Generators	235	17	Dozers	28
4	Concrete Mixers And Pumps	158	18	Light Soures	26
5	Compactors	131	19	Trailers	26
6	Loaders	91	20	Transformers	24
7	Drillers & Breakers	90	21	Wet Mix Plants	12
8	Graders	64	22	Hot Mix Plants	12
9	Cranes	59	23	Kerb Laying Machine	9
10	Compressors	52	24	Sweeping Machines	7
11	Batching Plants	45	25	Sprayers	8
12	Pavers	43	26	Drum Mix Plants	7
13	Rollers	43	27	Diesel Bunks	5
14	Tractors	43	28	Sub Stations	3



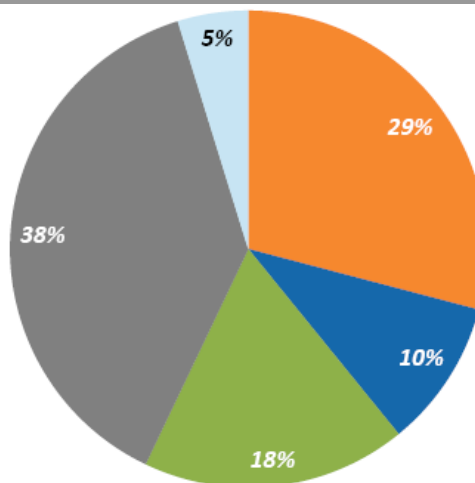
Gross Block of Plant & Machinery*
₹ 11,866 Million



Source: Systematix Institutional Research, India Investment Grid

Exhibit 19: Strong in-house execution team

Total Employees*
2,176



- Project Engineering
- Site Supervision
- Site Engineers
- Equipment Operators
- Admin & Office Staff

Source: Systematix Institutional Research, India Investment Grid

KNRC prefers complete in-house execution and does not contract-out large projects (> Rs 2.5bn value) to any party. This helps it maintain firm control over project outcomes and ensures a superior margin/WC cycle.

However, according to the management, for orders below Rs 2.5bn, at times, it does not make much economic sense to deploy machinery and additional manpower when they can be gainfully used elsewhere. KNRC may choose to sub-contract such projects if a third-party contractor is already mobilized in the region, with its manpower and equipment. This leads to capex savings and eliminates additional headcount requirements. The management believes that maintaining an appropriate outsourcing and in-house execution balance is one of the key reasons for its strong cash flows.

It also has a network of quarries across the southern states, where it can carry out stone crushing, thus enabling a secure supply of aggregates. It also has several sand mining approvals, enabling it to burrow sand for projects. With quarries and sand mining approvals in place, KNRC can claim raw materials security, thus reducing lead time to execution.

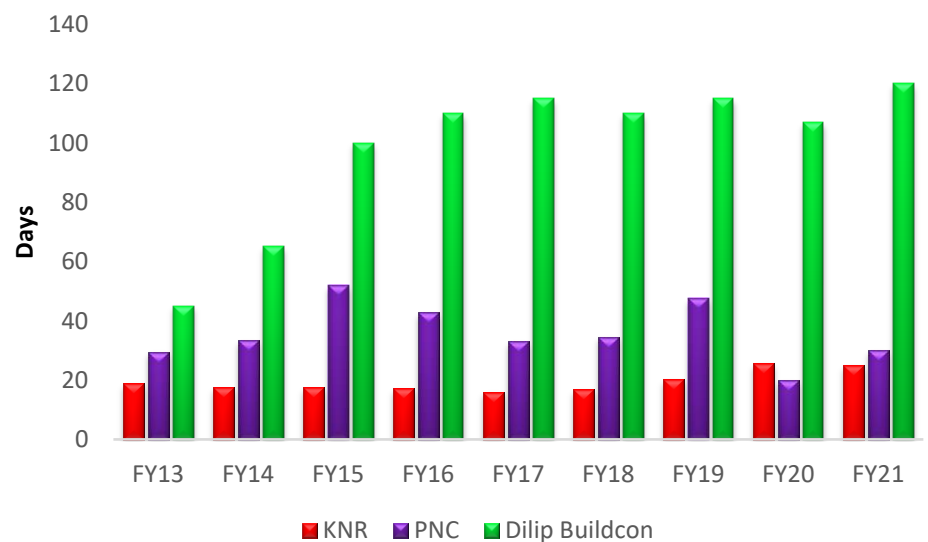
Capability to mobilize quickly in the southern region

The company is extensively deployed in the southern states and has a large cluster of projects in the region. This helps redeploy manpower and machinery from one project to another within the southern cluster. The ability to mobilize rapidly is critical as it saves mobilization costs and leads to rapid execution progress, which gets reflected in revenue growth and early completion of its projects.

KNRC follows a policy of early mobilization of resources to start project preparatory works much ahead of the 'Appointed Date'. Its site management team first secures the location for a site office/camp and locates the resources that can be mined. This ensures that key equipment like crushers is in place before the Appointed Date.

However, KNRC does not start stone crushing in massive quantities immediately. Thus, its inventory levels are relatively lower than its peers.

Exhibit 20: KNRC has the lowest inventory vs. peers



Source: Company, Systematix Institutional Research

Prudent bidding strategy but growth momentum to sustain given significant opportunities in Southern India

KNRC started actively participating in NHA orders only from FY16-FY17. While the industry bid for NHA projects at an average discount of 1% to NHA cost estimates, KNRC bid at 3% higher on average. In an industry characterized by players chasing growth, KNRC has been an exception by restricting itself to profitable projects in its core geographical focus areas.

This facet makes the management appear conservative, but we think this also makes the company a relatively safer stock compared to its peers.

With significant opportunities coming up in Southern India, there is a scope for KNRC to maintain its prudent bidding strategy while continuing to grow.

As highlighted earlier, most of the upcoming road projects are in AP, Maharashtra, Karnataka and Tamil Nadu, which are KNRC's core geographical focus areas. With opportunities set to grow due to increased HAM awarding and most players executing close to their execution capacity, we expect KNRC to maintain its premium to NHA estimated costs while sustaining its growth momentum.

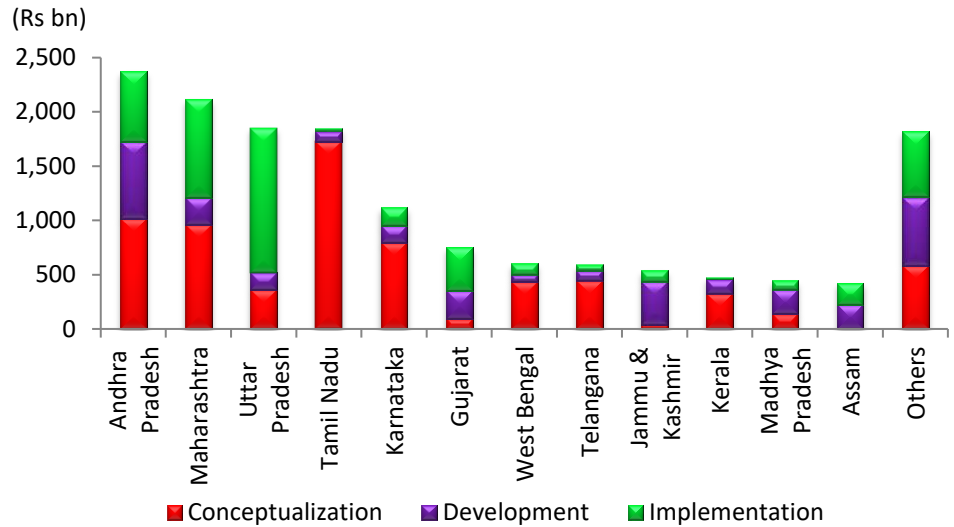
Exhibit 21: Most of the incremental road projects are in AP, Maharashtra and TN with a fair mix of centre/state opportunities

Rs bn	Project stage			Promoter		Mode of implementation				Grand Total
	Conceptualization	Development	Implementation	Centre	States/Uts	EPC	HAM	Not Disclosed	PPP	
Pan India	-	-	3,600	3,600	-	-	-	3,600	-	3,600
Andhra Pradesh	1,021	703	647	763	1,608	1,625	715	-	31	2,371
Maharashtra	964	247	905	1,383	734	768	1,226	-	122	2,116
Uttar Pradesh	363	157	1,329	973	877	1,109	625	-	114	1,849
Tamil Nadu	1,727	98	24	802	1,047	1,071	747	-	31	1,848
Karnataka	795	157	164	1,063	53	17	1,030	-	70	1,116
Gujarat	97	256	400	517	235	328	348	45	32	752
West Bengal	438	66	101	434	172	147	382	-	76	605
Telangana	447	91	54	514	77	160	431	-	-	592
Jammu & Kashmir	43	397	101	541	-	479	62	-	-	541
Kerala	330	128	18	460	16	-	460	16	-	476
Madhya Pradesh	141	223	82	188	259	275	156	-	16	447
Assam	-	224	200	424	-	424	-	-	-	424

Source: Systematix Institutional Research, India Investment Grid

Exhibit 22: Development-stage road projects in AP, J&K, Maharashtra, Gujarat, MP, UP, Karnataka to benefit players like PNC, KNRC, Dilip Buildcon (Rs bn)

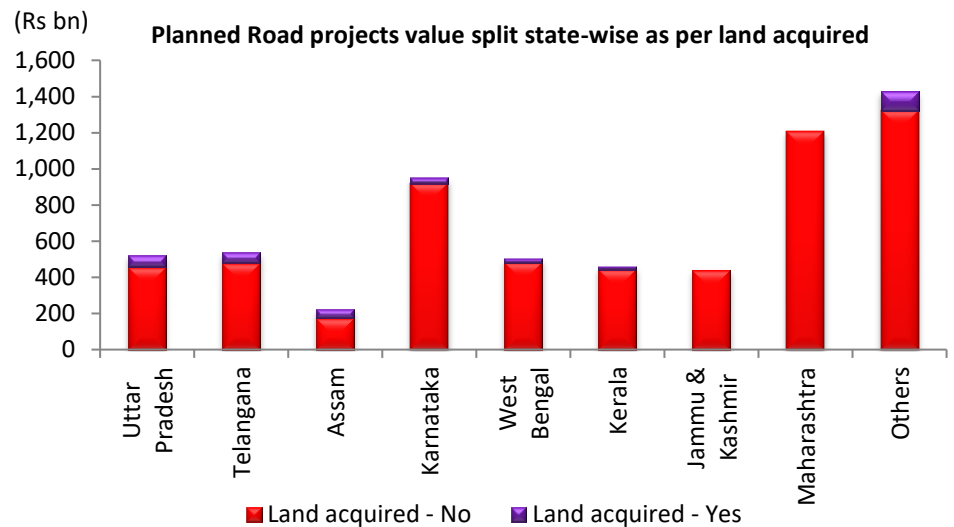
PNC, KNRC and Dilip Buildcon to benefit as most DPR-ready road projects are in their core focus geographies.



Source: Systematix Institutional Research, India Investment Grid

Exhibit 23: For projects under development/concept stage, most land-ready projects are in TN, AP, MP; Maharashtra, Karnataka are big opportunities but not land-ready

KNRC and Dilip Buildcon to benefit as most land-ready road projects are in TN, AP and MP.



Source: Systematix Institutional Research, India Investment Grid

Additional upside from irrigation spending in the southern states

According to state budget documents, the states of Telangana, Andhra Pradesh, Karnataka and Madhya Pradesh are planning large-scale irrigation projects. These provide additional opportunities exceeding Rs 200bn in each state over the next few years for KNRC. However, the company is not focusing on irrigation orders as these are largely state government-funded projects. Nevertheless, it has taken up a large irrigation order in Telangana to ensure that it has the qualifications in place once centrally funded projects are available.

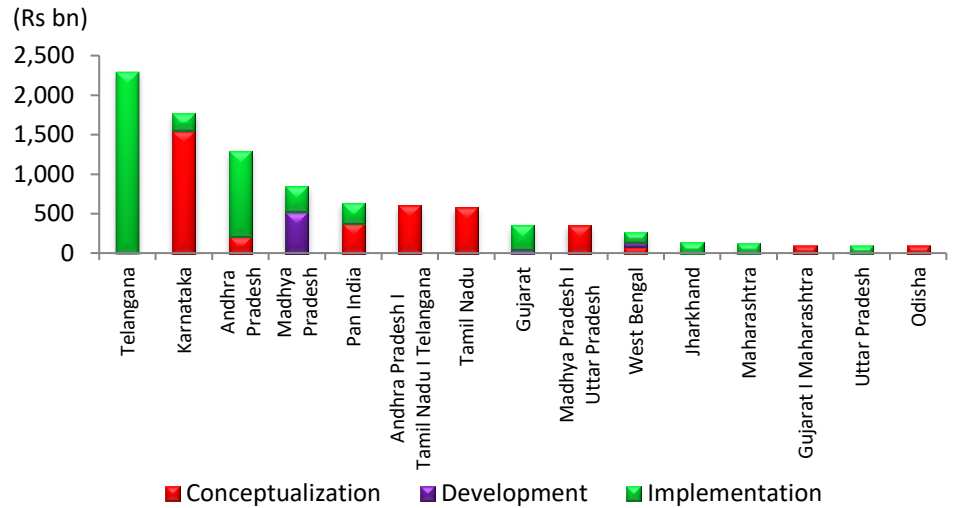
- Despite no mobilization advances in Telangana, payments have been regular so far. KNRC management has stated that it has not faced any payment-related issues in Telangana despite the state being financially weak. In Andhra Pradesh and Karnataka, competition for projects is intense as they offer advances; these

jobs are also not technically challenging as they largely involve civil excavation works.

- Attractive margins drive competition. Irrigation projects offer 14-15% EBITDA margins and largely involve earthwork and excavation, requiring limited technology inputs. This is attracting increased competition, which we believe may eventually put pressure on margins.

Exhibit 24: Telangana, AP, Karnataka and MP have most of the upcoming irrigation projects – to benefit players like KNRC, NCC, Megha and Dilip Buildcon (Rs bn)

KNRC, NCC, Megha and Dilip Buildcon to benefit as most of the large irrigation projects are in their core focus geographies.



Source: Systematix Institutional Research, India Investment Grid

Strong balance sheet; outperforming larger diversified players

The strong balance sheet leads to attractive financing terms and the ability to sustain capex and equity investment

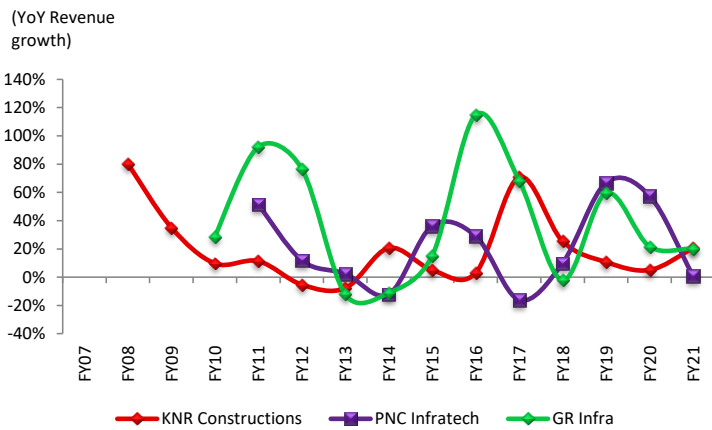
KNRC has one of the lowest and most stable gearing levels in the sector. Further, its working capital cycle is relatively shorter, allowing better cash flow generation. This enables it to fund its capex requirements and equity commitments for future projects.

It has a strong balance sheet with consistent cash flow generation. It has negligible external debt at the parent level as of FY21. Since its inception, KNRC has consistently generated cash flow that is large enough to cover its capex and dividends. These trends are an exception in an industry characterised by unsustainable debt burdens and poor cash generation records.

Low leverage allows KNRC to borrow at low interest rates and ensures faster financial closure for HAM projects, while the industry struggles to achieve financial closure due to weak balance sheet strength.

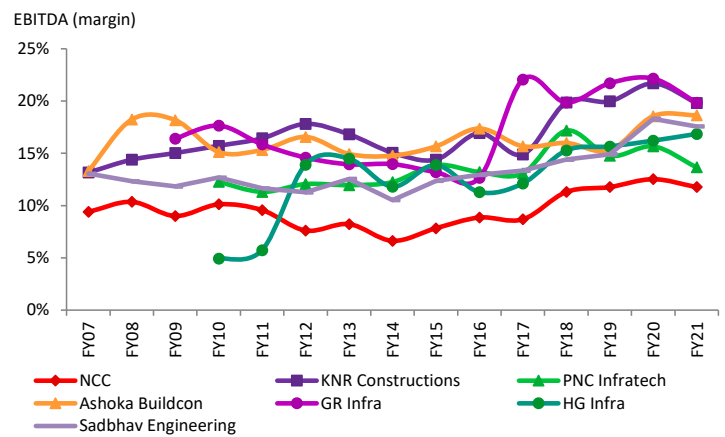
KNRC could finance capex and dividends entirely through OCF generation during FY12-21. Strong cash inflows have led to standalone debt remaining at negligible levels. Absolute debt at the standalone level is largely due to loans and advances provided to BOT assets to reduce external debt at the consolidated level and save overall interest costs for the group.

Exhibit 25: Within the roads sector, KNRC/PNCL/GR Infra have outperformed on revenue growth vs. NCC/Sadbhav/Ashoka



Source: Company, Systematix Institutional Research, Bloomberg

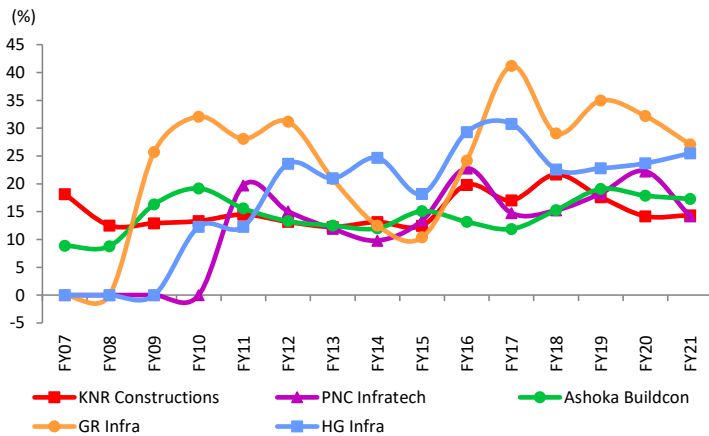
Exhibit 26: Most road companies witnessed margin expansion



Source: Company, Systematix Institutional Research, Bloomberg

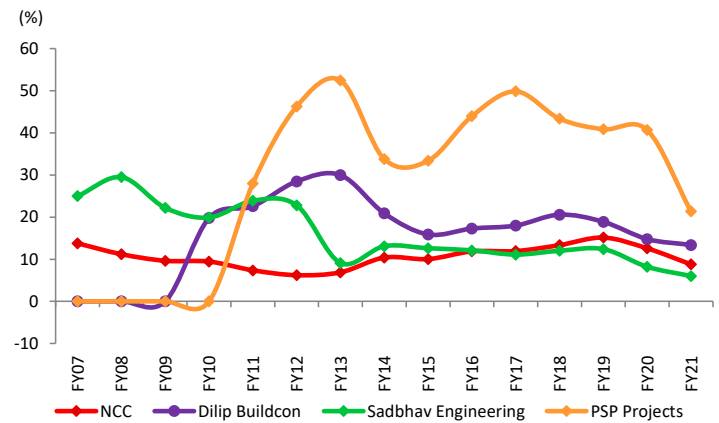
While RoE and RoCE may not be the best efficiency measures for construction companies, given that these companies tend to be asset-light, they are reasonable filters for relative performance. On that count, while the larger players have struggled to maintain their RoEs/RoCes, smaller players like KNRC have done better as they chose to stick to their core expertise and divest BOT/HAM assets.

Exhibit 27: KNRC has performed better than most companies...



Source: Company, Systematix Institutional Research, Bloomberg

Exhibit 28: ...in terms of RoCE



Source: Company, Systematix Institutional Research, Bloomberg

Beyond the traditional growth and return ratios, we believe that cash generation is a key metric for assessing how construction companies fare. As the charts below depict, KNRC is amongst the few companies in the roads space with consistent OCF/FCF (post interest expense) over FY14-21.

Thus, given its strong balance sheet and modest ambitions, KNRC is a better bet than large diversified conglomerates with high ambitions – it is deleveraged, better managed, has a demonstrated history of FCF and will likely fare better in the upcoming awards.

Barring KNRC, most listed companies have struggled to generate or maintain a consistent OCF/FCF pattern due to unrelated diversification and/or aggressive growth campaigns.

Additionally, while companies like KNRC have negligible net interest expense as a percentage of EBITDA, larger names like Dilip/Sadbhav have huge interest costs that take away a large chunk of their EBITDA, leaving little for the bottom line or distributable cash flow.

Exhibit 29: KNRC stands out for OCF/FCF generation as well as negligible interest cost as % of EBITDA

(Rs mn)	Market Cap (Rs bn)	Cumulative OCF-Interest		Cumulative FCF-Interest		Cumulative OCF as % of mkt cap		Cumulative FCF as % of mkt cap		Average Interest paid as % of EBITDA	
		FY12-21	FY18-21	FY12-21	FY18-21	FY12-21	FY18-21	FY12-21	FY18-21	FY12-21	FY18-21
NCC	46	(5,216)	2,608	(23,627)	(9,178)	-11%	6%	-51%	-20%	60%	42%
KNR Constructions	82	17,770	9,628	6,528	2,187	22%	12%	8%	3%	8%	7%
PNC Infratech	75	18,742	15,467	6,960	8,419	25%	21%	9%	11%	12%	10%
Dilip Buildcon	82	(30,432)	(18,210)	(68,983)	(34,723)	-37%	-22%	-84%	-42%	36%	36%
Ashoka Buildcon	27	18,704	11,090	12,562	7,241	69%	41%	46%	27%	13%	11%
GR Infra	169	20,036	15,025	227	(644)	12%	9%	0%	0%	9%	9%
HG Infra	41	7,737	6,599	(705)	718	19%	16%	-2%	2%	17%	15%
Sadbhav Engineering	7	4,562	4,495	(4,533)	2,452	62%	61%	-61%	33%	39%	43%
PSP Projects	19	2,946	1,634	99	(540)	16%	9%	1%	-3%	4%	4%

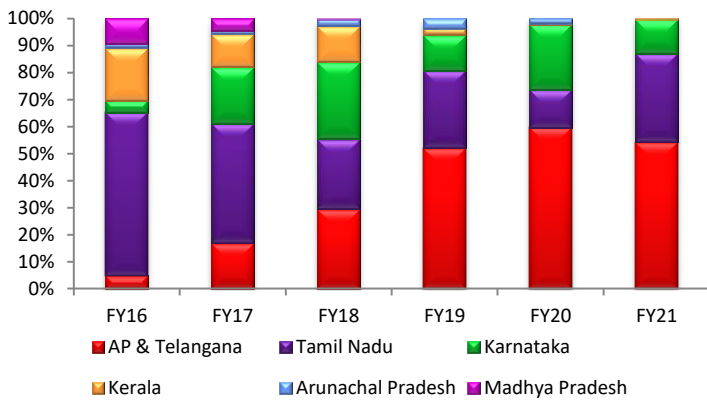
Source: Systematix Institutional Research, Company, Bloomberg

Some key reasons for KNRC’s outperformance compared to the rest of the sector:

- Strong focus on core markets (geography and segment-wise). For example, in a bid to chase growth, companies have diversified away from their home markets - where they tend to be stronger - or focus segments. This has led to lower margins/execution challenges for these companies, as they lose control over the actual execution and depend on sub-contractors.
- The focus on restricting to core markets/segments is also a function of growth that can be organically met by adding one’s own equipment/management bandwidth. However, as soon as companies start to rely on outsourcing work to other contractors, they end up being a service trading company.

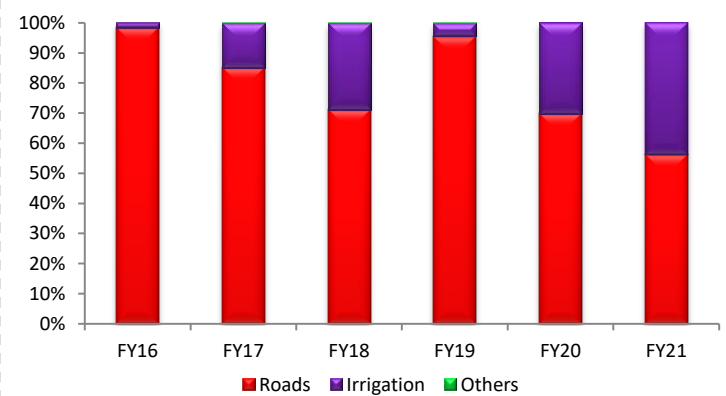
KNRC consistently focused on its core markets and the road/water segments, while its peer group has been much more diversified. This depiction is despite suffering from a survivorship bias, wherein a significant number of construction companies that went bankrupt in the previous cycle do not even feature in this analysis.

Exhibit 30: State-wise order book split; >90% of projects in Southern India



Source: Company, Systematix Institutional Research

Exhibit 31: Segment-wise order book split; over 70% of projects in the roads segment with irrigation being a new entry

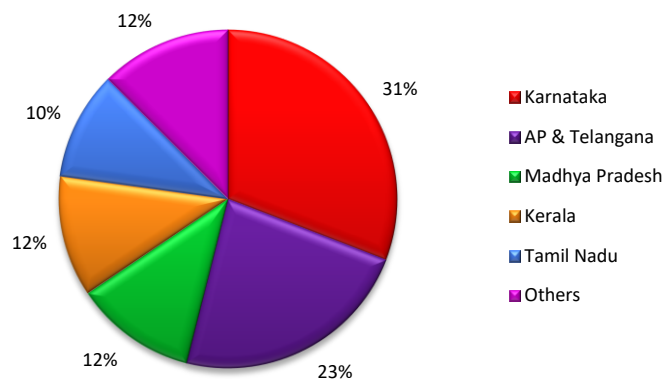


Source: Company, Systematix Institutional Research

With clusters in all key southern regions, KNRC is poised to grow

A split of its order book highlights that over 75% of the projects it undertook in the past five years are in the southern states. Large, significant clusters in the major southern states coupled with access to resources like quarries places KNRC in a competitive position to execute projects in this area.

Exhibit 32: State-wise projects executed in the past five years



Source: Company, Systematix Institutional Research

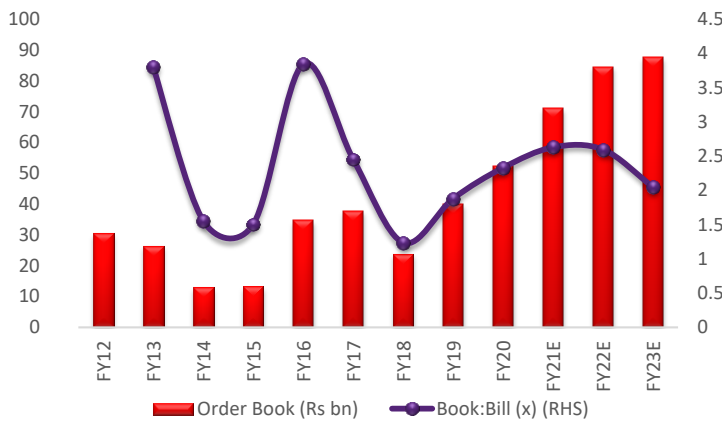
Financial and cash-flow analysis

Prudent bidding strategy reflected in its lumpy order backlog growth

As evident in the chart below, KNRC has not chased order backlog growth at all times. While its order backlog CAGR between FY12-16 was just 3.3%, it improved to 14.7% over FY16-20 and we estimate a further increase to 18.8% over FY20-23E.

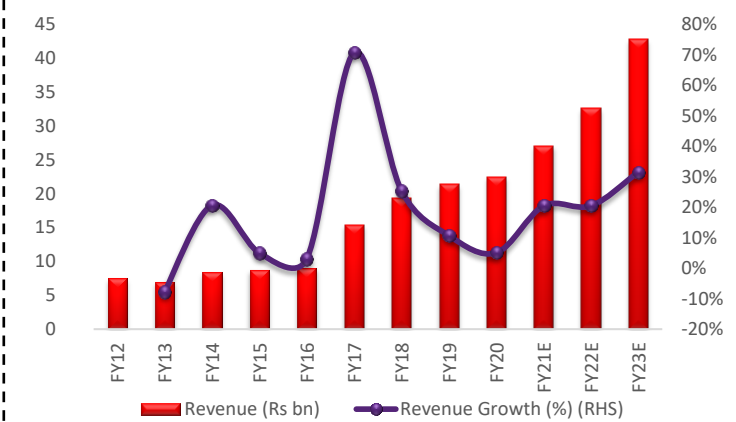
It has slowly built up its execution capability and restricted itself to an executable book: bill range of 2.5x, which is also usually the execution timeline for a typical road project. At the same time, its revenue trend reflects a stable growth profile of 15%+ CAGR over FY12-21. Based on its current strong order backlog and L1 position, we estimate a 26% revenue CAGR over FY21-23E.

Exhibit 33: Order book data since FY12 shows that KNRC has not chased growth; had lumpy order wins



Source: Company, Systematix Institutional Research

Exhibit 34: ...but still showcased steady and secure revenue growth

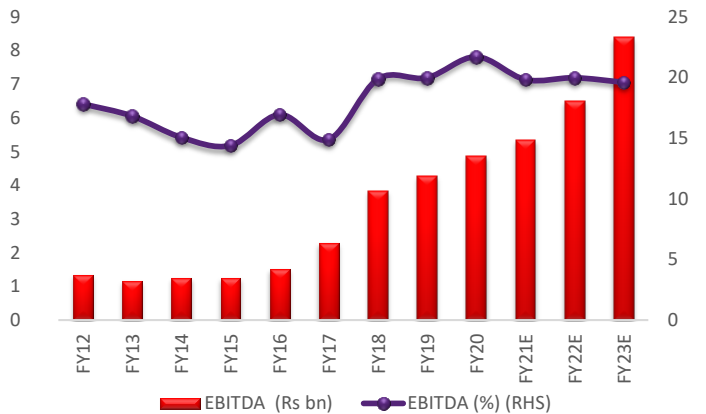


Source: Company, Systematix Institutional Research

Order backlog growth has converted to EBITDA growth

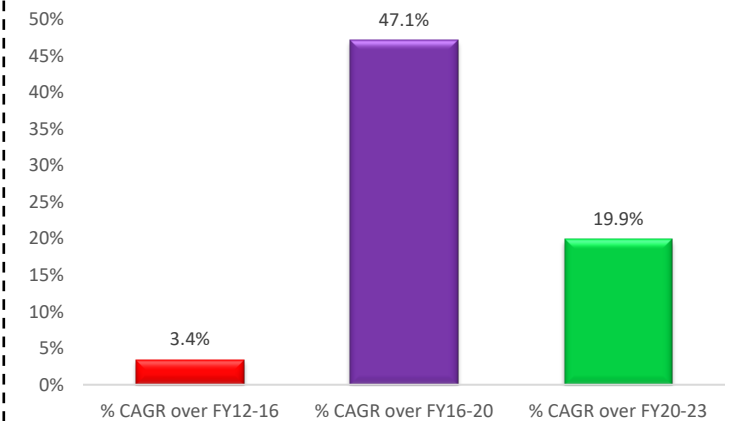
Unlike many peers, the orders have converted to EBITDA and more importantly OCF/FCF. Despite the strong order growth in recent years, KNRC's EBITDA margin has improved as it has remained selective in its bidding strategy and continues to execute the bulk of the work in-house. This has also resulted in its OCF and FCF (post interest expenses) remaining high consistently.

Exhibit 35: Revenue growth led to EBITDA improvement



Source: Company, Systematix Institutional Research

Exhibit 36: EBITDA CAGR has been lumpy



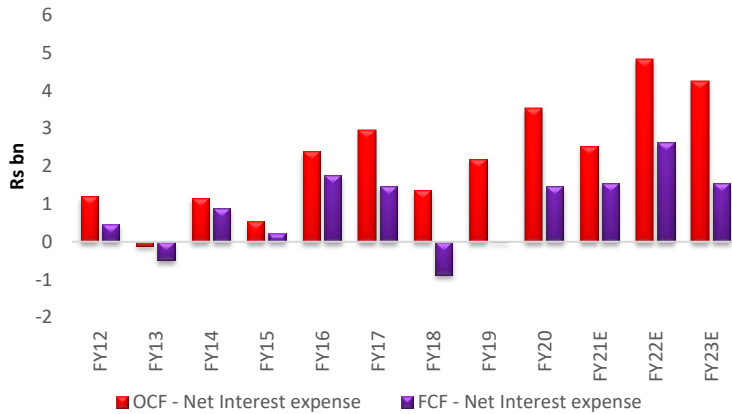
Source: Bloomberg, Systematix Institutional Research

Strong and consistently high OCF/FCF conversion from EBITDA

An average OCF (post interest expense) to EBITDA conversion ratio of 82% over FY12-20 speaks highly of KNRC's strong control over its margins, working capital and subsequently cash generation capabilities.

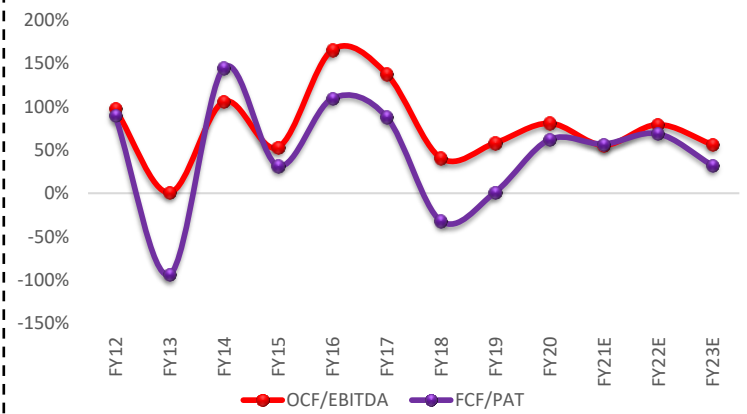
Similarly, its FCF (post interest expense) to EBITDA conversion ratio has been at ~45% over FY12-20, which again is amongst the highest in the industry. Not surprisingly, KNRC is among the few companies in the EPC space to have negligible interest expenses and is practically debt-free at the parent level despite exposure to HAM projects.

Exhibit 37: Consistent OCF and FCF generation (Rs bn)



Source: Company, Systematix Institutional Research

Exhibit 38: ...driven by high conversion ratio from EBITDA/PAT



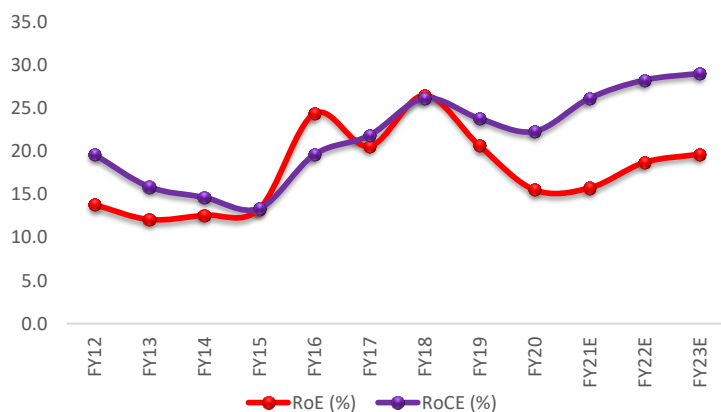
Source: Company, Systematix Institutional Research

20%+ RoE/RoCE with positive OCF/FCF is a rarity in the EPC space

While we would argue that for EPC players looking at RoE/RoCE makes sense only if they are generating positive FCF, KNRC surpasses even that benchmark. It has consistently been generating RoE/RoCE above 20% except for the impact of COVID-19 on its FY20-21 financials. Given our strong revenue growth outlook over FY21-23E, we estimate its RoE to revert to ~20% and RoCE at ~30% by FY23E.

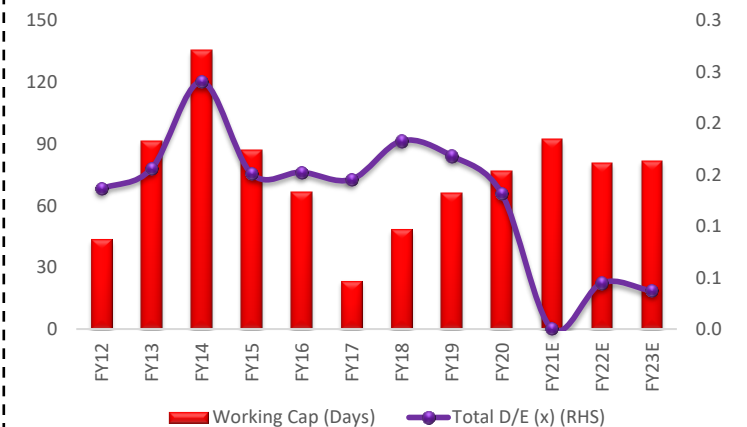
One of the key drivers of KNRC's strong RoE/RoCE and positive OCF/FCF generation has been its control over the working capital cycle, allowing it to maintain negligible debt levels. Its WC cycle has been low at an average of 60 days over the long term though it has inched up post-COVID-19. We expect it to normalize again gradually.

Exhibit 39: Improvement in margins has led to better RoCE



Source: Company, Systematix Institutional Research

Exhibit 40: WC cycle and D/E under control and amongst the best



Source: Company, Systematix Institutional Research

Exhibit 41: Key assumptions

Rs mn	FY19	FY20	FY21	FY22E	FY23E
Order inflow	37,312	34,583	45,088	45,971	45,971
Revenues	21,373	22,442	27,026	32,549	40,863
EBITDA margin	20.0%	21.7%	19.8%	20.0%	19.9%
Order book	40,156	52,297	71,023	84,445	89,553
Ob to sales (x)	1.9	2.3	2.6	2.6	2.2

Source: Company, Systematix Institutional Research

Valuation & View

With sustainable growth pegged at 8.5% and RoE of 18%, we value KNRC's core EPC business at 16x FY24E P/E to arrive at a fair value of Rs 356/share

KNRC has delivered a PAT CAGR of 20% over FY12-21 which is expected to increase to 28% CAGR over the FY20-23E period given its strong order backlog (including L1 position currently). However, order inflows tend to be lumpy and yet another cycle of lower order inflow in the subsequent years cannot be ruled out; this may impact the company's growth/return ratios.

EPC players trade at a wide valuation range over the cycle due to volatile order backlog growth and margin/OCF generation. The valuation range can be as wide as 5-20x depending on the company profile based on these parameters. However, KNRC scores better compared to peers on sustainability, cash generation and leverage and hence deserves to trade at the higher end of that valuation range.

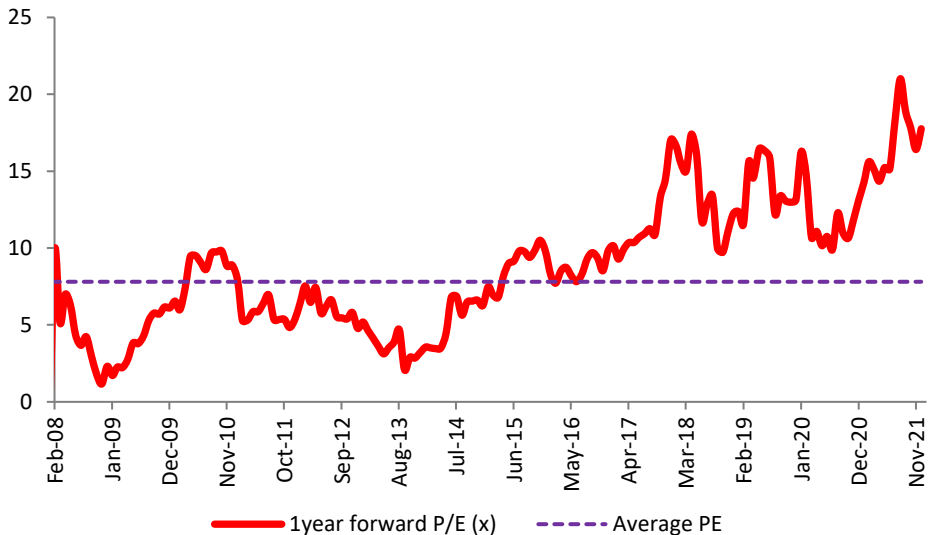
Given the revenue visibility, increase in its PAT trajectory and rising OCF/FCF generation, we value its EPC business at 16x FY24E PE. Additionally, we value its current investments in BOT/HAM projects at 1x BV and arrive at a TP of Rs 356/share for the stock (upside of 21%).

Exhibit 42: SoTP valuation yields a fair value of Rs 349

Particulars	Segment	Driver	KNRC's share	Multiple	Value (Rs mn)	Value per share (Rs)	Basis
EPC Business	Construction	5,571	100	16	89,131	317	16x FY24E P/E
Equity investment in HAM projects	BOT/HAM	10,952		1	10,952	39	1x P/BV
Total					100,083	356	

Source: Systematix Institutional Research

Exhibit 43: KNRC is trading above its long-term mean P/E; we still like it due to its proven cautious strategy and consistent OCF/FCF generation



Source: Company, Systematix Institutional Research, Bloomberg

Key risks and risk mitigation measures

Rising competition in the roads EPC/HAM contracts

Over the years, the road EPC business has been highly competitive with several regional players vying for orders from NHAI. However, KNRC has been selective in its bidding strategy and opted to stay focused in its focus areas of Southern India. It has also remained prudent in its bids, often bidding for a premium compared to NHAI's own project cost estimate against discount quoted by competition.

Concentration risk in Southern India

KNRC is highly exposed to South India with almost its entire order backlog from Telangana, Andhra Pradesh, Karnataka, Kerala and Tamil Nadu. At least for the next five years, these states offer strong growth opportunities. Also, restricting itself to its geographical strength allows KNRC to maintain its bid discipline and raw material supplies.

Balance sheet exposure due to incremental projects in HAM

Road EPC players are facing higher balance sheet exposure as NHAI has been increasingly awarding projects on HAM basis against EPC. KNRC has followed a prudent model of selling completed projects and churning the sale proceeds into new assets, thereby restricting its balance sheet exposure. KNRC is practically debt-free at the standalone level due to its prudent capital allocation policy.

Commodity price risk

Steel and cement prices have run up sharply over the past year, exposing all road EPC players to cost escalation. While government EPC contracts generally have a price variation clause covering most such cost increases, not all increases may be passed through. In the near-term, this may pose a margin risk for KNRC as well as other road EPC players. In the longer term, however, new bids would ideally bake in such cost escalation, thereby nullifying the higher cost.

FINANCIALS (STANDALONE)

Profit & Loss Statement

YE: Mar (Rs mn)	FY20	FY21E	FY22E	FY23E	FY24E
Net sales	22,442	27,026	32,549	40,863	46,317
RM expenses	-16,319	-20,347	-24,462	-30,831	-34,796
Gross Profit	6,123	6,679	8,087	10,032	11,521
Employee expenses	-1,252	-1,321	-1,585	-1,902	-1,997
Other expenses	0	0	0	0	0
EBITDA	4,871	5,358	6,502	8,130	9,524
Margin %	21.7%	19.8%	20.0%	19.9%	20.6%
Depreciation	-1,918	-1,444	-1,376	-1,749	-1,969
EBIT	2,952	3,915	5,126	6,381	7,555
Interest expenses	-474	-487	-325	-449	-509
Other Income	566	496	325	350	400
Pre-tax profit	3,044	3,924	5,125	6,282	7,445
Taxes	-685	-1,370	-1,290	-1,581	-1,874
Recurring PAT	2,359	2,554	3,835	4,701	5,572
Margin %	10.5%	9.5%	11.8%	11.5%	12.0%
Non-recurring Items	-107	-112	0	0	0
Reported PAT	2,252	2,442	3,835	4,701	5,572
Recurring EPS (Rs)	8.4	9.1	13.6	16.7	19.7
Cash EPS (Rs)	15.2	14.2	18.5	22.9	26.7
DPS (Rs)	0.5	-	0.7	0.8	1.0

Source: Company, Systematix Institutional Research

Cash Flow

YE: Mar (Rs mn)	FY20	FY21E	FY22E	FY23E	FY24E
Pre-tax profit	3,044	3,924	5,125	6,282	7,445
Depreciation	1,918	1,444	1,376	1,749	1,969
Chg in working capital	-309	-2,004	-376	-2,126	-1,393
Other non-cash items	132	403	325	449	508
Total tax paid	-844	-787	-1,290	-1,581	-1,874
Operating Cash Flow	3,941	2,980	5,161	4,773	6,656
Capital expenditure	-2,120	-979	-2,200	-2,200	-2,200
Free Cash Flow	1,822	2,001	2,961	2,573	4,456
Investments	-1,098	1,424	-3,476	-1,919	-1,505
Other investing Cash flow	318	205	0	0	0
Investing Cash Flow	-2,900	649	-5,676	-4,119	-3,705
Equity raised	0	0	0	0	0
Debt raised/(repaid)	-344	-2,290	993	0	-1,000
Dividend (incl. tax)	-153	0	-192	-235	-279
Other Financing Cash Flow	-401	-459	-325	-449	-509
Financing Cash Flow	-898	-2,749	476	-685	-1,788
Net chg in cash	144	880	-39	-30	1,163
Opening cash balance	130	330	1,173	1,212	1,181
Closing cash balance	330	1,173	1,212	1,181	2,345
Mkt Cap	82,824	82,824	82,824	82,824	83,118
Net Debt	1,811	-1,166	-212	-181	-2,345
EV	84,634	81,657	82,612	82,642	80,774

Source: Company, Systematix Institutional Research

Balance Sheet

YE: Mar (Rs mn)	FY20	FY21E	FY22E	FY23E	FY24E
Cash & bank balance	330	1,173	1,212	1,181	2,345
Debtors	4,761	8,632	7,580	8,397	9,517
Inventory	1,232	1,480	2,229	2,799	3,172
Loans & advances	57	105	131	157	181
Other current assets	7,474	7,128	9,314	11,141	12,844
Total current assets	13,854	18,519	20,466	23,675	28,059
Investments	7,807	5,557	9,033	10,952	12,457
Net fixed assets	3,907	3,416	4,162	4,614	4,845
Total assets	25,568	27,492	33,661	39,240	45,360
Current liabilities	6,901	8,641	9,860	10,500	12,018
Provisions	232	344	344	344	344
Total current liabilities	7,133	8,985	10,204	10,844	12,362
Borrowings	2,141	7	1,000	1,000	-
Non-current liabilities	1,665	1,536	1,850	2,323	2,633
Net Deferred Tax liability (1,610)	(1,715)	(1,715)	(1,715)	(1,715)	(1,715)
Total liabilities	9,329	8,814	11,339	12,452	13,280
Paid-up capital	281	562	562	562	562
Reserves & surplus	15,958	18,116	21,759	26,225	31,517
Net Worth	16,239	18,678	22,322	26,788	32,080
Total equity & liabilities	25,568	27,492	33,661	39,240	45,360
Book Value/share (Rs)	57.7	66.4	79.4	95.2	113.7

Source: Company, Systematix Institutional Research

Ratios

YE: Mar	FY20	FY21E	FY22E	FY23E	FY24E
P/E (x)	35.1	32.4	21.6	17.6	14.9
P/BV (x)	5.1	4.4	3.7	3.1	2.6
EV/EBITDA (x)	17.0	15.5	12.7	10.2	8.7
EV/Sales (x)	3.7	3.1	2.5	2.0	1.8
Dividend Yield (%)	0.2%	0.0%	0.2%	0.3%	0.3%
RoE (%)	15.5%	15.7%	18.7%	19.1%	18.9%
RoCE (%)	22.3%	26.1%	28.3%	28.2%	28.2%
Fixed Asset turnover (x)	5.7	7.9	7.8	8.9	9.6
Receivable days	77	117	85	75	75
Inventory days	28	27	33	33	33
Payable days	56	43	53	53	53
Working Capital Cycle (days)	77	92	81	83	84
Revenue Growth (%)	5%	20%	20%	26%	13%
EBITDA Growth (%)	14%	10%	21%	25%	17%
EPS Growth, %	-11%	8%	50%	23%	19%
Net Debt/Equity (x)	0.1	(0.1)	(0.0)	(0.0)	(0.1)
Net Debt/EBITDA (x)	0.4	(0.2)	(0.0)	(0.0)	(0.2)

Source: Company, Systematix Institutional Research



TM

20 December 2021

PNC Infratech

Play on the strong Infra capex pipeline in Uttar Pradesh

INITIATING COVERAGE

Sector: Infrastructure **Rating:** BUY
CMP: Rs 289 **Target Price:** Rs 347

Stock Info

Sensex/Nifty	58,117/17,325
Bloomberg	PNCL IN
Equity shares (mn)	257
52-wk High/Low	Rs 396/ Rs 158
Face value	Rs 2
M-Cap	Rs 74bn/ USD 1bn
3-m Avg traded value	USD 1.5mn

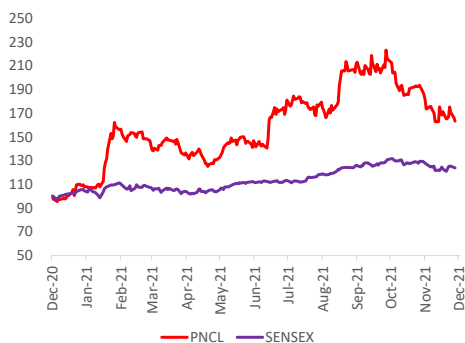
Financial Snapshot (Rs bn)

Y/E Mar	FY22E	FY23E	FY24E
Revenue	58.1	64.2	70.6
EBITDA	7.8	8.9	9.7
PAT	4.1	4.9	5.5
EPS (Rs)	16.1	19.1	21.5
RoE %	13.3%	13.9%	13.8%
RoCE %	21.4%	21.9%	21.5%
P/E (x)	18.0	15.2	13.5
P/BV (x)	2.3	2.0	1.8

Shareholding pattern (%)

	Sep'21	Jun'21	Mar'21
Promoter	56.1	56.1	56.1
-Pledged	-	-	-
FII	11.6	9.3	10.8
DII	28.3	29.2	27.7
Others	4.0	5.4	5.4

Stock Performance (1-year)



PNC Infratech (PNCL) is a play on the strong potential for infrastructure capex roll-out in Uttar Pradesh (UP) - the most populous state in India and thus of significant electoral importance. Decades of neglect in UP has created unparalleled opportunities across its various infrastructure segments, including roads. The incumbent governments – both centre and state have taken cognizance of the electoral significance and are fast developing basic infrastructure in UP, including expressways and rural/urban water supply. The company has a dominant presence in the state with its well-established project clusters and equipment mobilization. It is also amongst the few companies to generate strong OCF/FCF (60-70% of EBITDA) while growing its revenues over 4x from Rs 12.7bn in FY12 to ~Rs 50bn in FY21. It has a strong order book (and L1 position) of ~Rs 132bn as of Sep-21 (2.3x TTM book: bill), which provides strong visibility. We estimate PNCL to deliver ~16% PAT CAGR over FY21-23E. It trades at 15.2x FY23E P/E. We initiate coverage on the stock with a BUY rating and a target price of Rs 347 (upside of 20%).

The beneficiary of a strong order backlog and pipeline in UP

PNCL is relatively better placed than its peers to benefit from the infrastructure capex in UP. Even as we are concerned about a potential slowdown in infrastructure ordering at the macro level, it stands out with a strong order book of Rs 132bn (2.3x TTM book: bill as of Sep-21), providing revenue growth visibility. The company has a proven track record of timely execution, a debt-free balance sheet owing to strong OCF/FCF generation and RoE/RoCE of 15%+ in an industry characterized by debt-heavy and cash guzzling entities often penalized for delayed/poor execution.

Strong balance sheet to support growth

It will continue to use its balance sheet to its advantage by gaining market share and maintaining profitability in its HAM projects as it can secure financial closure at cheaper interest rates while its peers are struggling. We estimate a PAT CAGR of ~16% over FY21-23E. PNCL has invested significantly in capex and workforce over the past 3-4 years, anticipating this growth. Its OCF/FCF growth should sustain at similar levels with a stable working capital cycle.

Outlook and valuations

We value the stock at 14x FY24E EPS and add 1x BV for its investment in its BOT/HAM road projects. We prefer a valuation range of 12-18x P/E for the sector. PNCL scores better than its peers on sustainability, cash generation and leverage and hence, deserves the higher end of that valuation range.

Key risks: 1) Margin dilution due to rising competition in roads EPC/HAM contracts; 2) higher concentration in the state of UP; 3) potential impact on margins due to the sharp rise in commodity prices.

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Story in charts

Exhibit 1: UP has the third largest pipeline of road projects under the NIP, benefitting players like PNCL

Rs bn	Project stage			Promoter		Mode of implementation				Grand Total
	Conceptualization	Development	Implementation	Centre	States/UTs	EPC	HAM	Not Disclosed	PPP	
Pan India	-	-	3,600	3,600	-	-	-	3,600	-	3,600
Andhra Pradesh	1,021	703	647	763	1,608	1,625	715	-	31	2,371
Maharashtra	964	247	905	1,383	734	768	1,226	-	122	2,116
Uttar Pradesh	363	157	1,329	973	877	1,109	625	-	114	1,849
Tamil Nadu	1,727	98	24	802	1,047	1,071	747	-	31	1,848
Karnataka	795	157	164	1,063	53	17	1,030	-	70	1,116
Gujarat	97	256	400	517	235	328	348	45	32	752
West Bengal	438	66	101	434	172	147	382	-	76	605
Telangana	447	91	54	514	77	160	431	-	-	592
Jammu & Kashmir	43	397	101	541	-	479	62	-	-	541
Kerala	330	128	18	460	16	-	460	16	-	476
Madhya Pradesh	141	223	82	188	259	275	156	-	16	447
Assam	-	224	200	424	-	424	-	-	-	424

Source: Systematix Institutional Research, India Investment Grid

Exhibit 2: Significant opportunity landscape in Uttar Pradesh

Region	Opportunity	PNCL's core competency in the region	Risks
Uttar Pradesh	Central projects		
	MoRTH pipeline of Rs 1.5-2trn over next 3-4 years	Assured supply of aggregates from own mines in nearby states	GR Infra, Dilip Buildcon and L&T are also active in large projects in the region
	✓ 15 greenfield projects	Pre-existing clusters	
	✓ 72 State Highways converted to National Highways	Strong execution credentials and balance sheet	
	✓ Ring roads in all major cities namely Kanpur, Gorakhpur, Bareilly, Moradabad and Meerut		
	✓ Bundelkhand Expressway (Delhi-Jhansi)		
	✓ Delhi Yamnotri Expressway		
	State projects		
	Expressways		
	Significantly large prospects to limit competition		

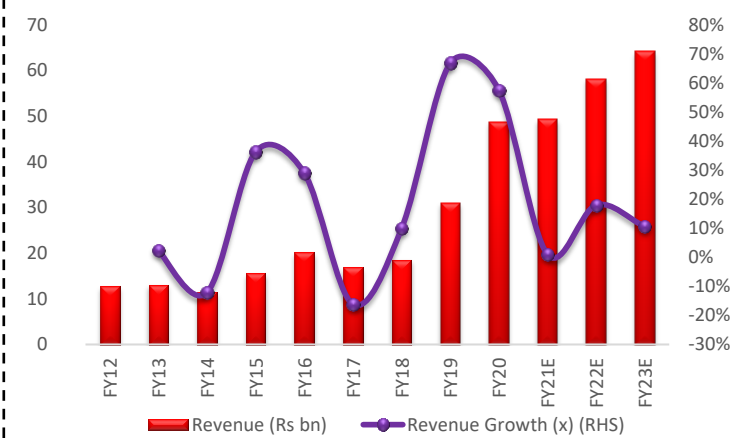
Source: Systematix Institutional Research, India Investment Grid

Exhibit 3: PNCL has not chased growth; has had lumpy order wins



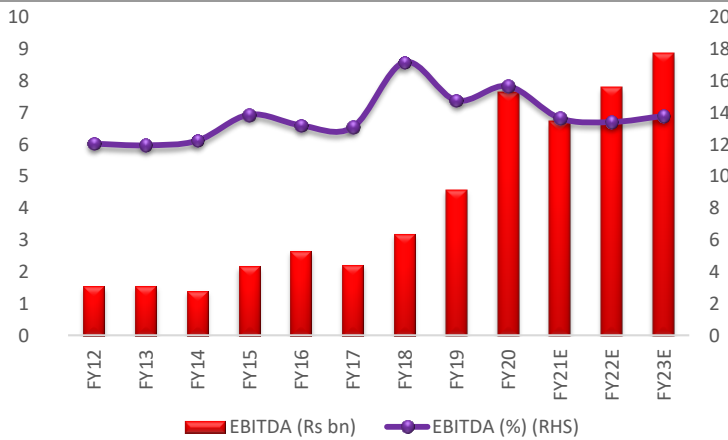
Source: Company, Systematix Institutional Research

Exhibit 4: ...but that has still yielded steady revenue growth



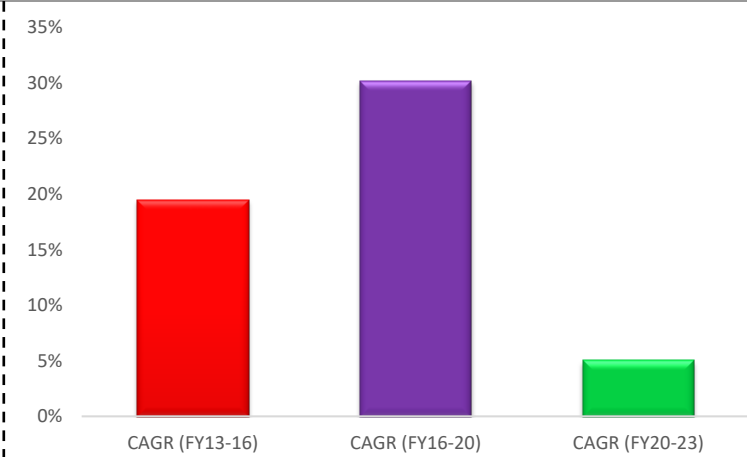
Source: Company, Systematix Institutional Research

Exhibit 5: EBITDA has improved in line with revenues



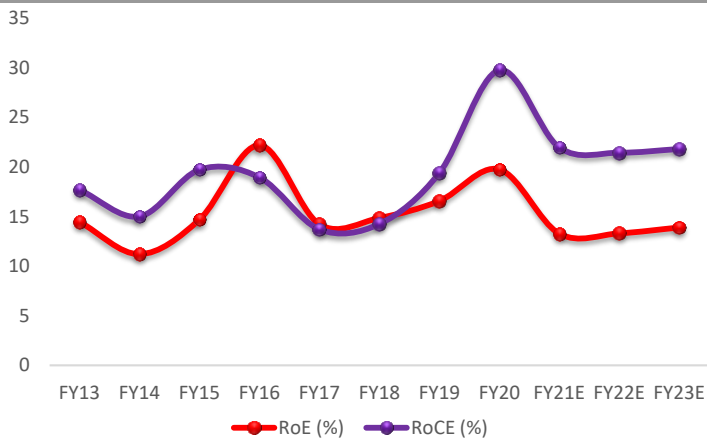
Source: Company, Systematix Institutional Research

Exhibit 6: EBITDA CAGR to pick up on strong execution



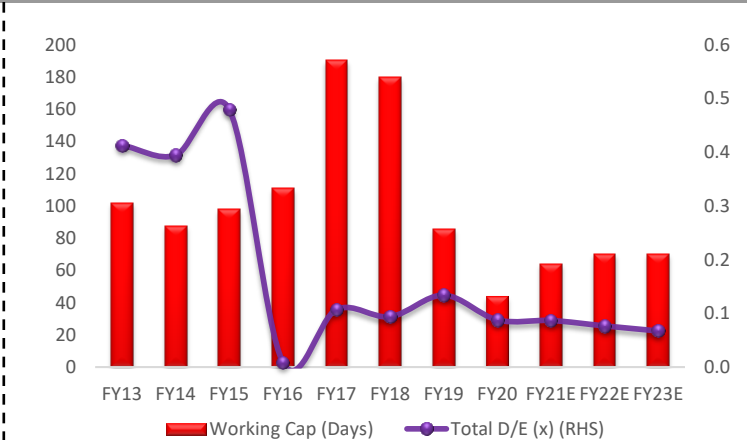
Source: Company, Systematix Institutional Research

Exhibit 7: Improvement in margins has led to better RoCE



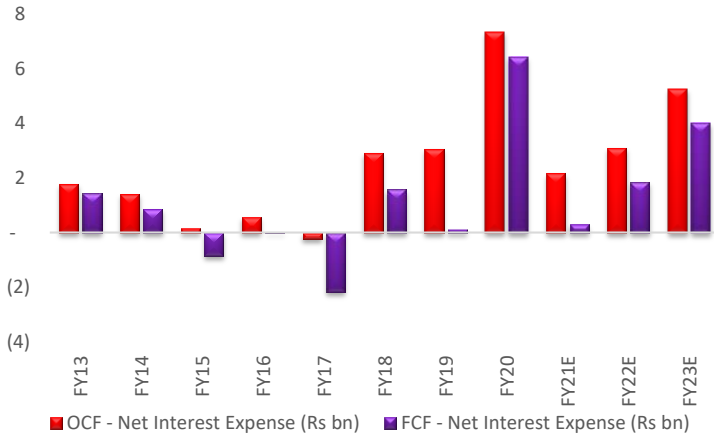
Source: Company, Systematix Institutional Research

Exhibit 8: WC cycle and D/E under control and amongst the best



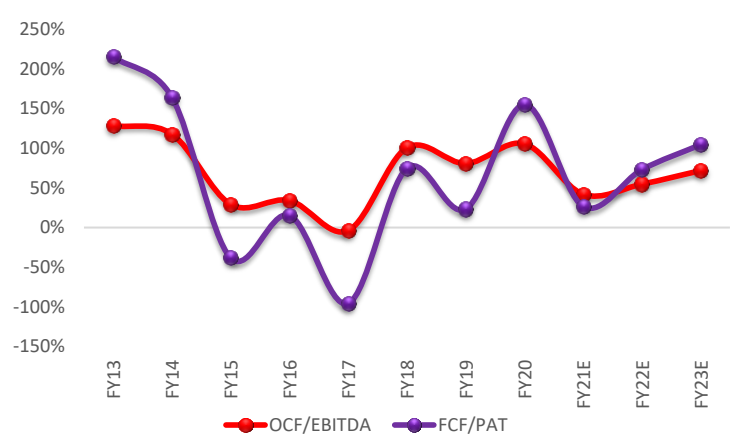
Source: Company, Systematix Institutional Research

Exhibit 9: Consistent OCF and FCF generation...



Source: Company, Systematix Institutional Research

Exhibit 10: ...driven by high conversion ratio from EBITDA/PAT



Source: Company, Systematix Institutional Research

Company background

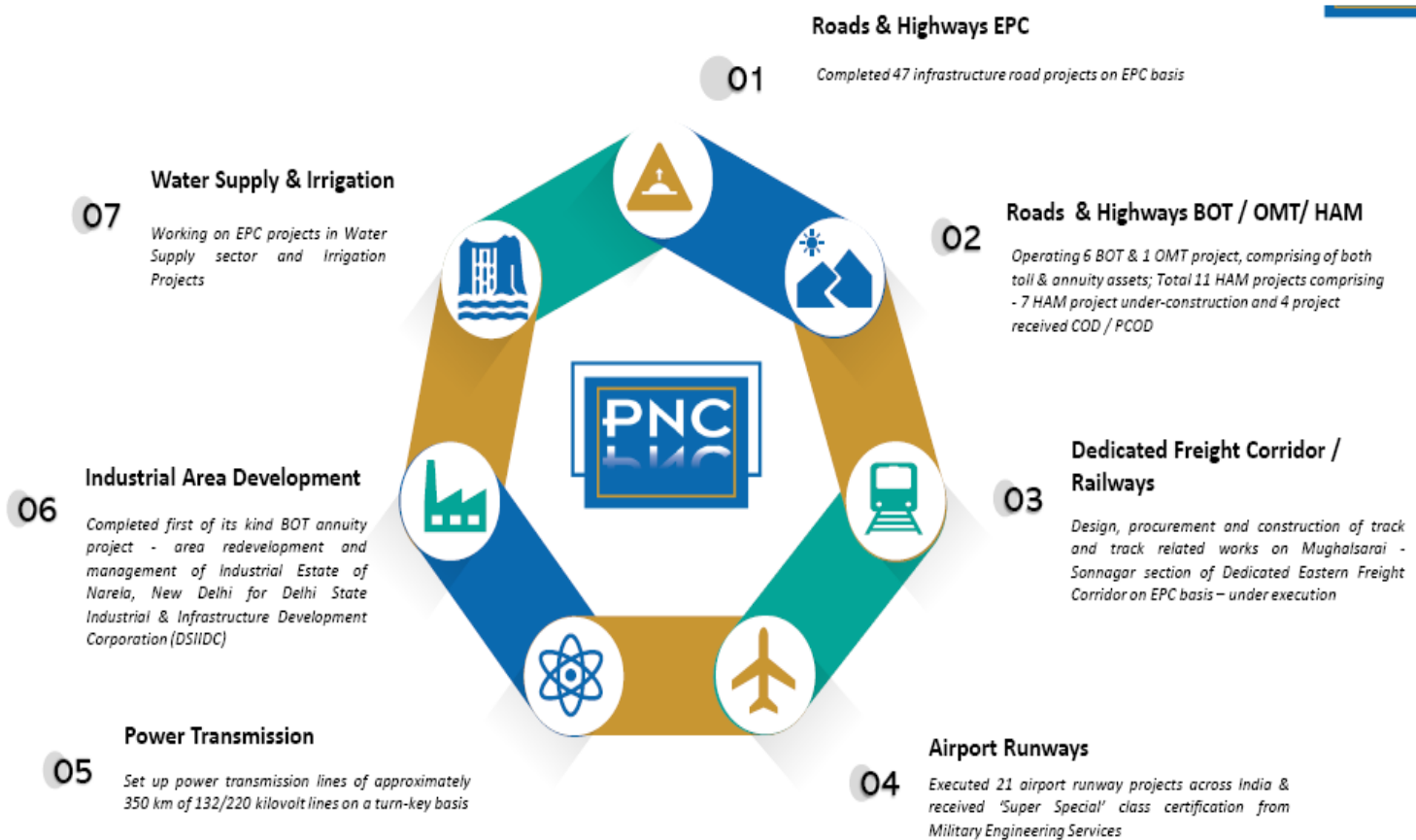
Based in Uttar Pradesh (UP), PNC Infratech (PNCL) is amongst India's leading civil construction companies. It has strong in-house execution capabilities, a proven track record of early execution, a large equipment bank and a strong employee base. It is the largest road construction company in UP and could be a beneficiary of sustained infrastructure capex pick up in the northern states.

It has expertise in executing various infrastructure projects, including highways, bridges, flyovers, power transmission lines, airport runways, development of industrial areas and other infrastructure activities. However, its core focus area has been road projects and it is now taking up water supply projects as well.

The company was incorporated in 1999 as PNC Construction Company Private Ltd and was soon certified as a 'Super Special' class by Military Engineering Services. Its first foray into highways was in 2001 when it independently executed the Agra Gwalior section of the NH-3 highway in UP. PNCL received an early completion bonus for its first project from NHAI in 2003 and has since then focused primarily on road EPC projects as its core business. The company has developed capabilities to execute Transmission & Distribution projects and rail EPC work (executing a section of the Eastern DFC).

It has executed 70 major infrastructure projects spread across 13 states, of which 47 are road EPC projects; it is currently executing 25 projects. PNCL is also operating 6 BOT & 1 OMT project, comprising both toll & annuity assets and has a portfolio of 11 HAM projects of which, 7 HAM projects are currently under construction.

Exhibit 11: PNCL – Scope of EPC capabilities



Source: Company, Systematix Institutional Research

Exhibit 12: Key milestones since inception

Year	Events
1999	The company was incorporated as 'PNC Construction Company Private Limited'.
2001	Executed first independent project with the NHAI, being the four-laning of the Agra-Gwalior section of NH3 in UP.
2003	Received bonus from the NHAI for ahead of scheduled completion of four-laning of the Agra-Gwalior section independently.
2005	Executed first international airport runway project for the AAI in Kolkata.
2007	Awarded BOT road project by Madhya Pradesh Road Development Corporation Limited.
2008	Commenced construction of power transmission lines comprising the construction project of approximately 350 Kms of 132/220 kv lines on a turn-key basis.
2009	Received a contract to improve the Gurgaon-Nuh-Rajasthan Border (SH13) by the Haryana State Roads and Bridges Development Corporation Limited amounting to Rs 3,380mn.
2010	Awarded first independent BOT road project to improve the Gwalior-Bhind, MP/UP Border Road, NH92.
2011	Received an investment of Rs 1,500mn from NYLIM Jacob Ballas.
	Executed four-laning of Jaora-Nayagaon section on SH31 in MP.
2014	Executed a redevelopment and management project at Narela Industrial ahead of schedule.
	Awarded EPC contract of Agra-Lucknow Expressway Package-I for Rs 16.36bn.
	Entered into a Collaborative MoU with POSCO Engineering and Construction India Private Limited.
2015	Listed on the NSE and BSE following successful IPO.
	Achieved COD for three BOT-Toll Projects (Ghaziabad Aligarh, Kanpur-Kabrai and Bareilly- Almora) and commenced toll operations.
2016	Completed 166 km long Raebareli-Jaunpur highway project on BOT-Annuity project more than 3 months ahead of schedule in February 2016.
	Awarded two major NH projects on EPC mode (i) Four laning of Nagina-Kashipur Section of NH 74 (ii) Four laning of Varanasi-Gorakhpur section of NH-29 (Package II) for an aggregate contract price of Rs 20.2bn.
2017	Awarded four highway projects on Hybrid Annuity Model (HAM) with an aggregate Bid Project Cost of Rs 50.35bn and one of them – Dausa-Lalsot-Kauthun Section achieved financial closure well before time.
	Traffic opened on Agra-Lucknow Expressway in February 2017, eleven months ahead of schedule and achieved provisional completion in October 2017.
2018	Received Rs 582.3mn early completion bonus for Agra-Lucknow Expressway package in February 2018 from UP Expressways Industrial Development Authority.
	Awarded two contiguous packages of Purvanchal Expressway Project on EPC mode for a total cost of Rs 25.2bn.
	Received Rs 337.3mn towards Bonus Annuity in May 2018 from NHAI.
	Awarded 4 th Package of Nagpur-Mumbai Six Lane Expressway in Maharashtra on EPC basis for a contract price of Rs 19.99bn.
2019	Received Provisional Completion Certificate for the Aligarh-Moradabad Section of NH-93 project, 73 days ahead of the scheduled completion date and entitled for early completion bonus.
2020	Secured Four New Highway Projects on HAM, from NHAI for aggregate bid project cost of Rs 65.96bn.

Source: Company, Systematix Institutional Research

Key management team

Exhibit 13: Board of Directors

Name	Designation	Profile
Mr. Pradeep Kumar Jain	Chairman & Managing Director	Has over 40 years of experience in infrastructure and allied sectors. Before forming PNCL Infratech, he provided integrated construction services for the infrastructure sector through PNC Construction Company, a sole proprietorship firm in Agra. He has been on the Board of Directors since incorporation. His responsibilities include overall administration and monitoring of projects and liaising with the government and non-government agencies.
Mr. Chakresh Kumar Jain	Managing Director & CFO	Has over 30 years of sector experience with expertise in the construction of highways, airports, rail over bridges etc. He has been on the Board of Directors since inception. His responsibilities include overall administration of procurement, finance & accounts, plant & equipment and relationship management activities of the company.
Mr. Yogesh Kumar Jain	Managing Director	Has over 25 years of experience in business strategy, planning, investment, bidding, development, procurement, execution, operation and management of infrastructure projects across sectors including highways, bridges, flyovers, airport runways, development of industrial areas, track construction for rail freight corridors and others. He has been on the Board of Directors since inception. His expertise lies in business development, relationship management, contract administration and project implementation from concept to commissioning.
Mr. Anil Kumar Rao	Whole-time Director	Holds a bachelor's degree in Civil Engineering and a master's degree in Construction Technology & Management. He has over 31 years of experience in the implementation and operation & management of infrastructure projects across geographies and cultures. Before joining PNCL in the year 1999, he had worked with Progressive Constructions, Gulfar Engineering & Contracting, Oman, IRCON International, Somdatt Builders in various senior positions. He is also a member of the Indian Roads Congress and the Institution of Engineers India. He has been a Director since November 17, 2000. His responsibilities include overall monitoring, execution and O&M of projects.
Mr. Chhotu Ram Sharma	Independent Director	Manages his own consultancy besides being an Independent Director. He has around 40 years of experience and has held critical positions in foreign, public and private sector banks like Centurion Bank of Punjab, Bank of Punjab, Andhra Bank, Citibank and Oriental Bank of Commerce. He is serving on the Board of Directors since October 25, 2007.
Mr. Ashok Kumar Gupta	Independent Director	Holds a bachelor's degree in Medicine and a Master's degree in Surgery. His professional experience includes serving as a professor in S.N. Medical College, Agra along with a rich experience in business and management. He is serving on the board of Directors since 2009.
Ms. Deepika Mittal	Independent Director	Holds a Bachelor's degree in Commerce and Law. She is also a qualified Chartered Accountant. Her professional experience of 16 years includes financial management and taxation and audit activities. She is also a designated partner at M/s. PMA & Co., Chartered Accountants, Agra. She is serving as a Director on PNCL's Board since 2014.
Mr. Gauri Shanker	Independent Director	Has over 40 years of experience in Banking and Finance and served as Managing Director and Chief Executive officer of Punjab National Bank in 2015. Before this, he worked in Bank of India in various positions. He has vast experience in domestic and international operations. His forte is Finance, Strategy and HR Development. He is serving as the Director on PNCL's Board since 2018.
Mr. Krishan Kumar Jalan	Independent Director	Former Secretary to the Government of India; spent over three and half decades in the Indian Administrative Service, Haryana Cadre. He has held various posts such as Additional Chief Secretary, Principal Secretary and Director of various departments of the Haryana government. In his initial career, he worked as District Magistrate/Collector of five districts in Haryana namely Bhiwani, Sonapat, Rewari, Faridabad and Karnal. At the Government of India, he had worked as Central Provident Fund Commissioner; major e-governance initiatives and activities were undertaken in the Employee Provident Fund Organisation under his leadership. He has also worked as Joint Secretary in the Ministry of Textiles, Government of India. He is serving as the Director on PNCL's Board since 2019.
Mr. Talluri Raghupati Rao	Whole-time Director	Civil Engineer with masters in planning from School of Planning & Architecture, New Delhi with specialization in Transport Infrastructure. He also holds a post-graduate diploma in construction management. He has over three decades of professional experience in planning, engineering, development, implementation and management of infrastructure projects across sectors. He also extensively worked on structuring projects on PPP models. He joined PNCL in May 2014 as the Executive Vice President (Infra) and has been elevated to the company's board since August 2019 as a Whole Time Director. He oversees business development, monitoring & coordinating of implementation, contract administration, overseeing operational projects on BOT-Toll, Annuity & HAM, arbitration and corporate communications of the company. Before joining PNCL, he had worked with SREI Infra Finance Ltd as Senior Vice President, IL&FS IDC Ltd. as Vice President and RITES (PSU) as a Deputy GM.

Source: Company, Systematix Institutional Research

Annual report analysis

Exhibit 14: PNCL – Annual Report Analysis

Year	Demand scenario & Outlook	Key events	Key performance indicators		
FY17	During the year, PNCL completed two very challenging projects namely four-laning of 10 km long Dholpur-Morena Section of NH-3 including a major bridge on river Chambal, one of the highest river bridges in the country and four laning of Agra bypass connecting NH-2 and NH-3 amid very challenging working conditions with very complex structures.	Multiple headwinds impacted revenues. Progress of ongoing works also suffered on account of the ban on inter-state transportation of minor minerals, sand mining etc. in the state of UP, particularly in the second half of the year.	Revenue growth	71%	
			EBITDA growth	50%	
			PAT growth	4%	
			Debt/Equity	0.12	
			ROE	21%	
			FCF (Rs mn)	1,700	
			Order backlog (Rs mn)	37,689	
			Order inflow (Rs mn)	18,400	
FY18	In February 2018, it received Rs 582.3mn bonus for the early completion of Agra-Lucknow Green Field Expressway Project; it is the highest amount of early completion bonus ever received by the company.	Enhanced Fund Based Limits from Rs 6.5bn to Rs 7.5bn which will enable to execute without financial constraints.	Revenue growth	25%	
			EBITDA growth	67%	
			PAT growth	62%	
	Enhanced Non-Fund Based Limits from Rs 26.5bn to Rs 33.5bn which will enable to bid for higher no. of projects that are larger in size.	Reduced cost of borrowing on Working Capital Loans from 10.49% to 8.8%.	Debt/Equity	0.15	
			ROE	27%	
	FCF (Rs mn)		(680)		
	Order backlog (Rs mn)		63,016		
Reduced cost of borrowing of operational projects from 10.05% to 8.84%.		Order inflow (Rs mn)	4,853		
FY19	During the previous two years, for the majority of new projects secured by the company, physical execution couldn't be commenced due to prolonged delay in declaration of appointed dates by the authorities owing to persistent holdups in timely acquisition and possession of vacant land by them. Even though PNCL was geared to commence execution in full swing, its hands were virtually tied-up to move ahead primarily due to the non-availability of required land and other impediments. Given the challenge, PNCL had assumed higher responsibilities than envisaged in the contracts - supporting the authorities in expediting the process of land acquisition and removal of encumbrances across projects. These concerted efforts made by PNCL resulted in the declaration of appointed dates and commencement of execution at most of the awarded projects in the latter part of FY18 and during FY19.	During FY19, PNCL secured five new orders of Rs 58.6bn aggregate value amidst stiff competition, which is the highest ever new business secured by it in a single financial year. The orders include two contiguous packages of Purvanchal Expressway in Uttar Pradesh worth Rs 25.2bn and one package of Nagpur-Mumbai Super Communication Expressway in Maharashtra for a contract price of Rs20bn.	Revenue growth	11%	
			EBITDA growth	11%	
			PAT growth	-2%	
			Debt/Equity	0.16	
			ROE	21%	
			FCF (Rs mn)	330	
			Order backlog (Rs mn)	65,000	
			Order inflow (Rs mn)	37,312	
			Net working capital cycle days stood at 97 days whereas debtor days stood at 73 days against 113 days and 136 days a year ago.		

Year	Demand scenario & Outlook	Key events	Key performance indicators	Year
FY20	The company proposed to divest its entire 35% stake in Aligarh-Ghaziabad project to any interested strategic investor. The divestment will reduce exposure for lenders as well, resulting in enough liquidity for funding the company's future projects. PNCL is also looking to monetize its other HAM projects.	PNCL has maintained a consistent OCF/FCF pattern, as it has stuck to its core expertise and focused on domestic markets and ignored unrelated diversification as well as aggressive growth campaigns.	Revenue growth	5%
			EBITDA growth	14%
			PAT growth	-11%
			Debt/Equity	0.11
			ROE	16%
	PNCL is one of the few players in the road space in India that have had consistent OCF/FCF (post interest expense) over FY2014-2019.	It has negligible net interest expense as a percentage of EBITDA, thus having significant distributable cash flow.	FCF (Rs mn)	1,863
During FY20, PNCL's gross block was over Rs 10bn which allows it to execute projects worth Rs 70bn.	As on March-20, the net working capital days reduced to 57 days from 97 days in March-19.	Order backlog (Rs mn)	78,489	
			Order inflow (Rs mn)	34,583
FY21	The company follows a cluster-based approach with more than 66% of its total order book from Uttar Pradesh. This has resulted in geographical advantage and optimum utilization of resources, translating into superior operating leverage and profit margins. It also allows the company to bid at competitive rates and still maintain its margin and profitability profile. PNCL stands to benefit from its geographical advantage given the robust project pipeline in North India, especially in Uttar Pradesh.	PNCL believes that the trajectory of road capex going ahead will depend significantly on asset monetization, as there are limits to the funds that NHAI can generate through 1) borrowings and 2) budgetary support from cess (in light of increasing crude oil prices). In addition, the fiscal situation of state governments has deteriorated due to COVID-19, which has further limited their ability to fund additional capex for road construction.	Revenue growth	1%
			EBITDA growth	-8%
			PAT growth	-20%
			Debt/Equity	(0.13)
			ROE	1353%
			FCF (Rs mn)	3,163
			Order backlog (Rs mn)	116,480
	Order inflow (Rs mn)	79,444		
PNCL has a standalone net debt to equity ratio of 0.14x as of FY21. It will be financing equity investment in HAM projects through own cash generation and monetization of its BOT and HAM projects. The company is evaluating a Share Purchase Agreement with the preferred investors for the sale of a 100% aggregate stake in Ghaziabad Aligarh Expressway. It is also looking to monetize its completed and nearing completion HAM projects.	It has financial and technical qualifications to bid for a single EPC project up to a ticket size of Rs 40bn. It has invested more than Rs 8bn in the last five years in construction equipment and machinery, which gives it the capability to execute projects worth of up to Rs 100bn annually.			
It has successfully diversified into the drinking water supply segment by bagging some large rural water supply projects under the Jal Jeevan Mission in UP.	Prudent financial management has further allowed PNCL to reduce net working capital days to 51 days vs. 57 as on March-20.			

Source: Company, Systematix Institutional Research

Investment Analysis

Play on infrastructure capex pipeline in UP and other Northern parts

PNCL will be the key beneficiary of significant opportunities originating in UP

Uttar Pradesh is the largest state in terms of population in India and has a disproportionately large impact on electoral outcomes. The incumbent government has highlighted its intent for an extensive infrastructure capex program in UP.

There are central plans for Rs 1.5-2tn on roads to develop 15 greenfield highways and convert 72 State Highways into National Highways. The state government is pushing for its flagship Expressways as well.

In addition, ring roads are planned for all major cities. Of the state projects, the key Purvanchal Expressway (Rs 260bn) is already awarded, while other expressways like Bundelkhand and Yamnotri Expressway by the NHAI are in the pipeline.

PNCL is expected to be the prime beneficiary of these opportunities, as road capex sustains its momentum gained since 2014 in UP and other parts of North India.

Exhibit 15: Significant opportunity landscape in Uttar Pradesh

Region	Opportunity	PNCL's core competency in the region	Risks
Uttar Pradesh	Central projects	Assured supply of aggregates from own mines in nearby states	GR Infra, Dilip Buildcon and L&T are also active in large projects in the region
	MoRTH pipeline of Rs 1.5-2trn over the next 3-4 years	Pre-existing clusters	
	✓ 15 greenfield projects	Strong execution credentials and balance sheet	
	✓ 72 State Highways converted to National Highways		
	✓ Ring roads in all major cities namely Kanpur, Gorakhpur, Bareilly, Moradabad and Meerut		
	✓ Bundelkhand Expressway (Delhi-Jhansi)		
	✓ Delhi Yamnotri Expressway		
	State projects		
	Expressways		
	Significantly large prospects to limit competition		

Source: Systematix Institutional Research, India Investment Grid

Well-positioned to take orders in Madhya Pradesh and Maharashtra as well

Madhya Pradesh offers a potential capex of Rs 2.0trn in Central roads over the next 3-4 years, with prominent projects being the Narmada Expressway and the Chambal Expressway.

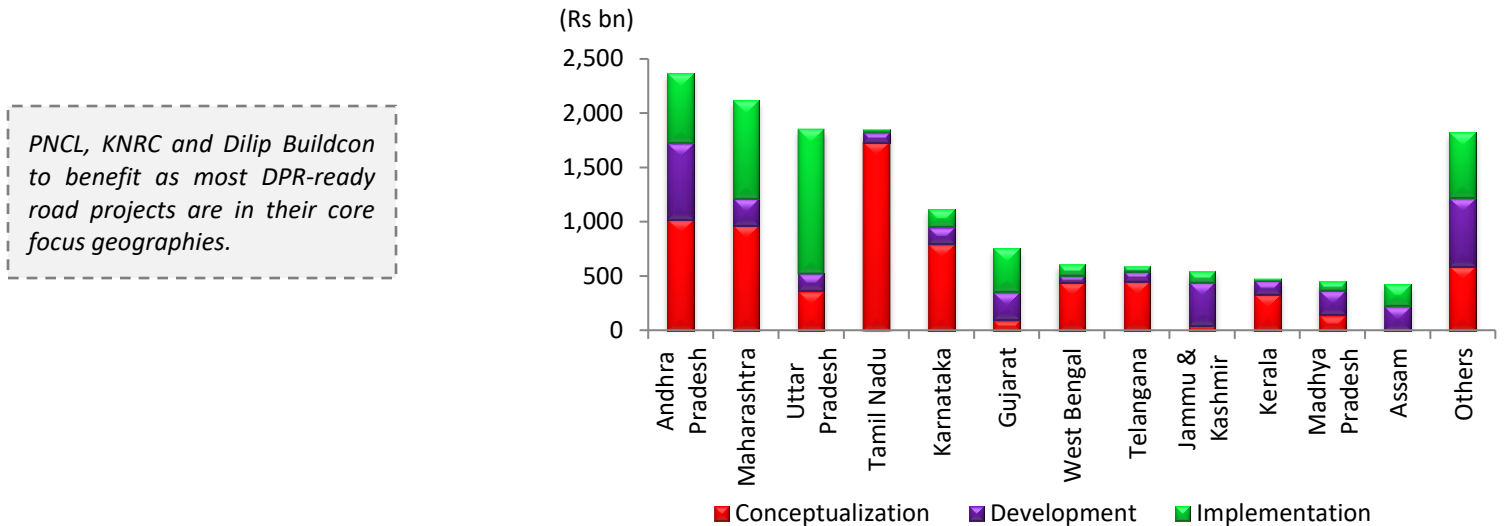
Maharashtra has the most ambitious state road plans. Even as the flagship project Mumbai-Nagpur Expressway is already awarded and construction is underway, there are plans for another 10,000km of state roads to be awarded over the next 3-4 years.

PNCL was amongst the few parties besides NCC-Megha JV and AFCONS that pre-qualified in the bids for Mumbai-Nagpur Expressway in Maharashtra. This was despite stringent norms imposed by the state, such as significant experience in execution of expressways and the company not being under CDR (corporate debt restructuring) or SDR (strategic debt restructuring). Though the norms were subsequently relaxed to boost competition, the incident highlights PNCL's capability as well as intention to explore opportunities in the lucrative MP/Maharashtra cluster.

Apart from the planned expressways in this region, there are ~10,000km of state roads planned by the government. These projects offer additional opportunities for clustering if PNCL secures one or more larger contracts in the region.

With opportunities set to grow due to increased HAM awarding even by States and with most players executing close to their execution capacity, we expect PNCL to keep up with its growth momentum and at the same time maintain its premium to NHA estimated costs.

Exhibit 16: Development-stage road projects – mostly in AP, J&K, Maharashtra, Gujarat, MP, UP and Karnataka – benefit players like PNCL, KNRC and Dilip Buildcon



Source: Systematix Institutional Research, India Investment Grid

Exhibit 17: Maharashtra, UP and MP with over Rs 4.5trn of road projects are the key geographical focus areas

Rs bn	Project stage			Promoter		Mode of implementation				Grand Total
	Conceptualization	Development	Implementation	Centre	States/UTs	EPC	HAM	Not Disclosed	PPP	
Pan India	-	-	3,600	3,600	-	-	-	3,600	-	3,600
Andhra Pradesh	1,021	703	647	763	1,608	1,625	715	-	31	2,371
Maharashtra	964	247	905	1,383	734	768	1,226	-	122	2,116
Uttar Pradesh	363	157	1,329	973	877	1,109	625	-	114	1,849
Tamil Nadu	1,727	98	24	802	1,047	1,071	747	-	31	1,848
Karnataka	795	157	164	1,063	53	17	1,030	-	70	1,116
Gujarat	97	256	400	517	235	328	348	45	32	752
West Bengal	438	66	101	434	172	147	382	-	76	605
Telangana	447	91	54	514	77	160	431	-	-	592
Jammu & Kashmir	43	397	101	541	-	479	62	-	-	541
Kerala	330	128	18	460	16	-	460	16	-	476
Madhya Pradesh	141	223	82	188	259	275	156	-	16	447
Assam	-	224	200	424	-	424	-	-	-	424

Source: Systematix Institutional Research, India Investment Grid

Favourably placed in the core northern heartland belt

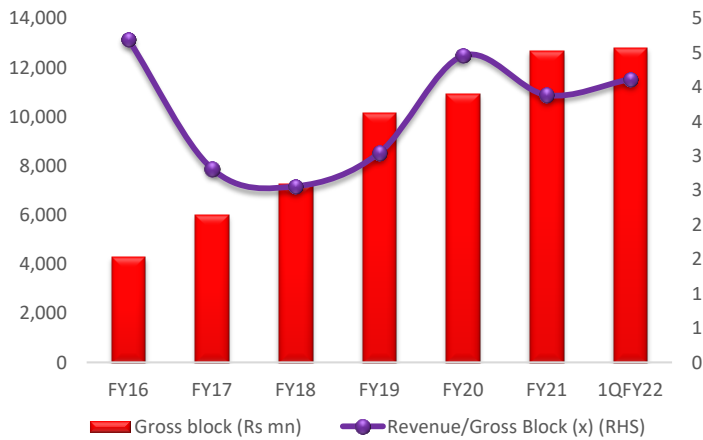
The company has followed a prudent bidding policy and remained focused on timely execution. It has consistently delivered projects within schedule, leading to bonus payouts by the NHAI.

Ownership of equipment leads to reliable execution

PNCL has a philosophy of equipment ownership and minimal leasing of assets. In anticipation of the high growth and adoption of cement concrete roads by the NHAI, the company has invested significantly in enhancing its gross block of plant and machinery (~6x of FY12 levels) in recent years. However, unlike some peers, PNCL's asset utilization (defined as revenue/gross block) is significantly higher at 4x against the industry range of 2.5-3x, suggesting that it has optimally utilized its assets.

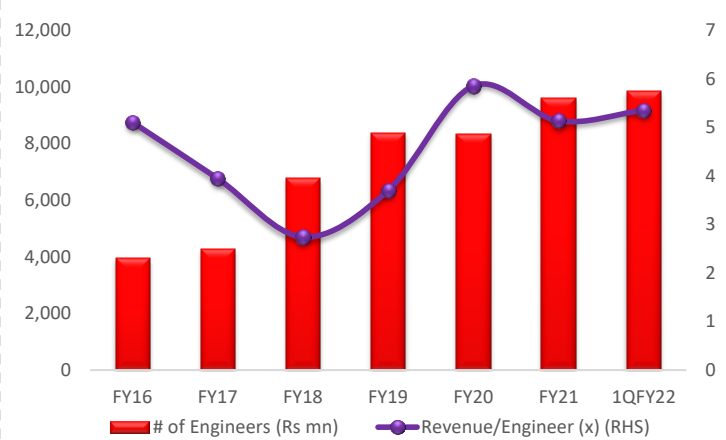
Equipment ownership assumes significance not only due to increased control over execution but also given: a) the increasing trend to construct cement concrete highways at a time when cement concrete pavers are in short supply; this makes leasing costly and unreliable; b) lead time for concrete pavers to arrive at the site from order to import is now over six months, which can lead to delayed mobilization for lesser equipped players.

Exhibit 18: Large investment in equipment bank...



Source: Company, Systematix Institutional Research

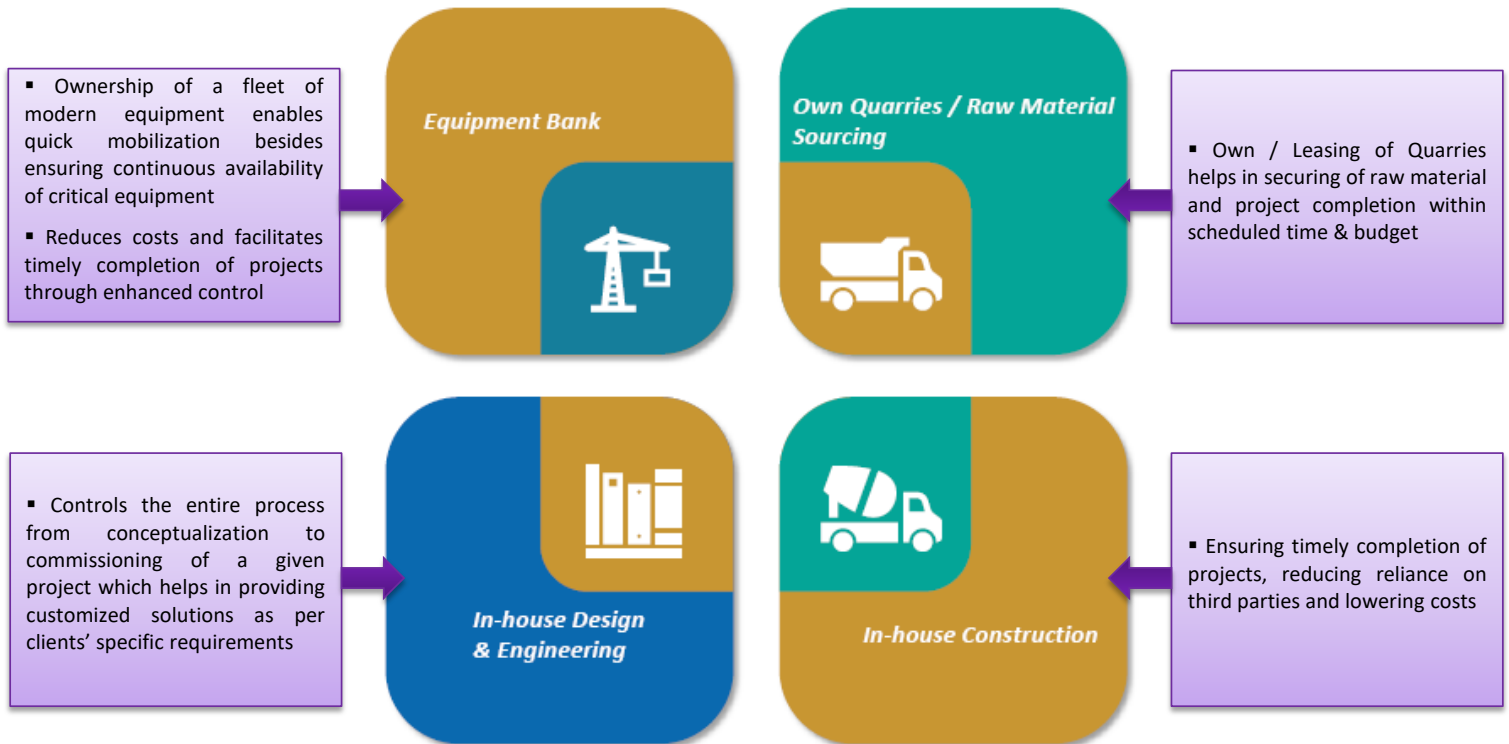
Exhibit 19: ...and in Engineers on its payroll in recent years



Source: Company, Systematix Institutional Research

Minimal or no sub-contracting increases execution and reliability

PNCL does not sub-contract any of the key activities of a project and uses its own mines and equipment. The company has end-to-end project construction capabilities extending from raw material mining to road marking, including stone quarrying (boulders for aggregates). It has state-of-the-art stone crushers, transportation vehicles, concrete and bituminous plants, paver finishers, rollers and other modern kits, including road-marking equipment. These in-house capabilities provide PNCL with control over execution, quality, time and project costs.

Exhibit 20: PNCL's business model ensures significant control over execution and cost

Source: Company, Systematix Institutional Research

Raw material security, especially aggregates, in a state like UP is a major positive

Based on our discussions with various companies, including but not limited to PNCL, we gather that sourcing aggregates of requisite quantity and quality is a major challenge in UP. In fact, compared with southern and central India, aggregates can cost as much as 4x in UP due to the lack of mines in the state. However, PNCL has been able to get around this issue by owning mines in the neighbouring states of Uttarakhand, Rajasthan, Madhya Pradesh and Jharkhand. This has helped it source more than 80% of its aggregates in-house, thereby reducing dependency on external vendors. PNCL is seeking to boost its mining capacities further to enhance raw material security in anticipation of the huge road capex in the state.

Clusters in almost all areas of UP place it relatively strongly than peers to gain from road capex

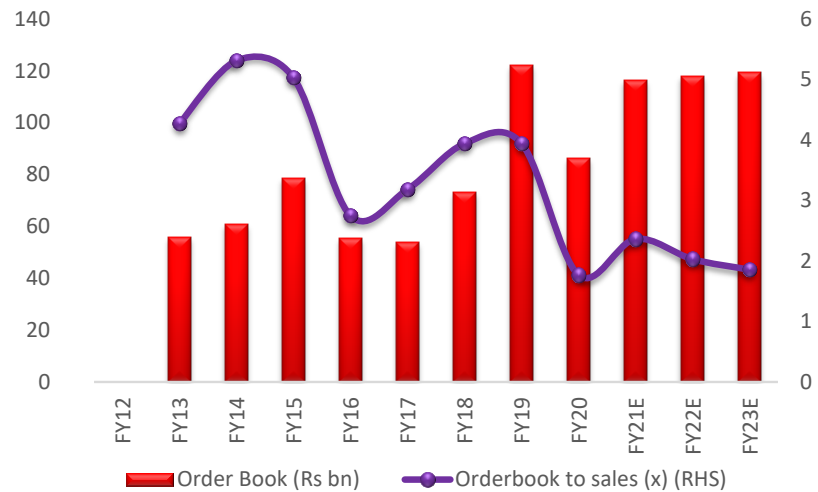
Due to projects being undertaken, PNCL is already well-mobilized in eastern UP in Gorakhpur, Varanasi and Ayodhya. Further, with projects in the Jhansi-Khajuraho region, the company also has a presence in the relatively underdeveloped Bundelkhand region. It is also mobilized near the major cities of Agra and Lucknow due to works being executed in the region. This vast level of mobilization and presence in the western parts of Bihar (bordering east UP) places PNCL in a sweet spot to gain from the anticipated spend on road infrastructure, especially around eastern UP.

Prudent in bidding compared to the industry

Has not chased order backlog; book: bill ratio (including L1) has been stable

Like KNRC, PNCL has kept away from aggressive bidding in the road EPC/HAM space. It is only from FY16 that PNCL started actively participating in Central Government road projects, as the era of aggressive bidding and slowdown gradually ended.

Exhibit 21: Disciplined bidding strategy; order backlog growth has come only with a corresponding execution pick up



Source: Company, Systematix Institutional Research

Active empowerment of site management to resolve project-specific issues and sustained promoter push

PNCL's top management is involved in site activities to settle local issues and matters concerning land availability. While land availability is NHAI's responsibility, PNCL has also empowered its site management at various projects to get involved in the process. The management liaises with project authorities and local state officials to accelerate the acquisition process and ensure timely disbursement of compensation to people affected by its projects. Consequently, PNCL has obtained physical possession of encumbrance-free stretches.

The management follows a rigorous project selection practice that covers factors like geographic location, the degree of difficulty in executing projects in a particular area, current and projected workload, the likelihood of additional work and the project's cost and profitability estimates. Projects are evaluated by making site visits that help assess the economic availability of key construction material, manpower availability and potential sites for quarries for aggregates. The company also assesses whether there are religious sites along the route and protected or reserve forests. As a policy, the company avoids bidding when such obstacles constitute a significant portion of the project's length.

The management also assesses the level of land availability (on the ground) for projects before deciding to tender for them. Its business focus can be summed up as:

- Selective bidding for projects based on logistical proximity (helps in the development of project clusters).
- Bids are based on pre-determined hurdle rates (EBITDA margin), thus lowering the possibility of aggressive bids unless contiguous or located close to neighbouring projects.
- Backward integration into mining of aggregates for a project.

Strong balance sheet leading to outperformance over larger diversified players

A strong balance sheet enables attractive financing terms and the ability to sustain capex and equity investment

PNCL is a net-debt free company at the standalone level, which allows it to secure one of the most competitive interest rates for its HAM projects requirement – this is one of the key advantages it enjoys. It has also been able to bring down its working capital cycle sharply from an average of 100 days until FY16 (and 190 days in FY17) to ~60 days as of FY21.

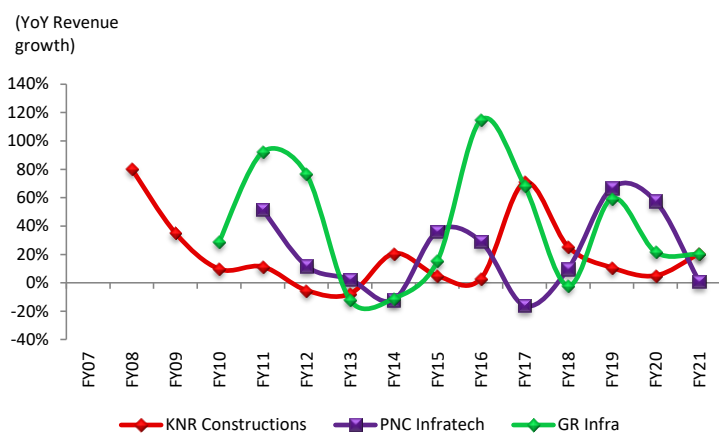
While volatile, the company has converted about 72% of its EBITDA into OCF (post-interest expense) since FY13, a feat still very few construction companies have achieved. These trends are an exception in an industry characterised by unsustainable debt burdens and poor records of cash generation.

Its net cash position allows it to borrow at low interest rates while ensuring faster financial closure for its HAM projects, even as the industry struggles to achieve financial closure due to inadequate balance sheet strength.

Post its IPO in 2015, the company has maintained its net-cash position and financed capex and dividends entirely through OCF generation through FY16-21. This strong track record enables it to fund capex requirements as well as equity commitments necessary for its HAM projects.

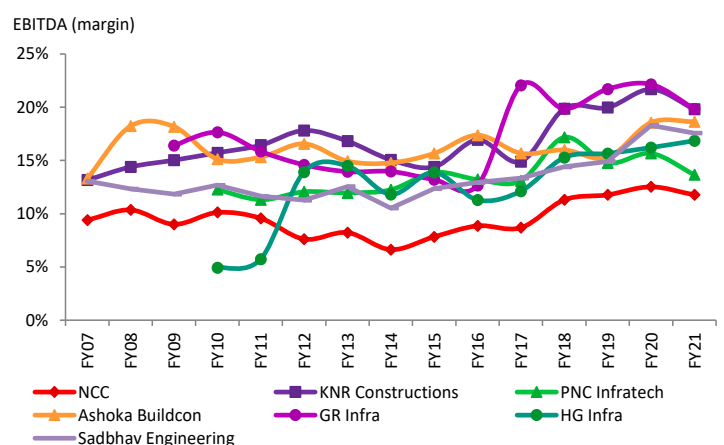
The low leverage allows the company to borrow at interest rates as low as 7%, which is as much as 200bps lower than its peers. It has achieved financial closure of its hybrid annuity projects as well with minimal equity commitment (<10% of project cost), while large parts of the industry struggle to achieve financial closure due to inadequate balance sheet strength.

Exhibit 22: Within the roads sector, PNCL/KNRC/GR Infra have outperformed on revenue growth vs. NCC/Sadbhav/Ashoka



Source: Company, Systematix Institutional Research, Bloomberg

Exhibit 23: Most road companies witnessed margin expansion



Source: Company, Systematix Institutional Research, Bloomberg

Beyond the traditional growth and return ratios, we believe that cash generation is a key metric for assessing how construction companies fare. As the charts below depict, PNCL is amongst the few companies in the roads space with a consistent OCF/FCF (post interest expense) over FY14-21.

Given its strong balance sheet, PNCL is a better bet against large diversified conglomerates with high ambitions – it is deleveraged, has a demonstrated history of FCF, is better managed and will likely fare better in the upcoming awards as well.

As against PNCL, we notice that most companies have struggled to generate or maintain a consistent OCF/FCF pattern, mostly due to unrelated diversification and aggressive growth campaigns.

We also note that companies like PNCL have negligible net interest expense as a percentage of EBITDA, while larger names such as NJCC/Dilip/Sadbhav have huge interest costs that take away a large chunk of their EBITDA, thus leaving little for the bottom line or distributable cash flow.

Exhibit 24: KNRC stands out for OCF/FCF generation as well as negligible interest cost as % of EBITDA

(Rs mn)	Market Cap (Rs bn)	Cumulative OCF-Interest		Cumulative FCF-Interest		Cumulative OCF as % of mkt cap		Cumulative FCF as % of mkt cap		Average Interest paid as % of EBITDA	
		FY12-21	FY18-21	FY12-21	FY18-21	FY12-21	FY18-21	FY12-21	FY18-21	FY12-21	FY18-21
NCC	46	(5,216)	2,608	(23,627)	(9,178)	-11%	6%	-51%	-20%	60%	42%
KNR Constructions	82	17,770	9,628	6,528	2,187	22%	12%	8%	3%	8%	7%
PNC Infratech	75	18,742	15,467	6,960	8,419	25%	21%	9%	11%	12%	10%
Dilip Buildcon	82	(30,432)	(18,210)	(68,983)	(34,723)	-37%	-22%	-84%	-42%	36%	36%
Ashoka Buildcon	27	18,704	11,090	12,562	7,241	69%	41%	46%	27%	13%	11%
GR Infra	169	20,036	15,025	227	(644)	12%	9%	0%	0%	9%	9%
HG Infra	41	7,737	6,599	(705)	718	19%	16%	-2%	2%	17%	15%
Sadbhav Engineering	7	4,562	4,495	(4,533)	2,452	62%	61%	-61%	33%	39%	43%
PSP Projects	19	2,946	1,634	99	(540)	16%	9%	1%	-3%	4%	4%

Source: Systematix Research, Company, Bloomberg

PNCL's outperformance compared to the rest of the sector is attributable to:

- Strong geography and segment-wise focus on its core markets. For example, in a bid to chase growth, companies have diversified away from their home markets - where they tend to be stronger - or focus segments. This has led to lower margins/execution challenges for these companies, as they lose control of the actual execution and depend on sub-contractors.
- The focus on restricting to core markets/segments is also a function of growth that can be organically met by adding one's own equipment/management bandwidth. However, as soon as companies start to rely on outsourcing work to other contractors, they end up being a service trading company.

PNCL consistently focused on its home market and the road/water segments, while its peer group has been much more diversified. As of Jun-21, almost its entire order backlog was from projects based in UP.

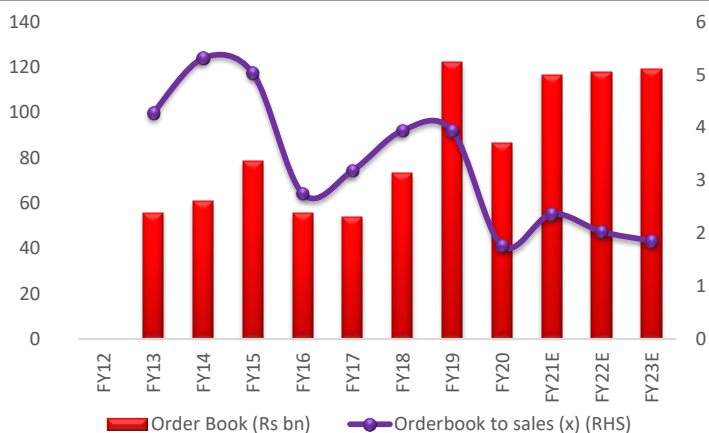
Financial and cash-flow analysis

Prudent bidding strategy reflected in its gradual order backlog growth

As evident in the chart below, PNCL has not chased order backlog growth. Its order backlog CAGR during FY13-16 was just -0.2% but subsequently improved to 16% over FY16-21 though we estimate it to normalize again to 11% levels over FY20-23E.

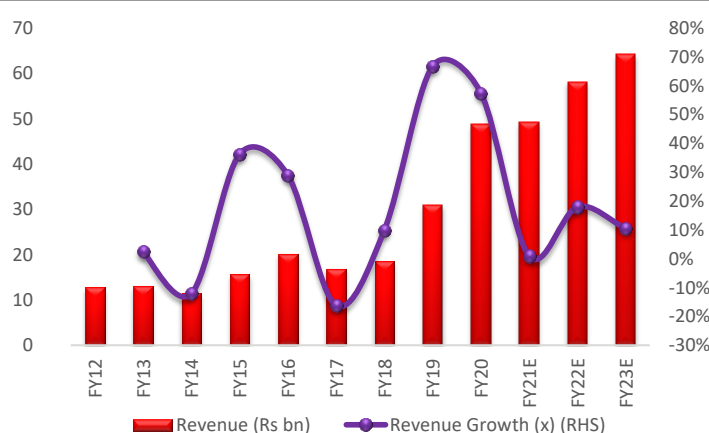
It has slowly built up its execution capability and restricted itself to an executable book: bill range of 2.5x, which is also usually the execution timeline for a typical road project. At the same time, its revenue trend reflects a stable growth profile of ~16% CAGR over FY12-21. Based on its current strong order backlog and L1 positions, we estimate a 14% revenue CAGR over FY21-23E.

Exhibit 25: Order book data since FY12 shows PNCL has not chased growth; has had lumpy order wins...



Source: Company, Systematix Institutional Research

Exhibit 26: ...but still showcased steady and secure revenue growth

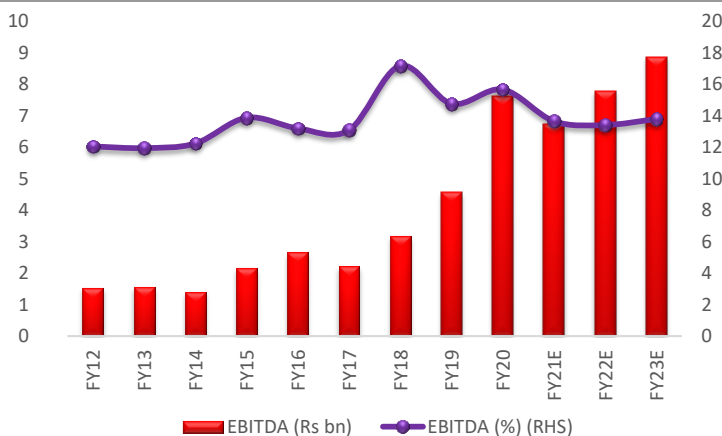


Source: Company, Systematix Institutional Research

Order backlog growth has converted to EBITDA growth

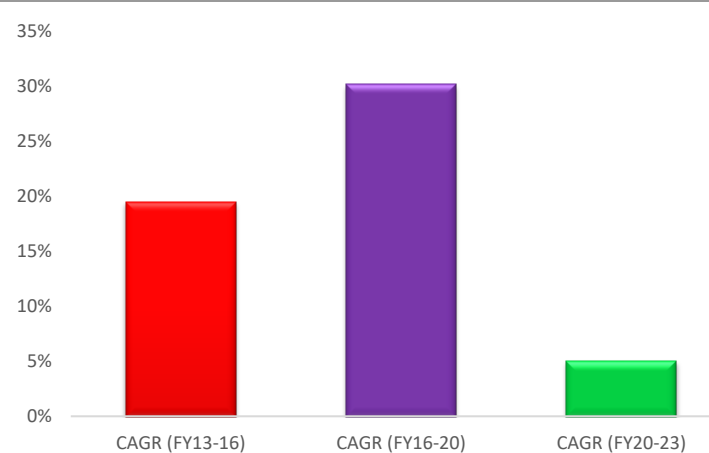
Unlike many peers, the orders have converted to EBITDA and more importantly OCF/FCF for PNCL. Despite the strong order growth in recent years, PNCL's EBITDA margins have remained strong as it was selective in its bid strategy and continues to execute the bulk of the work in-house. This has also resulted in its OCF and FCF (post interest expenses) remaining high consistently.

Exhibit 27: EBITDA has improved in line with revenues



Source: Company, Systematix Institutional Research

Exhibit 28: EBITDA CAGR to pick up on strong execution



Source: Company, Systematix Institutional Research

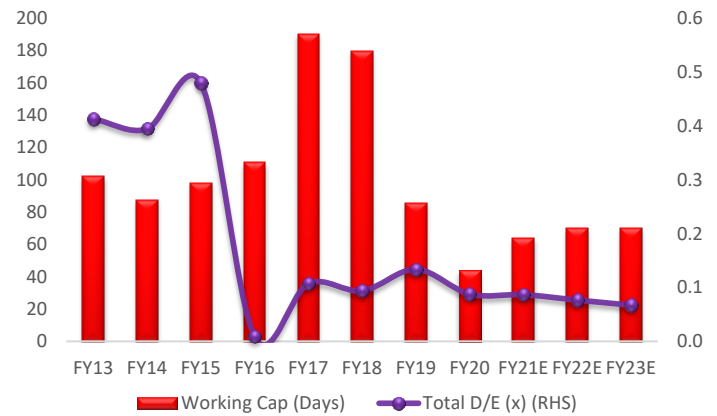
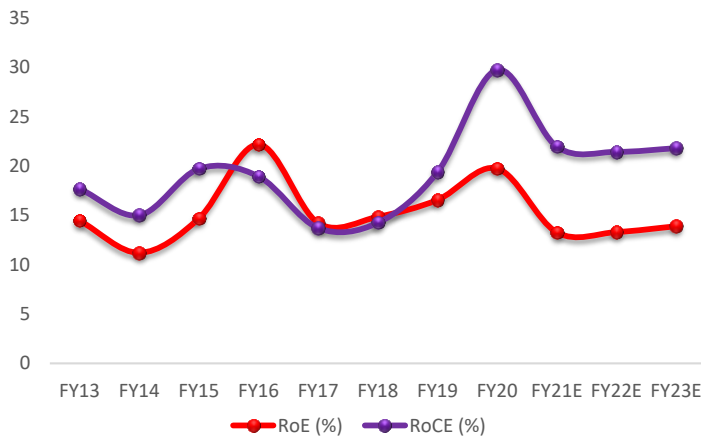
Strong and consistently high OCF/FCF conversion from EBITDA

The average OCF (post interest expense) to EBITDA conversion ratio of 74% over FY13-20 speaks highly of PNCL’s strong control over its margins, working capital and subsequently cash generation capabilities.

Similarly, its FCF (post interest expense) to EBITDA conversion ratio has been at 64% over FY13-20, which again is amongst the highest in the industry. Not surprisingly, PNCL is among the few companies in the EPC space to have negligible interest expenses and is debt-free at the parent level despite exposure to HAM projects.

Exhibit 29: Improvement in margins has led to better RoCE

Exhibit 30: WC cycle and D/E under control and amongst the best



Source: Company, Systematix Institutional Research

Source: Company, Systematix Institutional Research

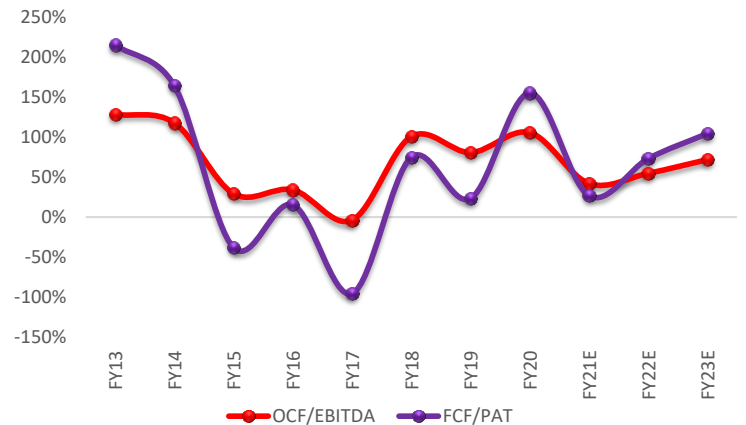
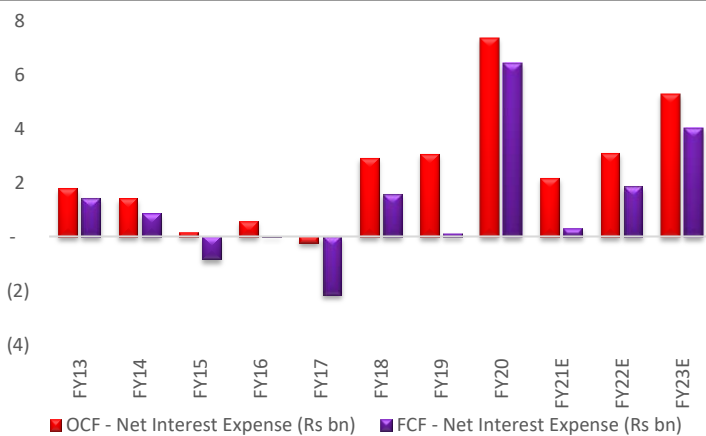
15-20% RoE/RoCE with positive OCF/FCF is a rarity in the EPC space

While we would argue that for EPC players looking at RoE/RoCE makes sense only if they are generating positive FCF, PNCL surpasses that benchmark. It has consistently been generating RoE/RoCE of ~15% except for the impact of COVID-19 on its FY20-21 financials. Given our strong outlook on its revenue growth over FY21-23E, we estimate its RoE to revert to 15% and RoCE at ~24% by FY23E.

One of the key drivers of PNCL’s strong RoE/RoCE and positive OCF/FCF generation has been its control over the working capital cycle, allowing it to maintain negligible debt levels. In recent years, PNCL has pulled back its WC cycle sharply from a high of 190 days in FY17 to ~60 days as of FY21.

Exhibit 31: Consistent OCF and FCF generation...

Exhibit 32: ...driven by high conversion ratio from EBITDA/PAT



Source: Company, Systematix Institutional Research

Source: Company, Systematix Institutional Research

Exhibit 33: Key assumptions

Rs mn	FY19	FY20	FY21	FY22E	FY23E
Order inflow	79,889	12,969	79,444	59,583	65,541
Revenues	30,969	48,779	49,254	58,090	64,233
EBITDA margin	14.8%	15.7%	13.7%	13.4%	13.8%
Order book	122,100	86,290	116,480	117,973	119,282
Ob to sales (x)	3.9	1.8	2.4	2.0	1.9

Source: Company, Systematix Institutional Research

Valuation & view

With sustainable growth pegged at 8.5% and RoE of 14%, we value PNCL's core EPC business at 14x FY24E P/E to arrive at a target price of Rs 347/share (upside of 20%)

PNCL has delivered a PAT CAGR of 19% over FY12-21 and is well placed for a 16% CAGR over FY21-24E given its strong order backlog (including L1 positions currently). However, as has been in the past, order inflows tend to be lumpy and yet another cycle of lower order inflow in the subsequent years cannot be ruled out; this may impact the company's growth or return ratios.

EPC players trade at a wide valuation range over the cycle due to volatile order backlog growth and margin/OCF generation. The valuation range can be as wide as 5-20x depending on the company profile based on these parameters. However, PNCL scores better compared to its peers on sustainability, cash generation and leverage to deserve the higher end of that valuation range despite its peak order backlog.

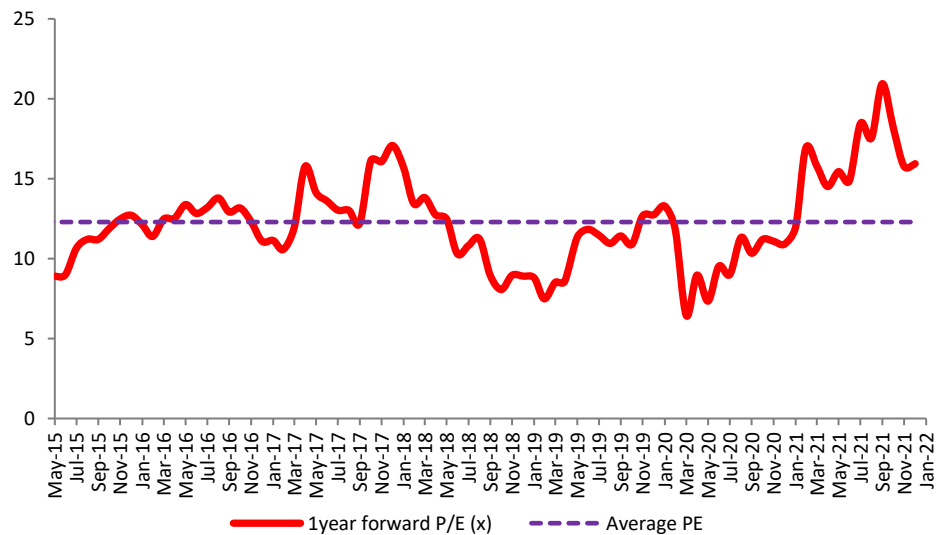
We value the stock at 14x FY24E P/E given that its long-term growth may settle around 8.5% with RoE of 14% levels and assuming that it continues to convert this into strong OCF/FCF generation. Together with 1x BV for its current investments in BOT/HAM projects, we arrive at a target price of Rs 347/share (upside of 20%) for the stock and initiate with a **BUY** rating.

Exhibit 34: SoTP Valuation

Particulars	Segment	Driver	PNCL's share	Multiple	Value (Rs mn)	Value per share (Rs)	Basis
EPC Business	Construction	5,503	100	14	77,046	300	14x FY24E P/E
BOT/HAM Projects	BOT/HAM	11,864	100	1	11,864	46	1x P/BV
Total					88,910	347	

Source: Systematix Institutional Research

Exhibit 35: PNCL deservedly trading above its long-term mean P/E



Source: Company, Systematix Institutional Research, Bloomberg

Divestment of BOT assets can potentially add value

PNCL's BOT road assets should see healthy traffic growth; they are by and large self-financed. Since the company has good road assets, divestments can free up locked-in capital and ensure stable annuity-like income from potential O&M contracts in these assets, which PNCL may enter with a potential buyer.

Key risks and risk mitigation measures

Rising competition in roads EPC/HAM contracts

Over the years, the road EPC business has been highly competitive with several regional players vying for orders from NHAI. However, PNCL has been selective in its bidding strategy and opted to stay focused in its focus areas of Northern India. It has also remained prudent in its bids, often bidding for a premium compared to NHAI's own project cost estimate against discount quoted by competition.

Concentration risk in Northern India

PNCL is highly exposed to Northern India with almost its entire order backlog from Uttar Pradesh and adjoining states. While it has occasionally taken up projects in states like Maharashtra, UP offers strong growth opportunities for the next five years. Also, restricting itself to geographical areas where it is strong allows PNCL to maintain its bid discipline and raw material supplies.

Balance sheet exposure due to incremental projects in HAM

All road EPC players face higher balance sheet exposure as NHAI has been increasingly awarding projects on a HAM basis against EPC. PNCL has followed a prudent model of selling completed projects and churning the sale proceeds into new assets, thereby restricting its own balance sheet exposure. As of date, it is debt-free at the standalone level due to its prudent capital allocation policy.

Commodity price risk

Steel and cement prices have run up sharply over the past year, exposing all road EPC players to cost escalation. While government EPC contracts generally have a price variation clause covering most such cost increases, not all increases may be passed through. In the near-term, this may pose a margin risk for PNCL as well as other road EPC players. In the longer term however, new bids would ideally bake in such cost escalations, thereby nullifying the higher cost.

FINANCIALS (STANDALONE)

Profit & Loss Statement

YE: Mar (Rs mn)	FY20	FY21	FY22E	FY23E	FY24E
Net sales	48,779	49,254	58,090	64,233	70,595
RM expenses	-33,710	-34,965	-41,418	-45,734	-50,264
Gross Profit	15,070	14,289	16,672	18,499	20,331
Employee expenses	-2,651	-2,791	-3,070	-3,377	-3,715
Other expenses	-4,775	-4,771	-5,809	-6,263	-6,883
EBITDA	7,643	6,728	7,793	8,859	9,734
Margin %	15.7%	13.7%	13.4%	13.8%	13.8%
Depreciation	-1,264	-1,124	-1,495	-1,611	-1,758
EBIT	6,379	5,604	6,298	7,248	7,976
Interest expenses	-1,144	-771	-1,162	-1,092	-1,059
Other Income	885	752	842	931	1,059
Pre-tax profit	6,120	5,585	5,978	7,088	7,976
Taxes	-1,517	-1,966	-1,853	-2,197	-2,472
Recurring PAT	4,603	3,619	4,125	4,891	5,503
Margin %	9.4%	7.3%	7.1%	7.6%	7.8%
Non-recurring Items	0	0	0	0	0
Reported PAT	4,603	3,619	4,125	4,891	5,503
Recurring EPS (Rs)	17.9	14.1	16.1	19.1	21.5
Cash EPS (Rs)	22.9	18.5	21.9	25.3	28.3
DPS (Rs)	1.2	0.5	1.1	1.9	2.1

Source: Company, Systematix Institutional Research

Balance Sheet

YE: Mar (Rs mn)	FY20	FY21	FY22E	FY23E	FY24E
Cash & bank balance	7,401	7,683	5,252	4,796	4,982
Debtors	8,035	8,392	11,936	13,199	14,506
Inventory	2,673	3,536	5,570	6,159	6,769
Loans & advances	5,988	6,829	7,749	8,718	9,807
Other current assets	5,555	6,842	7,397	8,321	9,362
Total current assets	29,652	33,282	37,905	41,193	45,426
Investments	7,355	8,470	12,470	16,470	20,470
Net fixed assets	5,880	6,592	6,346	5,985	5,478
Total assets	42,888	48,344	56,721	63,648	71,374
Current liabilities	16,290	16,717	21,251	23,769	26,535
Provisions	108	238	245	253	260
Total current liabilities	16,398	16,955	21,497	24,022	26,795
Borrowings	2,238	2,529	2,529	2,529	2,529
Net Deferred Tax liability (1,215)	(225)	(225)	(225)	(225)	(225)
Total liabilities	17,422	19,259	23,800	26,325	29,099
Paid-up capital	513	513	513	513	513
Reserves & surplus	24,953	28,572	32,408	36,809	41,762
Net Worth	25,466	29,085	32,921	37,322	42,275
Total equity & liabilities	42,888	48,344	56,721	63,648	71,374
Book Value/share (Rs)	99.3	113.4	128.3	145.5	164.8

Source: Company, Systematix Institutional Research

Cash Flow

YE: Mar (Rs mn)	FY20	FY21	FY22E	FY23E	FY24E
Pre-tax profit	6,120	5,585	5,978	7,088	7,976
Depreciation	1,264	1,124	1,495	1,611	1,758
Chg in working capital	1,823	-2,261	-2,512	-1,219	-1,274
Other non-cash items	531	282	1,162	1,092	1,059
Total tax paid	-1,612	-1,998	-1,853	-2,197	-2,472
Operating Cash Flow	8,126	2,732	4,270	6,375	7,046
Capital expenditure	-909	-1,820	-1,250	-1,250	-1,251
Free Cash Flow	7,217	912	3,020	5,125	5,795
Investments	-1,609	-1,193	-4,000	-4,000	-4,000
Other investing Cash flow	211	261	0	0	0
Investing Cash Flow	-2,307	-2,751	-5,250	-5,250	-5,251
Equity raised	0	0	0	0	0
Debt raised/(repaid)	-482	727	0	0	0
Dividend (incl. tax)	-309	0	-289	-489	-550
Other Financing Cash Flow	-725	-653	-1,162	-1,092	-1,059
Financing Cash Flow	-1,516	74	-1,451	-1,581	-1,609
Net chg in cash	4,304	55	-2,431	-456	186
Opening cash balance	3,097	7,628	7,683	5,252	4,796
Closing cash balance	7,401	7,683	5,252	4,796	4,982
Mkt Cap	74,140	74,140	74,140	74,140	74,140
Net Debt	-5,162	-5,154	-2,723	-2,267	-2,453
EV	68,978	68,986	71,417	71,873	71,687

Source: Company, Systematix Institutional Research

Ratios

YE: Mar	FY20	FY21	FY22E	FY23E	FY24E
P/E (x)	16.1	20.5	18.0	15.2	13.5
P/BV (x)	2.9	2.5	2.3	2.0	1.8
EV/EBITDA (x)	9.7	11.0	9.5	8.4	7.6
EV/Sales (x)	1.5	1.5	1.3	1.2	1.1
Dividend Yield (%)	0.4%	0.2%	0.4%	0.7%	0.7%
RoE (%)	19.7%	13.3%	13.3%	13.9%	13.8%
RoCE (%)	29.8%	22.0%	21.4%	21.9%	21.5%
Fixed Asset turnover (x)	8.3	7.5	9.2	10.7	12.9
Receivable days	60	62	75	75	75
Inventory days	29	37	49	49	49
Payable days	51	75	63	63	63
Working Capital Cycle (days)	44	64	70	70	71
Revenue Growth (%)	58%	1%	18%	11%	10%
EBITDA Growth (%)	67%	-12%	16%	14%	10%
EPS Growth, %	42%	-21%	14%	19%	13%
Net Debt/Equity (x)	(0.2)	(0.2)	(0.1)	(0.1)	(0.1)
Net Debt/EBITDA (x)	(0.7)	(0.8)	(0.3)	(0.3)	(0.3)

Source: Company, Systematix Institutional Research

ANNEXURE

Exhibit 1: Top-20 road projects in the NIP (Rs bn)

Sr. No	Name	Current Status	State	Project Cost	Spent till Mar-19	Project Status	Project Type	Project Brief	Land Acquired?
1	Pradhan Mantri Gram Sadak Yojana	Implementation	Pan India	3,600	2,040	Not Disclosed	SH/District Road	New construction	No
2	Nagpur- Mumbai Super Communication Expressway	Implementation	Maharashtra	553	85	Notice to Proceed	NH/ Expressway	New construction	Yes
3	Ganga Expressway	Implementation	Uttar Pradesh	415	-	Notice to Proceed	NH/ Expressway	New construction	No
4	MH/KT Border-Bangalore Road Development	Conceptualization	Karnataka	312	-	Idea Stage	SH/District Road	New construction	No
5	Tamil Nadu District Roads Upgradation	Conceptualization	Tamil Nadu	310	-	Idea Stage	SH/District Road	Upgradation	Yes
6	Tamil Nadu District Roads Upgradation	Conceptualization	Tamil Nadu	240	-	Idea Stage	SH/District Road	Upgradation	Yes
7	Andhra Pradesh Rural Areas Road Upgradation	Development	Andhra Pradesh	240	-	DPR/Feasibility in Progress	SH/District Road	New construction	No
7	Andhra Pradesh Rural Areas Road Upgradation	Development	Andhra Pradesh	240	-	DPR/Feasibility in Progress	SH/District Road	New construction	No
8	Amravati- Mydukur Road Development	Conceptualization	Andhra Pradesh	233	-	Idea Stage	SH/District Road	New construction	No
9	Purvanchal Expressway Road Construction	Implementation	Uttar Pradesh	225	84	Notice to Proceed	NH/ Expressway	New construction	No
10	GVMC & VMC Road Construction	Conceptualization	Andhra Pradesh	195	-	Idea Stage	SH/District Road	New construction	Yes
11	Andhra Pradesh Road Upgradation	Implementation	Andhra Pradesh	173	-	Notice to Proceed	SH/District Road	Upgradation	No
12	JH/WB Border-Kolkata Road Development	Conceptualization	West Bengal	167	-	Idea Stage	SH/District Road	New construction	No
13	Andhra Pradesh Road Upgradation	Implementation	Andhra Pradesh	166	-	Notice to Proceed	SH/District Road	Upgradation	No
14	Mukhya Mantri Gram Sadak Yojana Implementation	Implementation	Gujarat	153	-	Notice to Proceed	SH/District Road	New construction	No
15	Bundelkhand Expressway Road Construction	Implementation	Uttar Pradesh	148	6	Notice to Proceed	NH/ Expressway	New construction	No
16	Chennai-Trichy Road Development	Conceptualization	Tamil Nadu	145	-	Idea Stage	SH/District Road	New construction	No
17	Hyderabad-TL/MH Border Road Development	Conceptualization	Telangana	142	-	Idea Stage	SH/District Road	New construction	No
18	MP Road Construction	Development	Madhya Pradesh	141	-	DPR/Feasibility in Progress	SH/District Road	New construction	Yes
19	TL/AP Border-AP/KT Border Road Development	Conceptualization	Andhra Pradesh	134	-	Idea Stage	SH/District Road	New construction	No
20	Dhule-Thane Road Development	Conceptualization	Maharashtra	127	-	Idea Stage	SH/District Road	New construction	No

Source: Systematix Research, India Investment Grid

Exhibit 2: Top-10 ports proposed under NIP (Rs bn)

Sr. No	Name	Current Status	State	Total Project Cost	Mode of Implementation	Project Status	Project Brief
1	Vadhvan Port	Conceptualization	Maharashtra	161	EPC	Not Disclosed	Development of Port
2	Transshipment Port at South Bay	Development	Andaman & Nicobar	50	PPP	DPR/Feasibility Study in Progress	Development of Port
3	Machilipatnam Deep Water Port	Conceptualization	Andhra Pradesh	47	EPC	Not Disclosed	Development of Port
4	Prakasam Ramayapatnam Port	Conceptualization	Andhra Pradesh	37	EPC	Not Disclosed	Development of Port
5	Bhavanapadu Greenfield Port	Conceptualization	Andhra Pradesh	34	EPC	Not Disclosed	Development of Port
6	Terminal 4 - Phase 2 JNPT Container	Development	Maharashtra	32	PPP	DPR/Feasibility Study in Progress	Development of Terminal
7	Deepening of Inner Harbour For Handling Construction	Development	Odisha	30	EPC	DPR/Feasibility Study in Progress	Development of Harbour
8	Kutch SPM Terminal	Implementation	Gujarat	28	PPP	Not Disclosed	Development of Terminal
9	Kona village Greenfield Port	Development	Andhra Pradesh	26	PPP	DPR Approved	Development of Port
10	Greenfield commercial Kakinada SEZ Port	Implementation	Andhra Pradesh	21,230	PPP	Financial Closure Achieved	Development of Port

Source: Systematix Research, India Investment Grid

Exhibit 3: Key projects offered in airports under NIP

Sr. No	Name	Current Status	Project Cost (Rs bn)	Mode of Implementation	Project Status
1	Pune Airport Development	Development	190	PPP	DPR Approved
2	Navi Mumbai Airport Pre-Development	Development	163	PPP	Not Disclosed
3	Bangalore Airport Expansion	Development	162	PPP	Not Disclosed
4	Sriperumbudur Airport Development	Conceptualization	150	EPC	Idea Stage
5	Bhiwadi International Airport Development	Conceptualization	107	EPC	Idea Stage
6	Delhi Airport Expansion	Implementation	98	EPC	Notice to Proceed
7	Jewar Airport Development	Development	86	PPP	DPR/Feasibility in Progress
8	Hyderabad Airport Expansion	Implementation	59	PPP	Financial Closure Achieved
9	Vellore Aerospace Park Development	Conceptualization	30	EPC	Idea Stage
10	Coimbatore Airport Expansion	Conceptualization	30	EPC	Idea Stage
11	Madurai Airport Expansion	Conceptualization	30	EPC	Idea Stage
12	Mopa Airport Development	Development	30	PPP	Not Disclosed
13	Bhogapuram Airport Development	Development	30	PPP	Not Disclosed
14	Campbell Bay Airport Development	Conceptualization	25	EPC	Idea Stage
15	Port Blair Airport Development	Conceptualization	25	EPC	Idea Stage
16	Chennai Airport Upgradation	Implementation	25	EPC	Notice to Proceed
17	Nagpur Airport Upgradation	Development	17	PPP	DPR Approved
18	Dholera International Airport Development	Conceptualization	17	EPC	Idea Stage

Source: Systematix Research, India Investment Grid

Exhibit 4: Top-20 urban public transport projects planned under NIP (Rs bn)

Sr. No	Name	Current Status	Project Cost	Spent till Mar-19	Project Status	Project Type
1	Chennai Metro Rail Phase II	Development	692	-	DPR Approved	Metro
2	Tamil Nadu Mass Public Transit	Conceptualization	500	-	Idea Stage	Integrated Transport Hub
3	Delhi Metro Rail Phase III Development	Implementation	486	435	Notice to Proceed	Metro
4	Delhi-Gurugram SND NCRTC	Development	362	0	DPR Approved	Metro
5	Navghar-Balavali Multi Modal Corridor	Development	348	-	DPR Approved	Metro
6	MUTP-III A Procurement	Development	337	0	Design work	Metro
7	Delhi-Ghaziabad-Meerut RRTS	Implementation	303	2	Notice to Proceed	Metro
8	Metro Rail Construction	Conceptualization	300	-	Idea Stage	Metro
10	Bangalore Metro Rail Phase-2	Implementation	264	47	Notice to Proceed	Metro
11	Delhi Metro Rail Phase-IV Development	Implementation	249	-	Notice to Proceed	Metro
12	Mumbai Metro Rail Construction	Implementation	231	94	Notice to Proceed	Metro
13	Metro Lite Rail Development	Conceptualization	210	-	Idea Stage	Metro
14	TN Integrated Urban Road Development	Conceptualization	150	-	Idea Stage	Road/Traffic Infra
15	TN Transport Infrastructure Expansion	Conceptualization	150	-	Idea Stage	Integrated Transport Hub
16	Wadala-Kasarwadavali Metro Rail	Implementation	145	2	Notice to Proceed	Metro
17	Patna Metro Rail Construction	Implementation	134	-	Notice to Proceed	Metro
18	Thane Metro Rail Construction	Development	131	-	DPR Approved	Metro
19	Delhi Metro Rail Phase-IV Development	Development	131	-	DPR Approved	Metro
20	Surat Metro Rail Construction	Implementation	120	0	Notice to Proceed	Metro

Source: Systematix Research, India Investment Grid

Exhibit 5: Top-10 Water treatment projects in the NIP (Rs bn)

Sr. No	Name	Current Status	State	Promoter	Project Cost	Project Status	Funding source		
							Centre	State	External Aid
1	JJM Rural Implementation Project	Implementation	Pan India	Centre	3,600	Not Disclosed	2,090	1,510	-
2	Jal Jeevan Mission Implementation Project	Development	Pan India	Centre	2,790	DPR/Feasibility Study in Progress	798	2,000	-
3	Piped Water Supply Infrastructure Project	Conceptualization	Tamil Nadu	States/UTs	75	Idea Stage	-	75	-
4	Proposal for Water Supply Scheme Project	Development	Kerala	States/UTs	73	DPR/Feasibility Study in Progress	-	-	-
5	Production Components Distribution Project	Development	Kerala	States/UTs	62	DPR/Feasibility Study in Progress	-	-	-
6	Special Infrastructure Water Supply Projects	Implementation	West Bengal	States/UTs	45	Notice to Proceed	6	39	-
7	Kolkata Urban Resilience Improvement Project	Implementation	West Bengal	States/UTs	45	Notice to Proceed	-	13	31
8	External Aided Water Supply Infrastructure Projects	Implementation	West Bengal	States/UTs	39	Notice to Proceed	1	11	27
9	Godda Water Supply Infrastructure Project	Development	Jharkhand	States/UTs	34	DPR/Feasibility Study in Progress	-	-	-
10	Construction of Desalination Plant Project	Conceptualization	Andhra Pradesh	States/UTs	30	Idea Stage	-	-	-

Source: Systematix Research, India Investment Grid

Exhibit 6: Top-5 Sewage collection projects in the NIP (Rs bn)

Sr. No	Name	Current Status	State	Promoter	Project Cost	Project Status	Funding source		
							Centre	State	External Aid
1	Waste Water Management Project	Conceptualization	Tamil Nadu	States/UTs	100	Idea Stage	-	100	-
2	Water Supply and Septage Management Project	Implementation	Andhra Pradesh	States/UTs	52	Notice to Proceed	-	-	26
3	Chennai Sewerage Infrastructure Project	Conceptualization	Tamil Nadu	States/UTs	20	Idea Stage	-	20	-
4	Ahmedabad Construction of ETP Project	Development	Gujarat	States/UTs	15	DPR Approved	-	15	-
5	Smart City Upgradation and Sewage Development Project	Development	Chandigarh	Centre	9	DPR/Feasibility Study in Progress	-	-	-

Source: Systematix Research, India Investment Grid

Exhibit 7: Top-20 irrigation projects in the NIP (Rs bn)

Sr. No	Name	Current Status	State	Project Cost	Spent till Mar-19	Project Status	Project Type	Promoter	Land Acquired?
1	Kaleshwaram Irrigation Development Project	Implementation	Telangana	805	501	Notice to Proceed	River/Stream	States/UTs	No
2	Nethravati River Diversion Scheme Implementation Project	Conceptualization	Karnataka	630	-	Idea Stage	River/Stream	States/UTs	No
3	Godavari-Cauvery Linking Development Project	Conceptualization	Andhra Pradesh Tamil Nadu Telangana	606	-	Idea Stage	Interlinking	Centre	No
4	Polavaram Irrigation Project	Implementation	Andhra Pradesh	555	160	Notice to Proceed	River/Stream	Centre	No
5	Mission Bhagiratha Irrigation Project	Implementation	Telangana	451	277	Notice to Proceed	River/Stream	States/UTs	No
6	Bridging Irrigation Incentivization Scheme Implementation Project	Conceptualization	Pan India	374	-	Idea Stage	River/Stream	Centre	Yes
7	Palamuru Ranga Reddy Lift Irrigation Project	Implementation	Telangana	352	58	Notice to Proceed	River/Stream	States/UTs	No
8	Ken-Betwa Linking Development Project	Conceptualization	Madhya Pradesh Uttar Pradesh	351	-	Idea Stage	Interlinking	Centre	No
9	Sardar Sarovar Irrigation Project	Implementation	Gujarat	315	283	Notice to Proceed	River/Stream	Centre	No
10	Tanks and Wells Rehabilitation Project	Conceptualization	Tamil Nadu	225	-	Idea Stage	River/Stream	States/UTs	Yes
11	Water Bodies Propagation Development Project	Conceptualization	Tamil Nadu	200	-	Idea Stage	Micro/Drip Irrigation	States/UTs	Yes
12	Sharavati River Diversion Scheme Implementation Project	Conceptualization	Karnataka	200	-	Idea Stage	River/Stream	States/UTs	No
13	HNSS Construction Project	Implementation	Andhra Pradesh	168	123	Notice to Proceed	River/Stream	Centre	No
14	Vyarama Major Irrigation Project	Development	Madhya Pradesh	146	-	DPR/Feasibility Study in Progress	River/Stream	States/UTs	No
15	Babu Jagjeevan Ram Uttarandhra Sujala Sravanthi Project	Conceptualization	Andhra Pradesh	145	-	Idea Stage	River/Stream	States/UTs	No
16	PMKSY-HKPP-CADWM Development Project	Implementation	Pan India	135	46	Notice to Proceed	River/Stream	Centre	Yes
17	Sita Rama Lift Irrigation Development Scheme	Implementation	Telangana	131	23	Notice to Proceed	River/Stream	States/UTs	No
18	Gosikhurd [NP] Irrigation Project	Implementation	Maharashtra	128	72	Notice to Proceed	River/Stream	Centre	No
19	NRCP Development Projects	Implementation	Pan India	127	2	Notice to Proceed	River/Stream	Centre	No
20	Aghanashini Diversion Scheme Implementation Project	Conceptualization	Karnataka	126	-	Idea Stage	River/Stream	States/UTs	No

Source: Systematix Research, India Investment Grid

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