Market Intelligence
& Analytics

CRISIL
An S&P Global Company

Assessment of the construction industry in India

September 2024

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1 Macroeconomic overview of India

1.1 Review of India's GDP growth

GDP registered a CAGR of 5.90% between fiscal 2012 and fiscal 2024

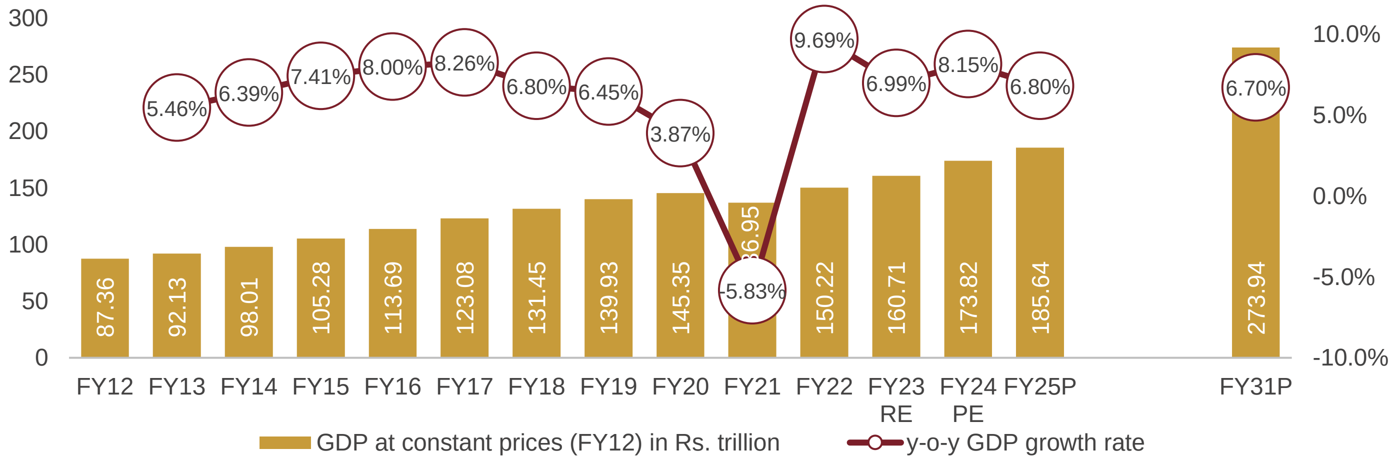
The country's gross domestic product (GDP) increased at a compound annual growth rate (CAGR) of 5.90% to Rs 173.82 trillion in fiscal 2024 from Rs 87.36 trillion in fiscal 2012. This growth is expected to sustain further, with GDP expected to grow at an average of 6.7% between fiscal 2025 and 2031, aiding India to become to third-largest economy in the world.

In fiscal 2022, the economy recovered from the pandemic-related stress as restrictions were eased and economic activity resumed, though inflation spiralled in the last quarter due to geopolitical pressures, with a GDP print of 9.69% vs -5.83% in fiscal 2021. In fiscal 2023, GDP rose 6.99% on strong growth momentum propelled by investments and private consumption. The share of private consumption in GDP rose to a 11-year high of 58.01%. During the same period the investments occupied a share of 33.27% in GDP.

In fiscal 2024, real GDP has seen a growth of 8.15%. Even as the agricultural economy slowed sharply in fiscal 2024 following a weak monsoon, the surge in non-agricultural economy has more than offset it. The government-driven investment push, along with easing input cost pressures for industry, has also played a major role in shoring up growth. However, services have been slowing with waning pent-up demand (post pandemic), with the exception of financial, real estate and professional services, which has powered ahead on the back of robust growth in banking and real estate.

In fiscal 2025, CRISIL MI&A expects the country's GDP to expand 6.80% on a Y-o-Y basis, driven by continued disinflation supporting the purchasing power of consumers, growth in agricultural sector coupled with gradual pick-up in the private sector capital expenditure. However, the growth is estimated to be slower than fiscal 2024, on account of continuing transmission of rate hike made by RBI, uneven economic growth for trading partner, normalisation of net tax impact on GDP and escalation of on-going red sea crisis coupled with regulatory actions towards unsecured lending taming the credit growth.

Real GDP growth in India (new series) – constant prices



Note: RE: revised estimates, PE: Provisional estimates P: projected
These values are reported by the government under various stages of estimates
Only actuals and estimates of GDP are provided in the bar graph

Source: Second advance estimates of national income 2023-24, quarterly estimates of gross domestic product for the third quarter (October - December) of 2023-24 and first revised estimates of national income, consumption expenditure, saving and capital formation for 2022-23, Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation (MoSPI), CRISIL MI&A

Between fiscal 2025 and fiscal 2031, India's GDP is expected to average at 6.7%

Between fiscal 2025 and fiscal 2031, CRISIL expects India to sustain average GDP growth of 6.7%, which will make India the third-largest economy in the world and lift per capita income. FY31 will mark the year when India enters the upper middle-income country club with per capita income rising to ~$4,500, as per World Bank definition.

Going ahead, in the near-term GDP growth is majorly characterised by rise in private sector investments and improved efficiency in domestic industries. As the government focuses on fiscal consolidation, its contribution to overall capital expenditure will partly diminish compared to past few years. Nevertheless, private sector investments are expected to gradually become more significant. Manufacturing sector is expected to grow faster than in the past decade between FY11 and FY20. During FY25 and FY31, the manufacturing and the service sector are expected to grow at 9.1% and 6.9% respectively. But service sector will remain the dominant driver of India's growth, contributing to 55.5% share in GDP by FY31 compared to 20.0% share of manufacturing sector in FY31, even as manufacturing sector catches-up on growth momentum.

India among the world's fastest-growing key economies

Following the recovery from the COVID-19 pandemic, India exhibited a faster growth rate of 7.0% in 2022 (FY23), surpassing both advanced economies at 2.6% and emerging and developing economies at 4.1%. This trend is expected to continue, with India leading the growth compared to its key counterparts.

United States: In the United States, growth is projected to shift from 2.5% in 2023 to 2.6% in 2024 and 1.9% in 2025, with the lagged effects of monetary policy tightening, gradual fiscal tightening, and a softening in labour markets slowing the aggregate demand.

United Kingdom: Growth in the United Kingdom is projected to rise modestly from an estimated 0.1% in 2023 to 0.7% in 2024, due to lagged negative effects of high energy prices wane. Then in 2025, as disinflation allows an easing in financial conditions and permits real incomes to recover, the economy is expected to see a growth of 1.5%.

European Union: Growth in the European union is projected to recover from 0.6% in 2023, which reflected relatively high exposure to the war in Ukraine, to 1.2% in 2024 and 1.8% in 2025. As per IMF estimates, the growth in is driven by strong household consumption as the energy prices subside and inflation falls, supporting the real income growth. Further, in recent years, the EU technology industry has faced disruptions due to currency fluctuations on account of fall in Euro and Pound against US dollar impacting the imports coupled with Russia-Ukraine war disrupting the supply chains which further impacted the sector.

In terms of **emerging and developing economies**, growth is projected to be relatively stable at 4.3% during both 2024 and 2025.

Real GDP growth comparison among India vs Advanced and emerging economies

Real GDP growth (Annual % change)	2018	2019	2020	2021	2022	2023	2024P	2025P	2026P	2027P	2028P
USA	3.0	2.5	-2.2	5.8	1.9	2.5	2.6	1.9	2.0	2.1	2.1
UK	1.4	1.6	-10.4	8.7	4.3	0.1	0.7	1.5	1.7	1.7	1.6
Japan	0.6	-0.4	-4.1	2.6	1.0	1.9	0.7	1.0	0.8	0.6	0.6
European Union	2.3	2.0	-5.5	6.1	3.7	0.6	1.2	1.8	1.7	1.6	1.6
Advanced economies	**2.3**	**1.8**	**-3.9**	**5.7**	**2.6**	**1.7**	**1.7**	**1.8**	**1.8**	**1.7**	**1.7**
China	6.8	6.0	2.2	8.4	3.0	5.2	5.0	4.5	3.8	3.6	3.4
India*	6.5	3.9	-5.8	9.8*	7.0*	8.2*	7.0*	6.5	6.5	6.5	6.5
Malaysia	4.8	4.4	-5.5	3.3	8.9	3.6	4.4	4.4	4.4	4.0	4.0
Thailand	4.2	2.1	-6.1	1.5	2.5	1.9	2.9	3.1	3.0	3.0	3.0
Brazil	1.8	1.2	-3.3	4.8	3.0	2.9	2.1	2.4	2.1	2.0	2.0
Mexico	2.0	-0.3	-8.6	5.7	3.7	3.2	2.2	1.6	1.9	2.1	2.1
Emerging market and developing economies	**4.7**	**3.6**	**-1.8**	**7.0**	**4.1**	**4.4**	**4.3**	**4.3**	**4.1**	**4.0**	**3.9**
World	**3.6**	**2.8**	**-2.7**	**6.5**	**3.5**	**3.3**	**3.2**	**3.3**	**3.2**	**3.1**	**3.1**

*Note: P: Projected. * Numbers for India are for financial year (2020 is FY21 and so on) and as per the IMF's forecast. ^India GDP estimate for the FY24 is 8.15% according to advanced estimate from MoSPI. Note: Projection as per IMF update*
Source: IMF economic database, World Bank national accounts data, OECD national accounts data, CRISIL MI&A

Overview on agriculture, industrial and services GVA

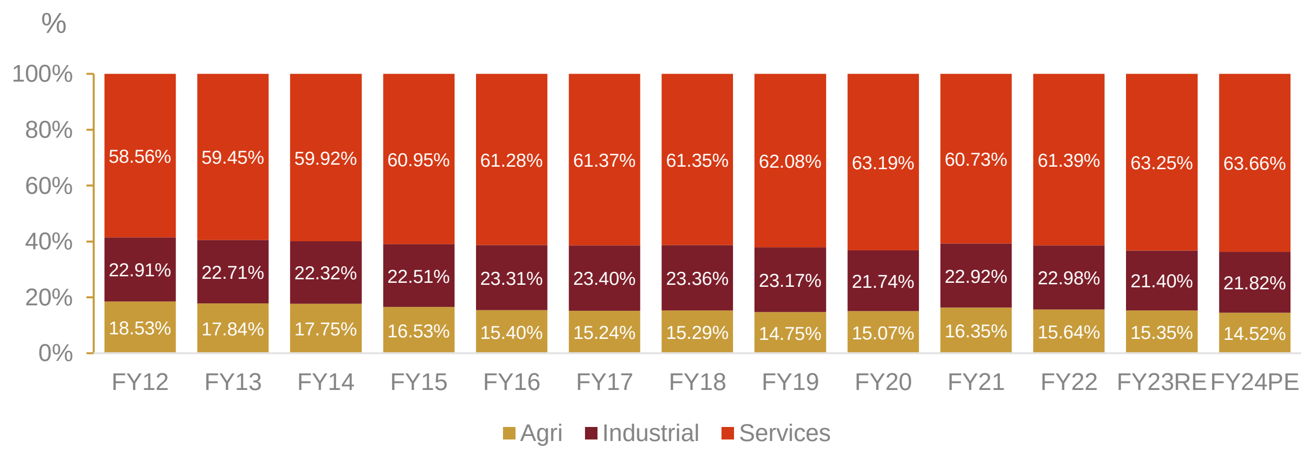
The services sector occupies the major share in overall GVA

Over the past decade, service sector has occupied highest share in the overall GDP with 63.66% share as of fiscal 2024. The sector, saw a dip in its share in fiscal 2021 owning to services being down due to lock down induced by covid pandemic. The sector saw a growth of 7.91% in fiscal 2024 majorly driven by growth in financial, real estate and professional services and construction activity which occupy a share of 50.74% (fiscal 2024) in the sector. Among the service sector, construction has grown the fastest during fiscal 2024 at 9.94% majorly driven pent-up demand and robust consumer sentiment for home ownership seen since the pandemic, maintained momentum in fiscal 2024. The growth in sector is supported by rise in digital platforms, increasing India's share in global service trade and rise in industrial sector to further contribute to the service sector growth.

Industrial sector which is the second major contributor to GVA has seen the highest growth (9.33%) in fiscal 2024. This growth in majorly driven easing of input cost pressure across sectors coupled with government initiatives such as PLI scheme coupled with increase in production. Going ahead, rise in investments, tailwinds as a result global supply chain diversification and improvement in logistics would aid the growth in the sector.

Agriculture and allied sector has seen the slowest growth in fiscal 2024 at 1.44% constraining the overall GVA growth. This is due to headwinds faced by the sector in terms of uneven and deficit monsoon as well as El Nino effecting the crop production during the period.

India's GVA across sectors – constant prices

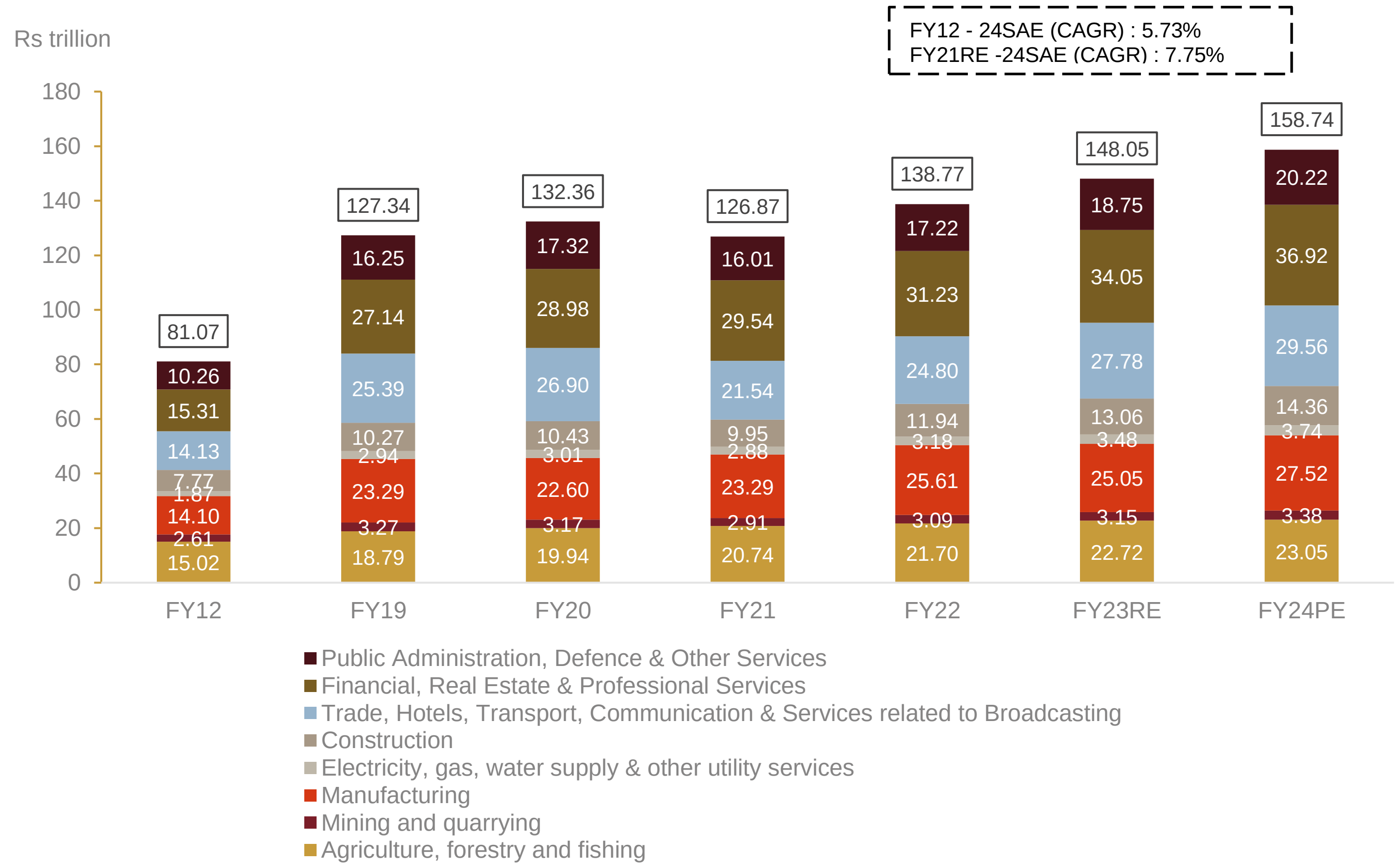


Note: Agri refers to Agriculture, livestock, forestry and fishing
Industrial includes Mining and quarrying, Manufacturing, Electricity, Gas, Water supply & Other utility services
Services include Construction, Trade, Hotels, Transport, Communication & Services related to Broadcasting, Financial, Real Estate and Professional Services and Public Administration, Defence & Other Services

GVA sees 7.22% growth in constant terms during fiscal 2024

Gross value added (GVA) at constant prices grew 6.69% in fiscal 2023, compared with 9.38% growth in fiscal 2022. In absolute terms, constant GVA was valued at Rs 148.05 trillion in fiscal 2023, up from Rs 138.77 trillion in fiscal 2022. Additionally, in fiscal 2024, GVA is estimated to have reached Rs 158.74 trillion, up from Rs 148.05 trillion, in fiscal 2023, registering a growth of 7.22%. Overall, GVA has registered a CAGR of 5.76% between fiscal 2012 and fiscal 2024. Within GVA, i) financial, real estate & professional services, ii) trade, hotels, transport, communication & services related to broadcasting and iii) manufacturing are the top three contributors to the overall GVA in fiscal 2024(SAE) with the share of 23.26%, 18.62% and 17.33% respectively.

GVA at constant prices

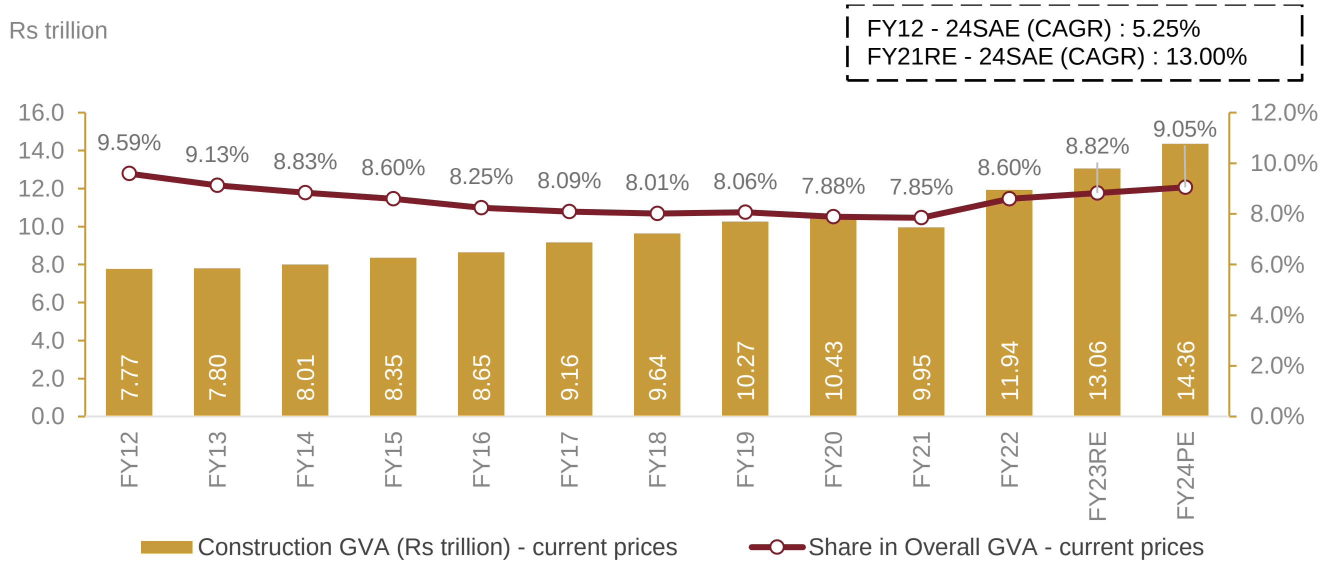


Note: RE: revised estimate, PE: Provisional estimates
The value represented in boxes in the above bar graph indicates the overall GVA for the corresponding period
Source: MoSPI, CRISIL MI&A

Construction industry occupies a share of 9.05% in overall GVA at constant prices during fiscal 2024

The contribution of construction industry in India in the overall manufacturing GVA of the country range between 7-10% during fiscal 2012 and fiscal 2024. Over the years, on back of strong government support through various initiatives such as Dedicated freight corridor, Bharatmala, Sagarmala, Smart cities, Pradhan Mantri Aawas Yojna, GVA of construction industry (in absolute terms) at constant prices grew to Rs 14.36 trillion in fiscal 2024, on a base of Rs 7.77 trillion in fiscal 2012, thereby registering a CAGR of 5.25%.

Construction GVA (constant prices)



Note: RE: revised estimate, PE: Provisional estimates
Source: Ministry of Statistics and Programme implementation, CRISIL MI&A

1.2 Fundamental growth drivers of GDP

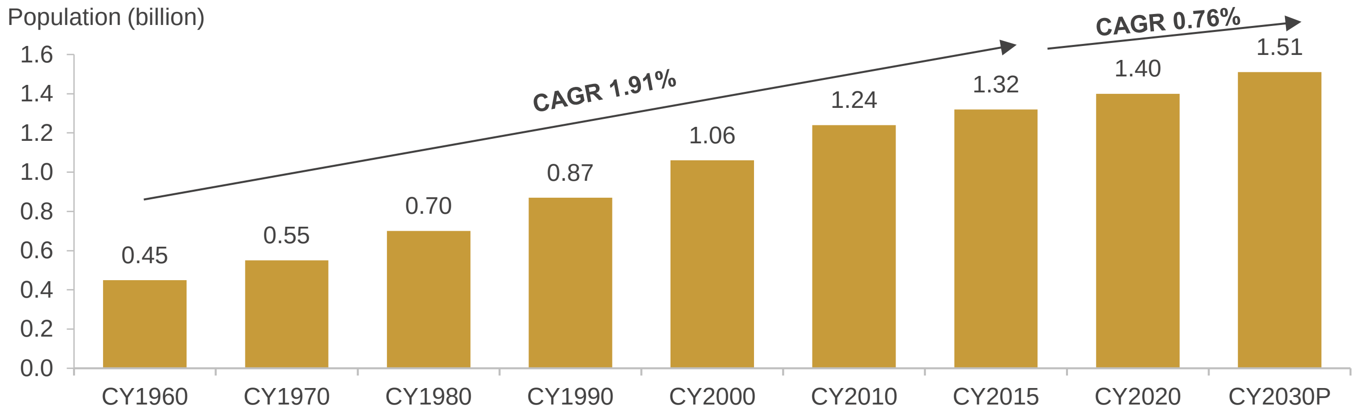
Growing population, increasing urbanisation and a young demographic profile to strengthen India's economic growth

India's population grew to ~1.21 billion according to Census 2011, at a CAGR of 1.64% between CY2001 and CY2011. As of 2010 census, the country had 249.50 million households. Additionally, as per United Nations Population Fund's (UNFPA), "State of World Population Report" of 2023, India's population by mid-year of 2023 is estimated to have surpassed China by around ~2.9 million. This demographic expansion along with increasing per capita income will lead to increase consumer spending in India in turn driving India's GDP.

Further, urbanisation has also seen an uptrend growing from 17.92% in 1960 to an estimated 32.78% in 2020. This growth in urbanisation necessitates enhancements in facilities such as housing, transportation and utilities to support the increased population density. This in turn has aided in increased spends toward urban infrastructure.

Going ahead, India's urban population is expected to continue to rise on the back of economic growth. The share of urban population is projected to increase to nearly 40.14% by 2030, according to a UN report on urbanisation.

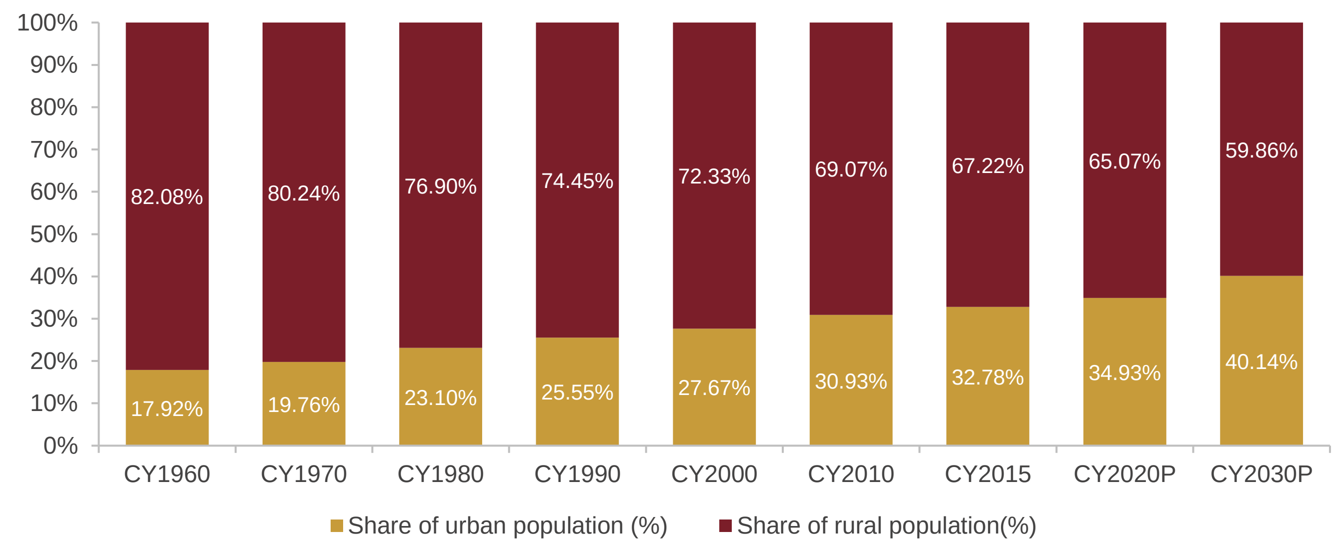
India's population growth



P: Projected

Source: UN Department of Economic and Social Affairs, World Population Prospects 2022, CRISIL MI&A

India's urban vs. rural population (in million)



P: projected

Source: World Urbanization Prospects: The 2018 Revision, UN, CRISIL MI&A

As per the United Nations' 2022 Revision of World Population Prospects, India's youth (0-24 years) accounted for nearly half its population in 2010, significantly higher than that for some of its peers (Brazil at 42.97%, China at 35.40% and the Russian Federation at 30.25%). The fact that 31.28% of the population is aged below 15 indicates the high proportion of the country's young population is expected to remain so in the coming years.

This share (0-24 years) is, in fact, expected to reach 39.00% by 2030, and remain significantly higher than that of its peers (Brazil at 32.00%, China at 25.76% and the Russian Federation at 28.17%). This also indicates a higher proportion of the population entering the workforce.

Age-wise population break-up (%) for key countries

Country	0-14 years	15-24 years	25-49 years	50-69 years	70+	Total
Brazil						
CY2010	25.04%	17.93%	37.99%	14.63%	4.41%	100.00%
CY2020	21.09%	15.79%	38.79%	18.49%	5.84%	100.00%

Country	0-14 years	15-24 years	25-49 years	50-69 years	70+	Total
CY2030P	18.46%	13.54%	37.98%	21.49%	8.53%	100.00%
China						
CY2010	18.64%	16.76%	40.68%	18.17%	5.76%	100.00%
CY2020	18.35%	11.56%	38.27%	24.15%	7.67%	100.00%
CY2030P	13.25%	12.51%	34.48%	27.63%	12.12%	100.00%
India						
CY2010	31.28%	19.29%	34.23%	12.06%	3.14%	100.00%
CY2020	26.39%	18.40%	36.61%	14.61%	3.98%	100.00%
CY2030P	22.59%	16.41%	38.48%	16.92%	5.59%	100.00%
Russian Federation						
CY2010	15.42%	14.83%	37.88%	21.86%	10.00%	100.00%
CY2020	17.91%	9.88%	37.89%	24.49%	9.83%	100.00%
CY2030P	15.61%	12.56%	34.38%	23.99%	13.46%	100.00%
UK						
CY2010	17.87%	13.23%	35.30%	21.80%	11.80%	100.00%
CY2020	18.03%	11.77%	32.97%	23.33%	13.89%	100.00%
CY2030P	15.60%	12.39%	32.35%	23.54%	16.12%	100.00%
US						
CY2010	20.17%	14.36%	34.58%	21.67%	9.22%	100.00%
CY2020	18.76%	13.23%	33.40%	23.72%	10.89%	100.00%
CY2030P	16.65%	12.69%	33.63%	22.03%	15.00%	100.00%

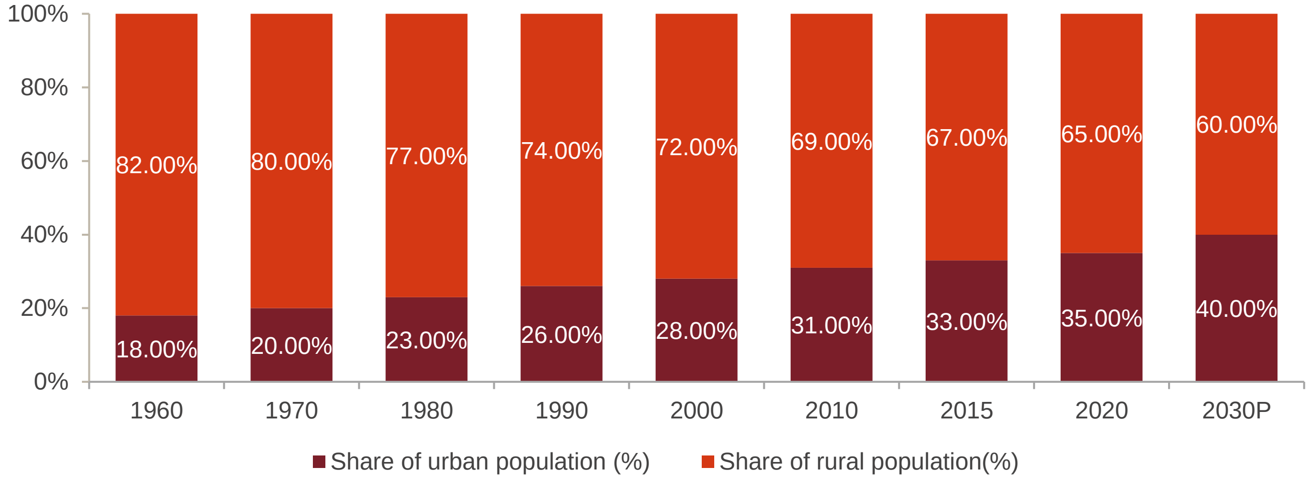
P: Projected

Source: United Nations, Department of Economic and Social Affairs, Population Division (2022); World Population Prospects 2022, CRISIL MI&A

Urbanisation likely to reach 40% by 2030

India's urban population has been increasing over the years. The trend is expected to continue as economic growth increases. From ~31% of the total population in 2010, urban population in the country is projected to reach nearly 40% by 2030, according to a UN report on urbanisation. People from rural areas move to cities for better job opportunities, education, and quality of life. Typically, migration can be of the entire family or a few individuals (generally an earning member or students).

India's urban population versus rural

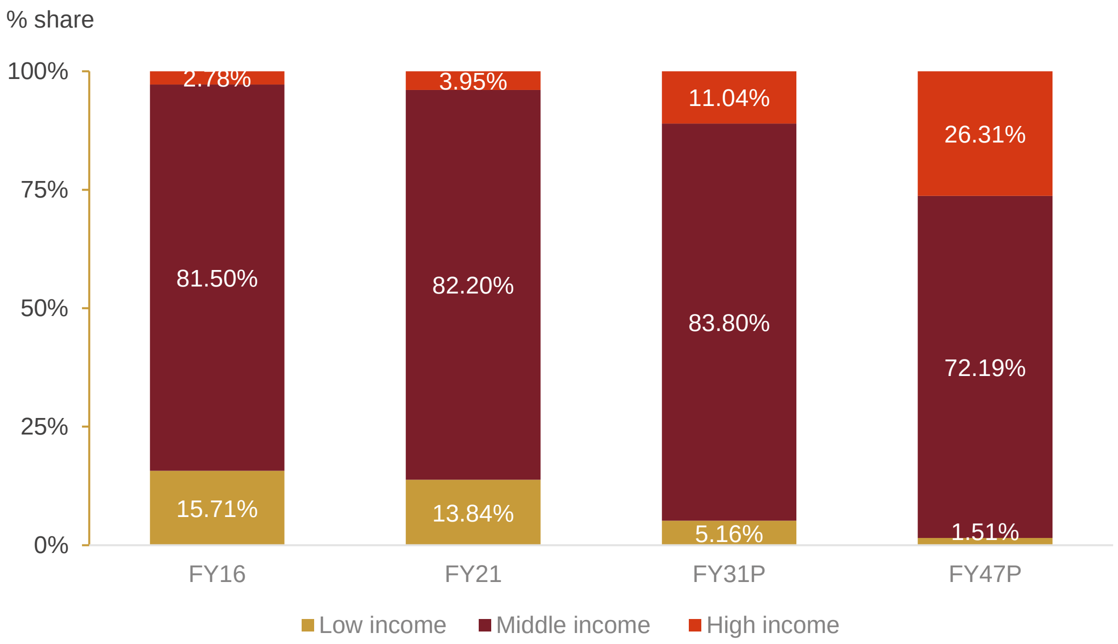


Note: P: Projected
Source: World Urbanization Prospects: The 2018 Revision, UN, CRISIL MI&A

Decline in poverty levels indicates rise in middle- and high-income group in India

The proportion of poor in India (defined as those living on Rs 125,000 per annum or less) declined from 15.71% in fiscal 2016 to 13.84% in fiscal 2021. Conversely, the proportion of those in the middle- and high-income groups increased from 84.29% to 86.16%. By fiscal 2031, this share is expected to reach 94.84%, supported by growth in per capita income.

Income-based split of the population



P: Projected
Note: Low-income group comprises those earning less than Rs 125,000 per annum; middle-income group comprises those earning between Rs 125,000 and Rs 3 million per annum, and high-income group comprises those earning more than Rs 3 million per annum; percent figures are rounded off
Source: People Research on India's Consumer Economy (ICE) 360° survey, CRISIL MI&A

Robust growth in per capita income over FY12-24

India's per capita income, a broad indicator of living standards, rose from Rs 63,461.72 in fiscal 2012 to Rs 99,403.87 in fiscal 2023, logging 4.16% CAGR. Growth was led by better job opportunities, propped up by overall GDP growth. Moreover, population growth remained stable at ~1% CAGR. Furthermore, according to second advance estimates for fiscal 2024, per capita net national income (constant prices) is estimated to have increased to Rs 106,743.80; thereby registering a y-o-y growth of 7.38%.

Per capita net national income at constant prices

	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23RE	FY24PE
Per-capita NNI (Rs)	63,461.72	65,538.47	68,572.48	72,804.60	77,659.24	83,003.02	87,585.80	92,132.77	94,420.00	86,034.00	94,054.17	99,403.87	106,743.80
Y-o-Y growth (%)		3.27%	4.63%	6.17%	6.67%	6.88%	5.52%	5.19%	2.48%	-8.88%	9.32%	5.69%	7.38%

Note: RE: revised estimates, PE: provisional estimates

Source: Second advance estimates of national income 2023-24, CSO, MoSPI, CRISIL MI&A

GFCF has seen growth led by government focus on infrastructure spending

Gross fixed capital formation (GFCF) the indicator for fixed investments done by both government and private sector, has seen a rise from Rs 29.98 trillion in fiscal 2012 to Rs 58.27 trillion in fiscal 2024 (as per advanced estimates) growing at a CAGR of 5.69%. Further, over the years, in terms of the share to the total GFCF (at constant prices), the highest contributor is non-financial corporations followed by household sector.

Overview of GFCF and share in GDP – at constant prices

	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23 RE	FY24 PE	CAGR FY12-FY24
GFCF (Rs trillion)	29.98	31.46	31.95	32.78	34.92	37.88	40.83	45.41	45.93	42.67	50.14	53.46	58.27	5.69%
Share of GFCF in GDP	34.31%	34.15%	32.60%	31.14%	30.72%	30.77%	31.06%	32.45%	31.60%	31.16%	33.38%	33.27%	34.08%	-

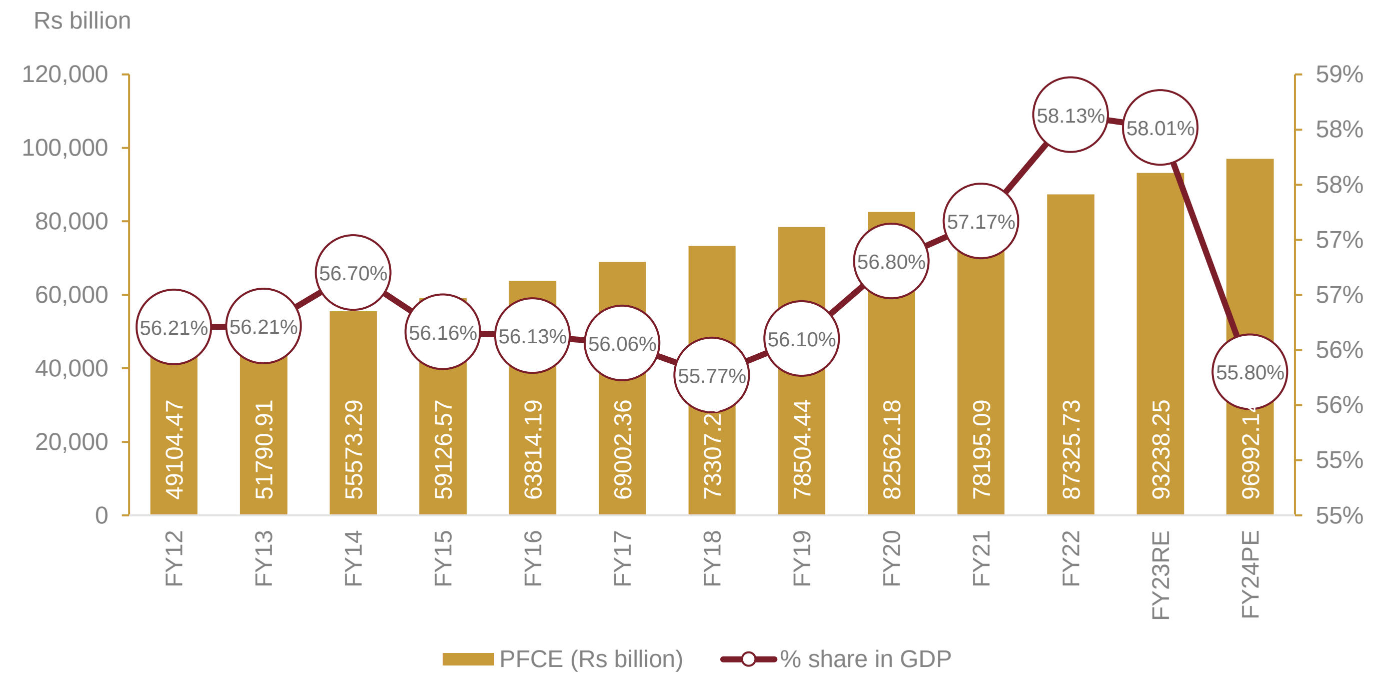
RE: Revised estimates, PE: Provisional estimates

Source: Second advance estimates of national income 2023-24, CSO, MoSPI, CRISIL MI&A

PFCE to maintain dominant share in India's GDP

Private final consumption expenditure (PFCE) at constant prices clocked 6.38% CAGR between FY12-23, maintaining its dominant share of ~58.01% in FY23 (~Rs 93,238.25 billion in absolute terms, up 6.77% year-on-year). Growth was led by healthy monsoon, wage revisions due to the implementation of the Seventh Central Pay Commission's (CPC) recommendations, benign interest rates, growing middle age population and low inflation. As of FY24, PFCE is estimated to have further increased to Rs 96,992.14 billion, registering a y-o-y growth of 4.03% and forming 55.80% of India's GDP.

PFCE at constant prices



Note: RE: revised estimates; PE: Provisional estimates
Source: MoSPI, CRISIL MI&A

Increasing government focus on infrastructure along with policies like China+1 to aid GDP growth

The trade war between USA and China since 2018 combined with rupturing of global value chains during the pandemic due to high concentration in few economies like China, etc have forced the West to look for other manufacturing destinations like India, Vietnam, Malaysia and Mexico. However, this move by Western companies to diversify their manufacturing hub has benefitted countries like Vietnam, Taiwan and Malaysia more than India due to their integrated global value chains.

Nonetheless, India offers multiple advantages of large local market, combined with a young working population group, expanding middle class and cheaper labour, which makes India a suitable option for local manufacturing, which is expected to positively impact the India’s positioning on manufacturing front.

Furthermore, to integrate further with US (and generally Western) supply chains, India has to majorly improve on two parameters of trade-cost reduction and investment facilitation. On cost front, India has ramped up its logistical efficiency over the past decade, from No. 54 on a list of 139 countries in 2014, India has ascended the chart and ranks No. 38 in 2023. This can be attributed to the government of India investments in trade-related soft and hard infrastructure connecting port gateways to the economic poles in the hinterland along with technology integration.

The second prong, investment facilitation, includes measures to increase and stabilize foreign investment in the country. In this context, schemes like PLI, increase in FDI limit under Atmanirbhar Bharat Abhiyan, etc facilitates high-quality foreign investment by creating a market-linked incentive structure for firms to follow.

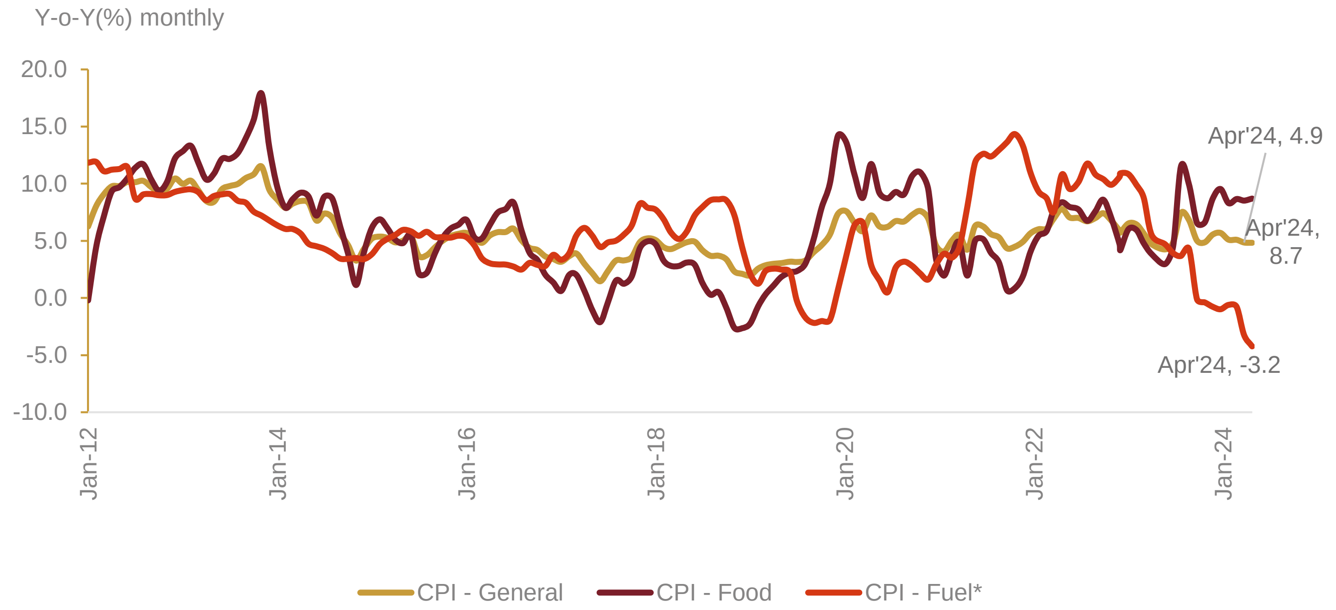
These initiatives aid global firms to diversify their supply chain and reduce their dependence on Chinese market and in turn aid India’s GDP growth.

Review of CPI Inflation in India

Consumer price index (CPI) inflation eased marginally to 4.8% in April from 4.9% in March. Food inflation, however, edged up to 8.7% from 8.5%, driven by costlier cereals and meat; vegetables. Despite the uptick in food, non-food components helped curtail headline inflation with fuel prices deflating at a faster pace.

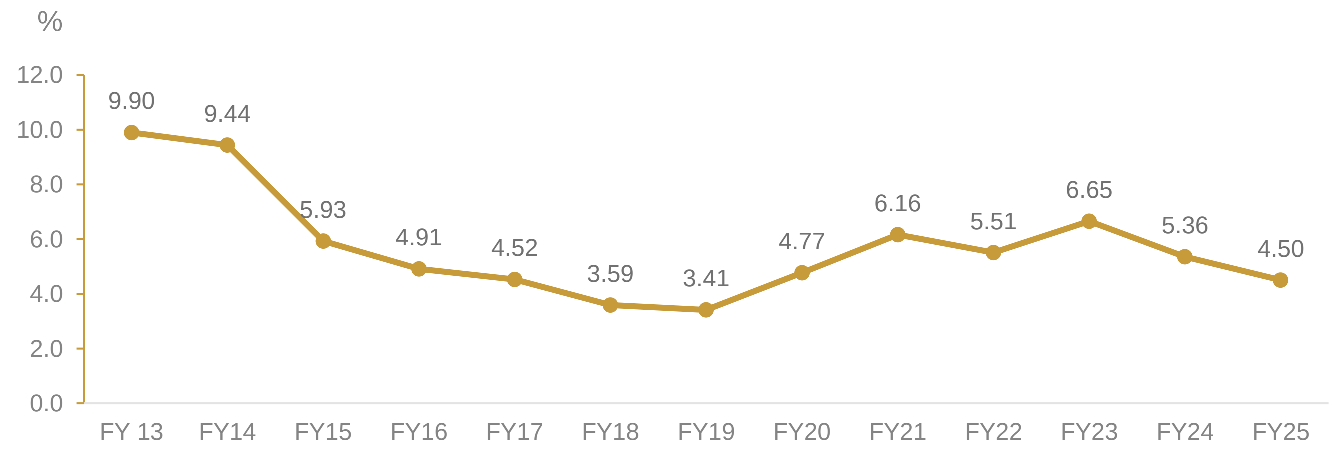
Food inflation continues to drive swings in headline inflation and has remained well above 8% for six months. Pressure on food prices continues with ongoing heatwaves being one of the factors. Fuel inflation has been reducing the pressure on the headline for eight months, led by the government's retail fuel price relaxations. But if crude oil prices surge and stay elevated in the wake of geopolitical concerns, inflation could trend upwards again.

Overview of CPI inflation



**Refers to CPI fuel and light*
Source: MoSPI, CRISIL MI&A

Going ahead, CPI inflation is expected to broadly ease to 4.5% on-year this fiscal from 5.4%. Softer headline inflation forecast is primarily premised on lower food inflation assuming a normal monsoon and on the back of the high base of fiscal 2024.

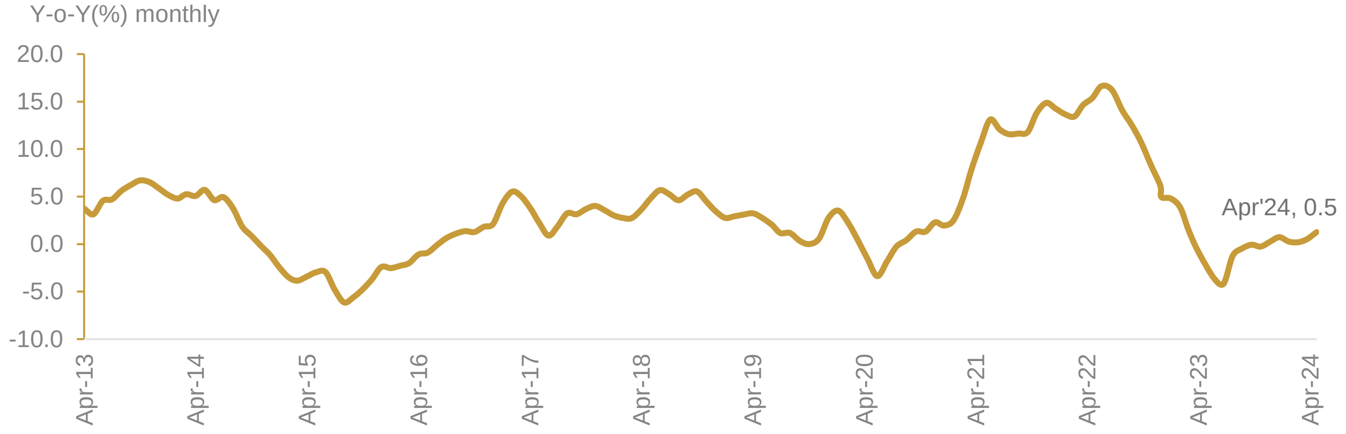


Source: MoSPI, CRISIL MI&A

Review of WPI Inflation in India

Wholesale Price Index (WPI)-linked inflation accelerated to 1.3% in April from 0.5% in March and 0.2% in February, the highest print in over a year. Both food and non-food WPI inflation rose relative to the previous month. That said, non-food prices remained in deflation mode. Food inflation hardened to 5.5% from 4.6%, led by rising vegetables inflation (23.6% vs 19.5%). Crude petroleum inflation surged to 6.5% from -9.4%, tracking the increase in global oil prices. Prices of manufactured products fell at a milder pace on-year (-0.4% vs -0.8%).

Overview of WPI inflation



Source: MoSPI, CRISIL MI&A

Overview of budget 2024-25

In the Union Budget 2025, the government is taking steps towards fiscal consolidation, buoyed by the widespread recovery of the Indian economy. The central government has maintained its emphasis on capital expenditure, allocating Rs. 11.11 trillion for fiscal 2025, a significant 16.93 % increase from Rs. 9.50 trillion in fiscal 2024. While the overall gross budgetary capital expenditure support has seen a 17%, the budgetary support for the 10 core infrastructure ministries has only increased by 4% to Rs. 5.6 trillion.

Key announcements under infrastructure sector:

- The Pradhan Mantri Gram Sadak Yojana (PMGSY)-IV initiative aims to ensure all-weather connectivity for 25,000 rural habitations. Other significant road connectivity projects include the Patna-Purnea and the Buxar-Bhagalpur expressways, extensions to Bodhgaya, Rajgir, Vaishali and Darbhanga, and an additional two-lane bridge over the river Ganga at Buxar. A total cost of Rs 260 billion has been earmarked for these projects

- Irrigation and flood relief assistance will be provided to Bihar, Assam, Uttarakhand, Himachal Pradesh and Sikkim. This includes an allocation of Rs 115 billion for the Kosi-Mechi project in Bihar and 20 other ongoing irrigation projects

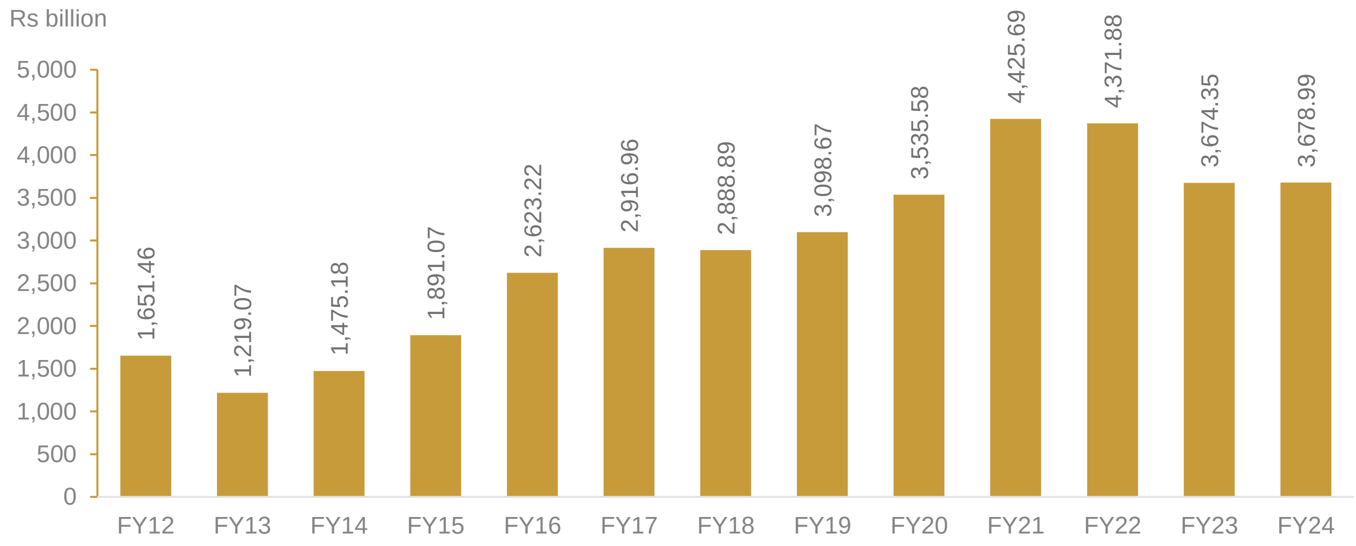
- Transit-oriented development strategies will be devised for 14 major cities with populations exceeding 3 million, incorporating implementation as well as financing frameworks. Additionally, 35 cities will be developed as growth hubs through comprehensive economic and transit planning, along with the development of peri-urban areas

1.3 FDI inflows to India

In 1990, India, with assistance from the World Bank and International Monetary Fund (IMF), initiated reforms to address a balance-of-payments crisis, opening its doors to foreign direct investments (FDI) and establishing the Foreign Investment Promotion Board (FIPB) to facilitate FDI. Although the FIPB was disbanded in 2017, individual departments now approve FDI proposals with the Department of Industrial Policy and Promotion (DIPP), positioning India as a key FDI destination.

In India, FDI can be done through the automatic route, not requiring government approval, or the government route, which requires prior approval. During fiscal 2000 to fiscal 2024, India has attracted a total FDI inflows of Rs 43,475.35. Of these major investments are attracted by computer software and hardware (17%) followed by service sector (16%). During the aforementioned period, construction sector has contributed to 9% of the overall FDI investments.

Overall FDI inflows to India



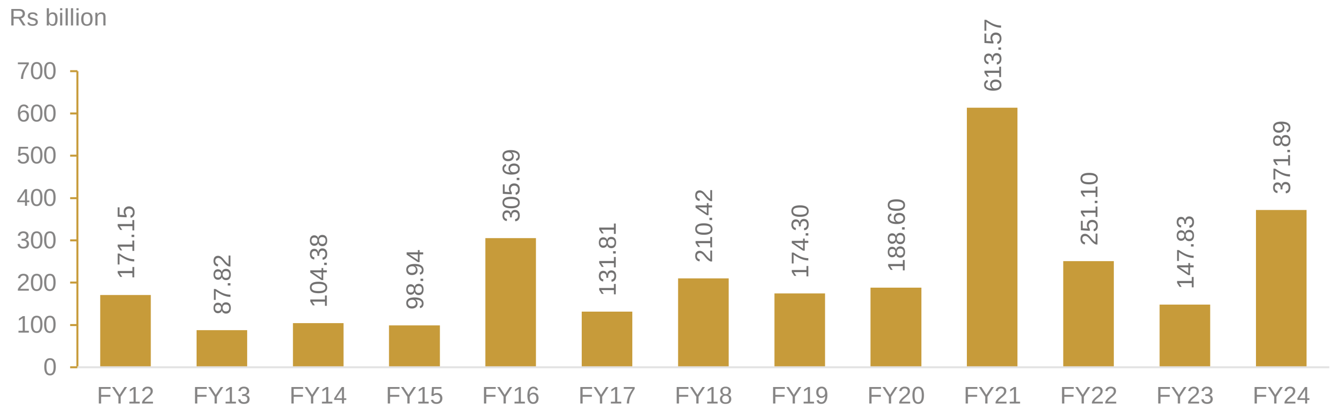
Source: Department for Promotion of Industry and Internal Trade (DPIIT), CRISIL MI&A

1.4 FDI inflows in Indian construction Industry

The Indian construction industry is a pivotal sector contributing significantly to the nation's economic growth, accounting for 9.13% of total GVA as of fiscal 2024. It includes residential, commercial, industrial, and infrastructure projects, and has seen a steady rise at 5.25% CAGR from fiscal 2012 to 2024, driven by rapid urbanization, government initiatives, and increased investments.

The construction sector attracts 100% FDI investments through automatic routes. The sector has seen highest FDI investment of Rs 613.57 billion in fiscal 2021, majorly driven by the rise of FDI investments in warehousing. As of fiscal 2024, the Indian construction industry saw an FDI inflow of Rs 371.89 billion.

Trend of FDI inflows in Indian construction industry



Note: The values mentioned above encompass Foreign Direct Investment (FDI) inflows within both India's construction and infrastructure sectors, as detailed under Construction (Infrastructure) activities and Construction development categories as published by DPIIT
Source: Department for Promotion of Industry and Internal Trade (DPIIT), CRISIL MI&A

Global trade agreements and initiatives to aid investments

Trade and Economic Partnership Agreement (TEPA) with EFTA countries

India-European Free Trade Association signed a Trade and Economic Partnership Agreement (TEPA) on 10th March 2024. Established in 1960, the EFTA, comprised of Iceland, Liechtenstein, Norway, and Switzerland, is an intergovernmental organisation promoting economic cooperation and free trade in Europe. The trade deal is slated to bring forth investments amounting to $100 Bn and a million direct jobs in India in the next fifteen years.

TEPA will give impetus to “Make in India” and Atmanirbhar Bharat by encouraging domestic manufacturing in sectors such as Infrastructure and Connectivity, Manufacturing, Machinery, Pharmaceuticals, Chemicals, Food Processing, Transport and Logistics, Banking and Financial Services and Insurance.

As investment flows into these sectors, it will further drive the development of infrastructure facilities in these sectors.

National Infrastructure Investment Fund (NIIF)

The National Investment and Infrastructure Fund (NIIF), established by the Government of India, is the country’s first sovereign wealth fund aimed at driving infrastructure investments. It functions as a collaborative platform, pooling resources from the government, global investors, Multilateral Development Banks (MDBs), and domestic financial institutions. By focusing on commercially viable Greenfield and Brownfield projects, the NIIF seeks to address India’s infrastructure financing gap and maximize the economic impact of these projects.

Through its ability to attract global capital and expertise, the NIIF supports the development of various infrastructure sectors. This not only accelerates infrastructure growth but also aids to modernize India's infrastructure landscape and support its economic growth.

Lines of Credit for Development Projects

Development assistance in the form of concessional Lines of Credit (LOCs) is extended by the Government of India (GoI) to low and middle-income countries under the Indian Development and Economic Assistance Scheme (IDEAS) through the Exim Bank of India.

As of August 2024, in total, more than 300 LOCs worth $32.00 billion have been extended by the Government of India to 68 countries across the world. These LOCs cover approximately 600 projects in sectors which include railways, roads, agriculture, industry, airport, sports stadiums, port, hospitals, disaster management, hydroelectricity, power transmission and Information Technology.

Out of the total LOCs of $32.00 billion, in line with India's "Neighbourhood First" Policy, LOCs worth $7.86 billion were extended to Bangladesh, more than $2.00 billion to Sri Lanka, $ 1.65 billion to Nepal, $1.43 billion to Maldives and $ 0.75 billion to Myanmar. Of the rest, 196 LOCs worth $12.00 billion were extended to 42 African countries.

1.5 National Infrastructure Pipeline (NIP)

In fiscal 2019, Government of India has launched the National Infrastructure Pipeline (NIP) for fiscal 2020 – 2025, with an aim to improve India's infrastructure and attract investments across various sectors. To draw up NIP, economic and social infrastructure projects worth more than Rs 1,000 million per project under construction, proposed greenfield projects, brownfield projects and those in conceptualisation stage were considered. These pipelines of projects are implemented by all the states and union territories of India and 22 infrastructure ministries under Government of India.

With various projects across sectors the NIP aims to create various employment opportunities while enhancing the standard of living. It also aims to increase investments in the projects by improving investors' confidence through better project preparation, reducing aggressive bids/failure in project delivery and ensuring enhanced access to sources of finance.

Initially, the NIP started with 6,835 projects. By April 2024, this number has increased to 9,651 projects across 54 different sectors. Out of these, 2,104 projects are currently under development, showing progress in India's infrastructure development efforts. The total investment target under NIP during the period, has been revised from Rs 111 trillion to Rs 147 trillion.

Transport, power, and water projects occupy major share under planned NIP spending of planned Rs 147 trillion

Roads	Rail*	Power	WSS	Real estate	Others^
22%	13%	15%	14%	12%	24%

Note: Values are rounded-off to closest whole number
**Rail also includes investments under Mass Rapid Transit System (MRTS), Rail station redevelopment among others*
Real estate includes common infrastructure for industrial parks, residential housing, commercial real estate and public space development
^Others include Others include irrigation, rural infra, ports, airports, health (including healthcare infrastructure), petroleum, natural gas, education, etc
Source: India Investment Grid (IIG), CRISIL MI&A

Half of the NIP projects (value terms) are under implementation

Planning	Pre-construction	Under construction	Completed
16%	26%	54%	4%

Note: Values are rounded-off to closest whole number
Source: India Investment Grid (IIG), CRISIL MI&A

Total EPC opportunity under NIP at ~Rs 92 trillion

EPC	Private	PPP	Undecided
72%	<1%	22%	6%

Note: Values are rounded-off to closest whole number
Source: India Investment Grid (IIG), CRISIL MI&A

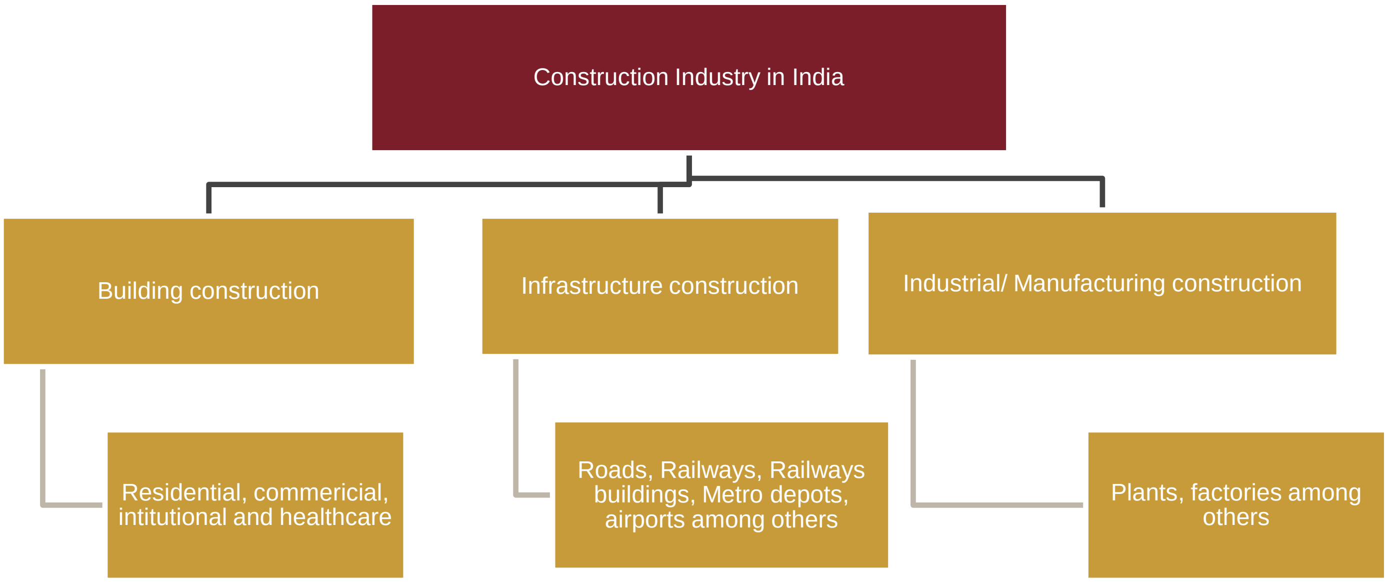
Railway segment occupies a share of 12% among the total EPC contracts

Roads	Rail*	Power	WSS	Others^
23%	12%	19%	7%	39%

Note: Values are rounded-off to closest whole number
**Rail also includes investments under Mass Rapid Transit System (MRTS), Rail station redevelopment among others*
^Others include Others include real estate, irrigation, rural infra, ports, airports, health (including healthcare infrastructure), petroleum, natural gas, education, food processing etc
Source: India Investment Grid (IIG), CRISIL MI&A

2 Assessment of construction industry in India

2.1 Overview of Indian construction industry



Source: CRISIL MI&A

The construction sector in India can be broadly classified into Infrastructure construction, Industrial/ Manufacturing construction and Building Construction. During fiscal 2019-23 the investments in the construction industry stand at Rs 42.45 trillion and is expected to grow by 1.61 times, reaching Rs 67.00 – 69.00 trillion during fiscal 2024-28.

Building construction includes constructing buildings for residential uses such as houses, residential towers as well as institutional and healthcare buildings like hospitals, educational institutions and buildings for commercial use such as offices, retail malls, etc.

Infrastructure construction includes construction of warehouses, bridges, dams, roads, airports, canals, urban infrastructure, railway infrastructure (including railway buildings), metro depots etc.

Industrial/manufacturing construction includes construction of manufacturing plants, factories, power plants, and other highly specialised facilities.

2.2 Construction investments in India

Construction investments to grow by ~1.61 times between fiscals 2024-28 compared to fiscals 2019-23; Infrastructure investments to drive long-term growth

Growth in construction sector is expected to be propelled by the infrastructure segment over the medium to long term as the building construction and industrial sectors are expected to record sedate growth rates.

Over the long term, CRISIL MI&A projects the overall construction investments to rise by ~1.61 times between fiscals 2024-28 compared with those over fiscals 2019-23.

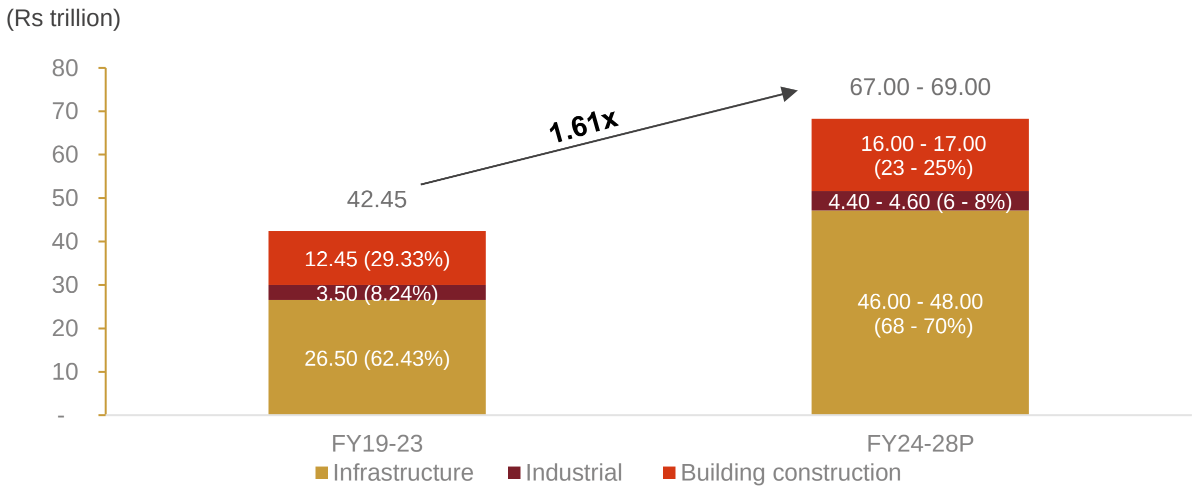
Investments in building construction vertical are expected to increase by ~1.34 times, though its share in overall construction investments is expected to fall to 23-25% between fiscals 2024-28 compared with a share of 29.33% between fiscals 2019-23. This growth is majorly driven by rise of investments in residential segment during the period.

The share of infrastructure investments is expected to increase to 68-70% of the overall construction investments for the five years (fiscals 2024-28) as against 62.43% in the past five years (fiscal 2019-23), as infrastructure investments are expected to see faster growth than the other two segments (building construction and industrial) due to the Government's focus on Infrastructure under the National Infrastructure Pipeline (NIP), National Monetisation Pipeline (NMP) and the Gati Shakti initiative. The Central government's focus on roads, urban infrastructure and railways will boost infrastructure investments. At an investment level, investments in the infrastructure vertical are expected to be ~1.78 times during fiscals 2024-28 compared to fiscals 2019-23 majorly driven by government initiatives towards infrastructure such as National Infrastructure Pipeline, Gati Shakti initiative, Sagarmala among others.

Industrials vertical investments are expected to increase by ~1.34 times between fiscals 2024-28 compared with fiscals 2019-23. Investments in the vertical are driven by the investments in oil and gas segments led by capital expansion plans by industry players as well as investments by upstream oil & gas and downstream natural gas players. Additionally, investments through PLI scheme in sectors such as auto and auto components, textiles and specialty steel are expected to further boost the overall investments.

This growth in the construction sector is majorly poised by continued urbanization, steady income profiles, expected growth in employment generating sectors as well as rising affluence and propensity to spend on real estate by mid-income buyers on the residential segment front as well as major government initiatives such as Pradhan Mantri Awas Yojana for affordable housing, infrastructure plans like National Infrastructure Pipeline and investments through PLI scheme in major capital-intensive sectors.

Overall construction investments by vertical



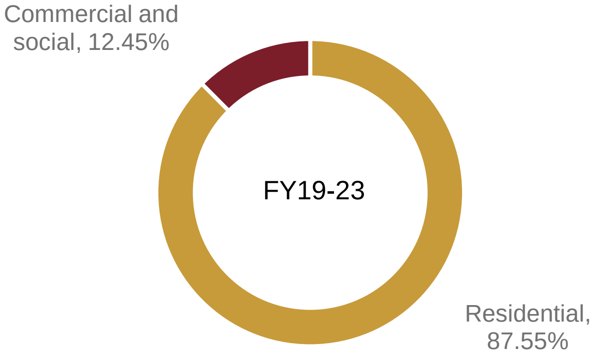
Note: P stands for projected
Source: CRISIL MI&A

2.3 Building construction

The real estate industry has been in focus with various developments such as demonetization, enactment of the Real Estate (Regulation and Development) Act (RERA), 2016, and implementation of the Goods and Services Tax (GST). The Covid-19 pandemic further significantly impacted the sector in fiscal 2021. Although fiscal 2022 had challenges due to second wave of coronavirus, the ease of curbs in various states, increase in vaccination across the country, deferred project completions from fiscal 2021 helped the sector to rise in fiscal 2022, returning to pre-Covid levels and creating high base for fiscal 2023. The increase in budgetary allocations for the PMAY scheme and announcements by state government of stamp duty cuts has helped the further sector limp back to pre-covid levels.

Between fiscal 2019 to fiscal 2023, building construction industry has seen an investment of ~Rs 12.45 trillion, driven by rise in urbanisation, growth in employment, stabilization of income of the organised workforce, preference of larger homes and government incentives for affordable housing. Of the overall investments, during the aforementioned period, investments in residential occupy the lion's share of 87.55%, while the rest is occupied by commercial and social segment.

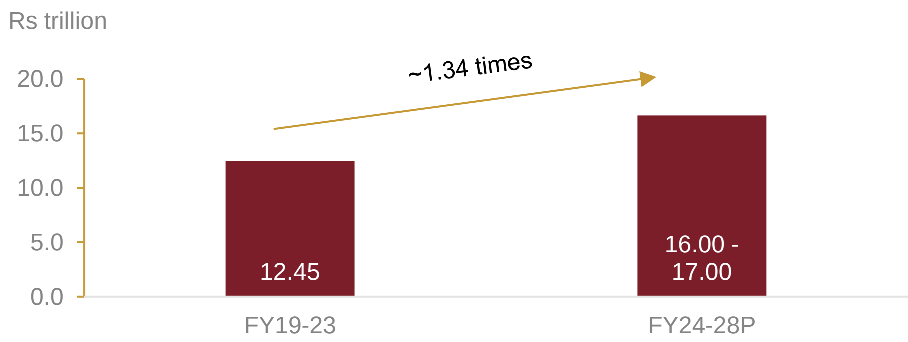
Share of various segments in Indian building construction investments



Source: CRISIL MI&A

In future, between fiscals 2024 to 2028, the investments in building construction vertical are estimated to grow by ~1.34 times, reaching ~Rs 16.00 – 17.00 trillion. This growth is majorly poised by continued urbanization, steady income profiles, expected growth in employment generating sectors as well as rising affluence and propensity to spend on real estate by mid-income buyers on the residential segment front as well as major government initiatives such as Pradhan Mantri Awas Yojana for affordable housing, while the growth in commercial and social segment is driven by return to office as the impact of Covid-19 wanes, increased hiring in key sectors as well as expectation of healthy economic growth.

Investments in building construction sector



Source: CRISIL MI&A

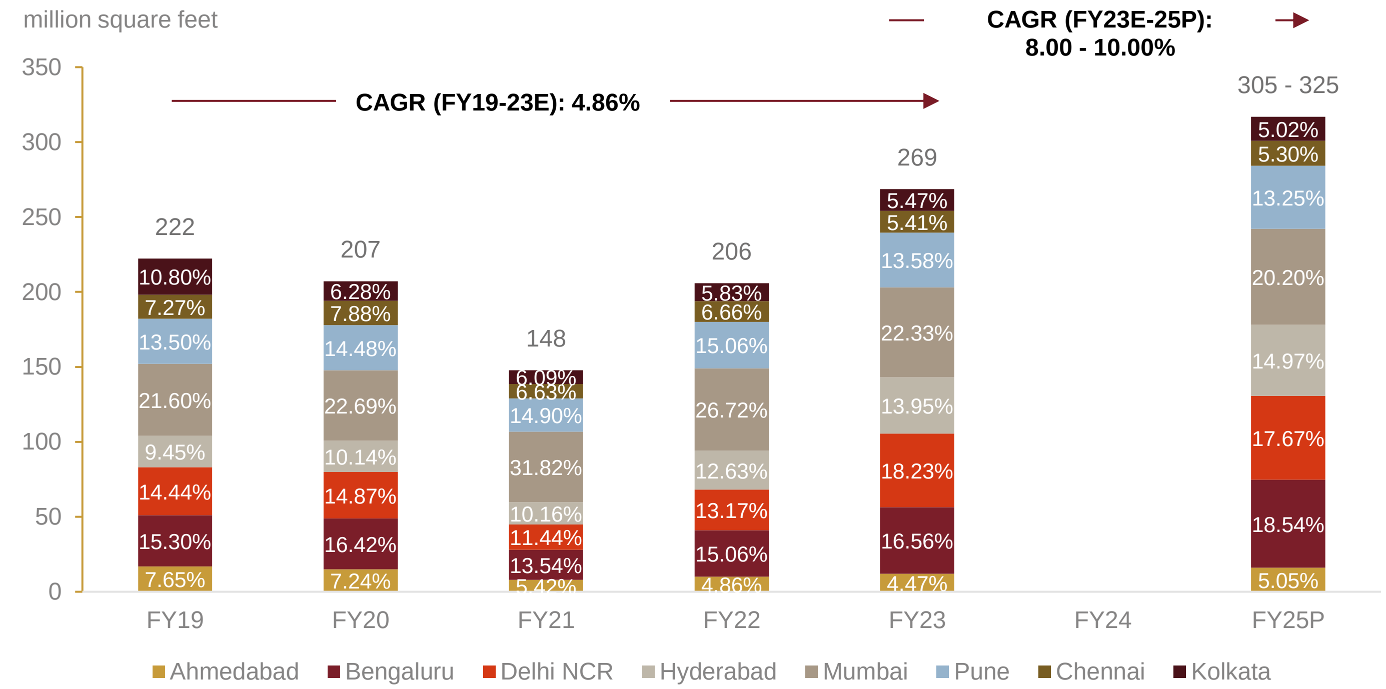
Investments in the residential segment are bolstered by the increasing demand for residential real estate, complemented by the availability of new projects

Residential demand in 8 key cities to clock CAGR 8.00 – 10.00% growth between FY23 and FY25

Demand in the 8 key cities/regions in India (Delhi NCR, Mumbai Metropolitan Region (MMR), Pune, Ahmedabad, Hyderabad, Chennai, Kolkata and Bengaluru) was 222 million square feet (msf) in fiscal 2019 with respect to residential real estate. Demand dropped slightly by 6.81% in fiscal 2020 due to the onset of the pandemic before declining sharply by 28.69% in FY21 due to the full effects of Covid-19 pandemic. Demand bounced back sharply in fiscal 2022 and fiscal 2023 to 180 million square feet (msf) and 240 million square feet (msf) respectively from lower base of in fiscal 2021 (129 msf).

Moreover, from fiscal 2023 to fiscal 2025, demand is anticipated to grow at a CAGR of 8.00 – 10.00%, from 269 million sq. feet (msf) in fiscal 2023, it is expected to go up to 305-325 msf by fiscal 2025, propelled by ongoing urbanization, stable income levels, growth in employment sectors like Information Technology, Banking, Financial Services & Insurance (BFSI), and increasing affluence leading mid-income buyers to invest more in real estate.

Annual demand for residential real estate in 8 key cities in India



Note: 8 key cities include cumulative values of Delhi NCR, Mumbai Metropolitan Region (MMR), Pune, Ahmedabad, Hyderabad, Chennai, Kolkata and Bengaluru
Note: E stands for estimated; P stands for projected
Source: CRISIL MI&A

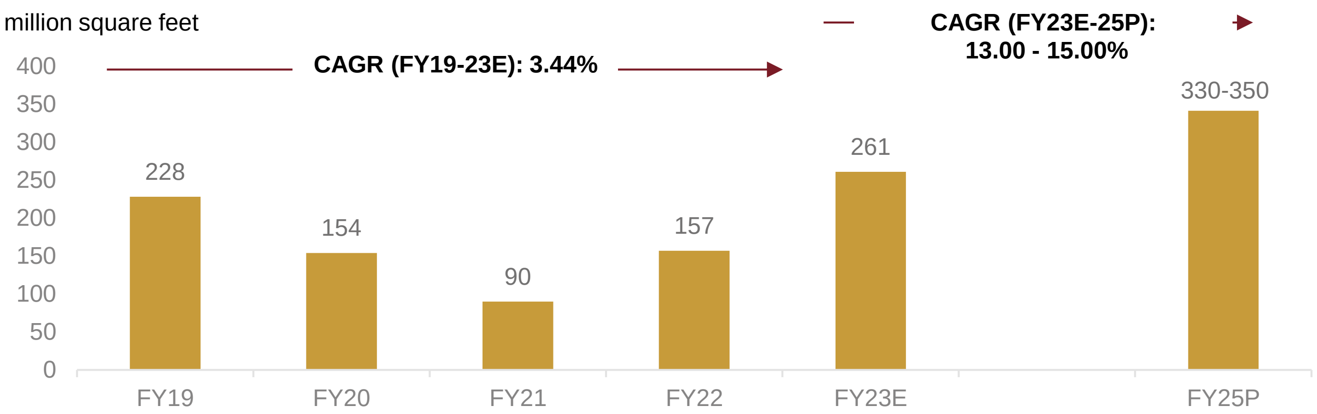
Annual supply (new launches) expected to grow at 13.00 – 15.00% CAGR between FY23 and FY25

Supply decreased to 90 msf in fiscal 2021 from 228 msf in fiscal 2019 due to projects getting deferred during the pandemic. In fiscal 2022 and fiscal 2023 higher number of new launches were witnessed, and many more projects are lined up over the next three fiscals led by reduction in inventory levels and recovery of demand post covid. This is expected to lead to annual supply (new launches) reaching 330-350 msf by fiscal 2025.

Inventory levels in 8 key cities of India (Delhi NCR, Mumbai Metropolitan Region (MMR), Pune, Ahmedabad, Hyderabad, Chennai, Kolkata and Bengaluru) registered a decline in fiscal 2022 and fiscal 2023 owing to pent-up demand created by the pandemic and is expected to recover due to launch of new supplies in these cities.

In the building construction vertical, the annual supply of new residential launches in key eight cities (namely NCR, Mumbai Metropolitan Region (MMR), Pune, Ahmedabad, Hyderabad, Chennai, Kolkata and Bengaluru) is expected to grow from 228 msf in fiscal 2019, to 330-350 msf by fiscal 2025, on account of reduction in inventory levels and recovery of demand post covid.

Annual supply (new launches) of residential real estate in 8 key cities



Note: Note: 8 key cities include cumulative values of Delhi NCR, Mumbai Metropolitan Region (MMR), Pune, Ahmedabad, Hyderabad, Chennai, Kolkata and Bengaluru
E: estimated; P: projected
Source: CRISIL MI&A

The growth in residential segment is majorly driven by

- **Growing population:** As per UN estimates, the population of India increased from 1.24 billion in 2010 to ~1.4 billion in 2020. It is expected to increase to 1.5 billion by 2030. Growing population will give rise to the need of quality housing and other infrastructure, which is expected to give a boost to the real estate sector.

- **Nuclearisation**: Nuclearisation in urban areas is primarily driven by changing lifestyle of people, individualism, changing social/cultural attitudes and increased mobility of labor in search of better employment opportunities. These trends are expected to continue in future. With increasing nuclearisation, the Per Capita Floor Space Area (PCFSA) required reduces since size of the family shrinks. As incomes increase, people shift to bigger houses and thus, there is addition in existing demand.

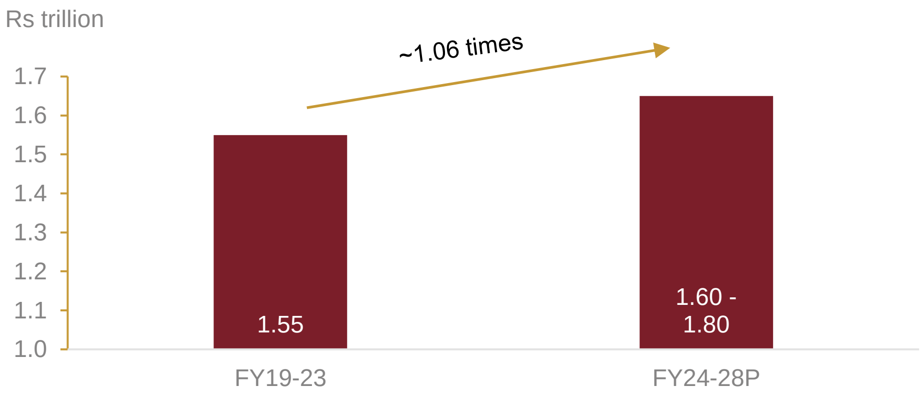
- **Affordability led by disposable income** : India's per capita income grew at a healthy rate in the recent years. Going forward, the per capita income is expected to continue its growth trajectory. This will be an enabler for domestic consumption. Increasing disposable income, typically, has a positive correlation with demand for housing units as it increases affordability.

- **Pradhan Mantri Awas Yojana – Urban**: The scheme was launched in FY16 to provide housing for the economically weaker section of society. PMAY Urban has a total target of 12.4 million houses out of which 11.86 million have been sanctioned of which 70.83% of houses are completed as of June 2024. An investment of Rs 8.07 trillion investment has been done till June 2024. With this investment, the affordable housing segment has received a considerable boost.

Investment in the commercial real-estate to be fuelled by rise in demand supported by increase in hiring and robust economic growth

The demand for commercial real estate, experienced a significant decline in fiscal year 2021 due to the COVID-19 pandemic, with many office spaces favouring remote work arrangements. However, following fiscal year 2021, demand began to rebound as people returned to the office with the easing impact of COVID-19.

Investments in commercial and social segment



P stands for projected
Source: CRISIL MI&A

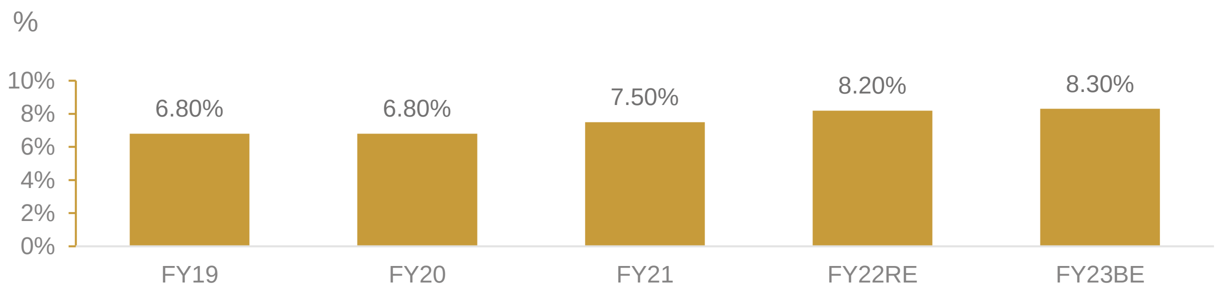
Further, the commercial real-estate is expected to grow during fiscal 2024 to fiscal 2028 with the investments in the segment estimated to see a further increase driven by rise in net absorptions, heightened hiring in key sectors and expectations of robust economic growth. However, net absorptions are expected to remain within the pre-pandemic range of 35-40 million square feet, influenced by recessionary pressures in developed economies.

Qualitative overview of social infrastructure building construction in India with focus on education and healthcare segments

Investing in social infrastructure is essential for fostering inclusive growth and generating employment opportunities in the country. It involves establishing and sustaining facilities and services that enhance the welfare, health, and overall quality of life for citizens. This encompasses investments in various sectors such as education and healthcare and community spaces among others. Further, the rise in expenditure on social services underscores the government's dedication to promoting societal well-being.

In the 2019-20 interim Budget, the Government articulated a vision that underscored the importance of strengthening social infrastructure, fostering a healthy society, ensuring the well-being of women and children, and prioritizing citizen safety. This commitment is reflected in the increased budgetary allocation for social services, such as hospitals and educational institutions among others, with their share rising from 6.2% of GDP in fiscal 2015 to 8.3% of GDP in fiscal 2023. This growth in government support has also contributed to the increased development of infrastructure construction within this sector.

Share of government (central + state) spending on social services as a % of GDP

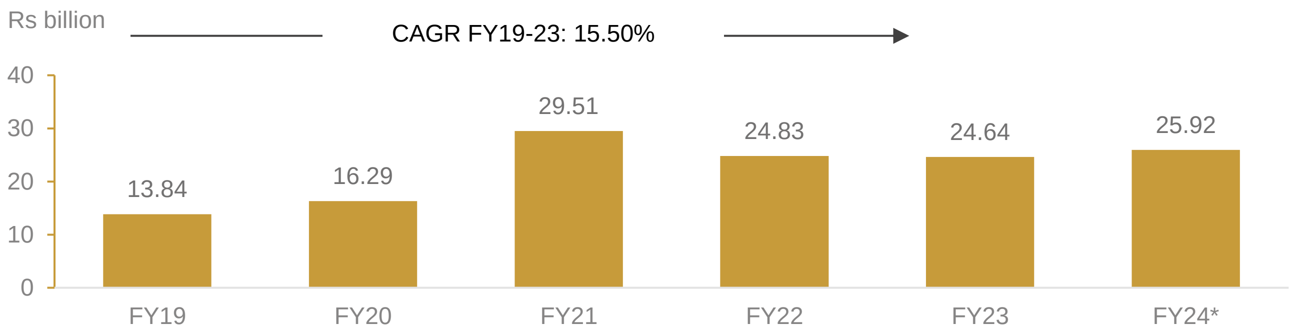


Note: The share mentioned in the above graph is as mentioned in the source document
BE: Budget estimates, RE: Revised estimates
Source: Budget documents of Union and State Governments, Economic Survey 2022-23, CRISIL MI&A

Additionally, the growth in construction is also supported by the disbursal of loans by banks to social infrastructure projects under priority sector lending. Priority sector lending refers to the mandatory allocation of a certain portion of a bank's lending portfolio to sectors deemed essential for economic and social development.

The disbursals under priority sector lending for social infrastructure has seen a growth of 15.50% between fiscals 2019 and 2023. These loans enable the construction, renovation, and maintenance of critical infrastructure that is often beyond the reach of government budgets alone.

Disbursal of bank credit for social infrastructure under priority sector lending

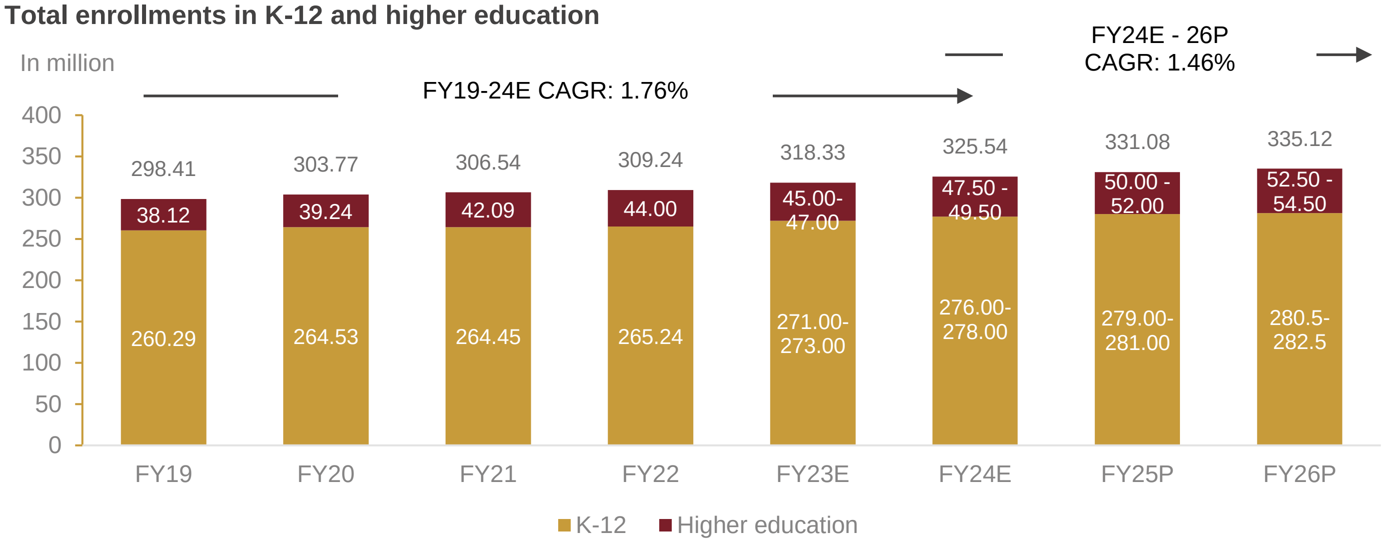


Note: Data for fiscal 2024 is as of 23rd February 2024
Source: Reserve Bank of India (RBI), CRISIL MI&A

Construction spends in educational sub-segment to be driven by rise in enrollments

As the need for education grows, educational establishments endeavour to enlarge their infrastructure to cater to increasing student numbers. The increase in enrollments within the Indian education sector has played a significant role in stimulating construction expenditure within the sector. From fiscal years 2019 to 2024, enrollments in educational institutions are estimated to have experienced a growth of 1.76%. Going ahead, this growth is expected to continue with enrollments seeing a rise of 1.46% CAGR between fiscal 2024 and 2026.

Total enrollments in K-12 and higher education



Note: K-12 includes enrollments in pre-primary to higher secondary
Higher education includes enrollments in Engineering and Technology, IT and Computer, Arts, Science and Commerce, Medical sciences, Teacher Training Institutes, Management and other courses.
Source: All India Council for Technical Education (AICTE), All-India Survey of Higher Education (AISHE), Unified District Information System for Education (UDISE), CRISIL MI&A

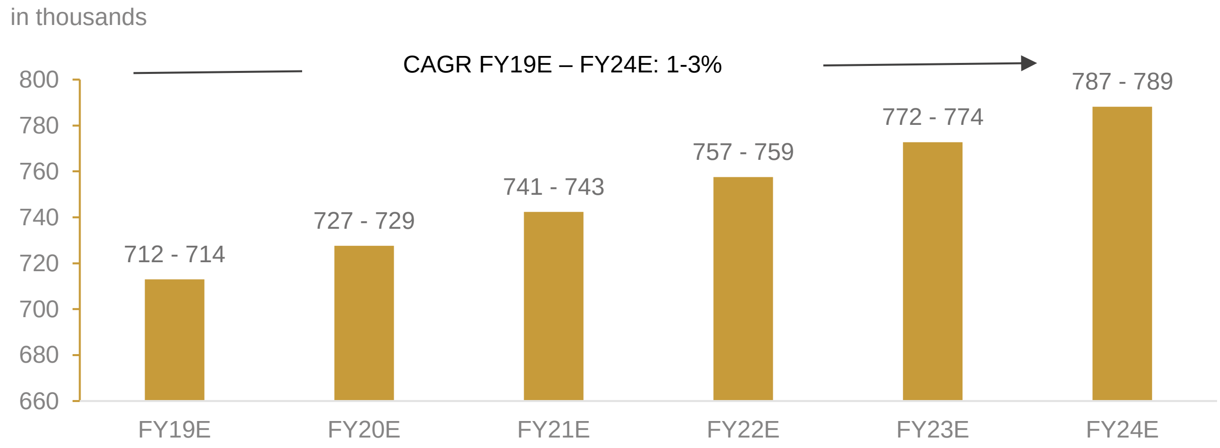
Moreover, as awareness about the significance of education increases coupled with increasing focus on holistic development of students, educational institutions are estimated to increase their investments in constructing new facilities and upgrading existing ones. This encompasses the development of classrooms, laboratories, sports facilities, hostels, and administrative buildings. Additionally, there is a rising inclination towards implementing technology-enabled learning environments, necessitating investments in digital infrastructure and connectivity, which are poised to further propel construction growth.

Rising demand for healthcare services to drive construction spending in hospital sub-segment

In India, healthcare is delivered through a combination of government and private sectors, offering both inpatient (IPD) and outpatient (OPD) services. The demand for healthcare is primarily fuelled by various factors such as the rise in lifestyle-related illnesses, the growth of medical tourism, increasing incomes, coupled with rise in healthcare awareness post-pandemic and demographic shifts. Additionally, initiatives like PMJAY and government prioritization of the healthcare sector are contributing to this growth.

As demand increases, hospitals are strategising to either enhance existing facilities or venture into new regions across the country. This is supported by estimated increase in the number of beds from 712,000 – 714,000 in fiscal 2019 to 787,000 – 789,000 by fiscal 2024. Moreover, the relatively low availability of healthcare services in India, with only 15 beds per 10,000 people compared to the global median of 29 beds, presents an opportunity for expansion. This expansion is expected to stimulate construction spending within the sub-segment.

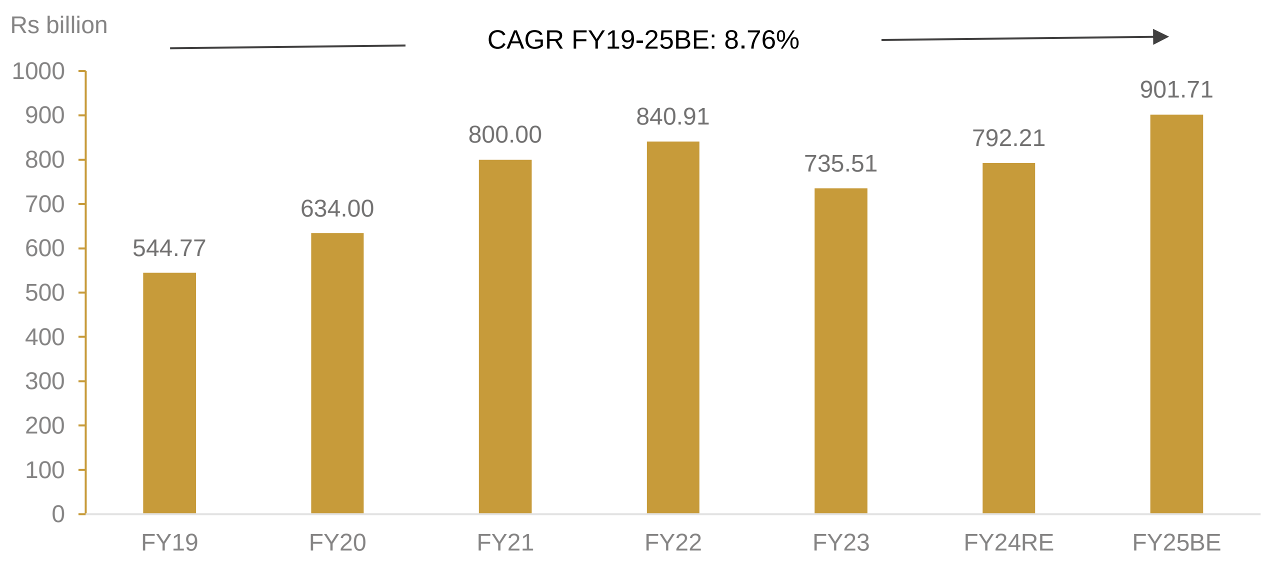
Total number of hospital beds in India



Source: CRISIL MI&A

In addition, the governments allocation to healthcare has increased from Rs 544.77 billion in FY19 to Rs 901.71 billion for FY25 (budgeted estimates), at a CAGR of 8.76%. This growth in government spending towards healthcare, further aids the construction spending in hospital sub-segment.

Budgetary allocation for healthcare over the years



RE: Revised estimates; BE: Budget estimates
Source: Budget documents, CRISIL MI&A

2.4 Overview of data centres in India

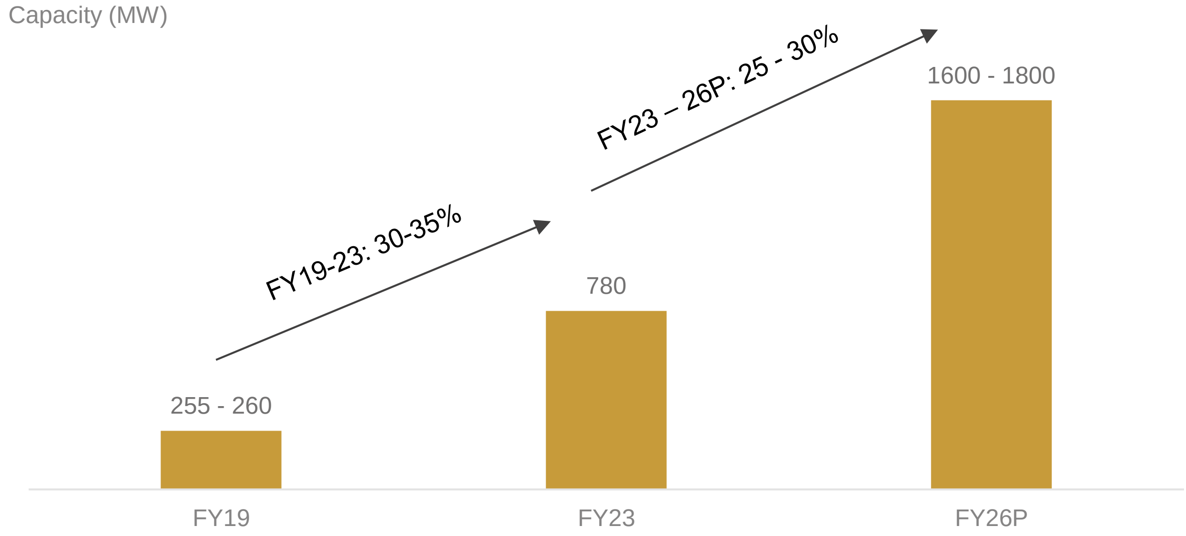
Modern data centres have evolved from their traditional physical infrastructure approach. Infrastructure has shifted from traditional on-premises physical servers to virtual networks that support applications and workloads across pools of physical infrastructure and into a multi cloud environment. Today, data exists and is connected across multiple data centres, and public and private clouds.

From fiscal 2019 to fiscal 2023, the Indian data centre industry (in capacity terms) has seen a growth at CAGR of 30-35%. During this period, the industry expanded from 255-260 MW to 780 MW, driven by factors such as increased internet accessibility, e-commerce adoption, and digital transformation initiatives by the government. The adoption of newer technologies including the cloud infrastructure by organizations seeking to reduce expenses has also contributed to this growth.

Looking ahead, the industry is expected to maintain a strong growth trajectory, with a CAGR of 25-30% between fiscal 2023 and 2026. This growth will be driven by increasing data consumption, the rollout of 5G networks across India, and advancements in technologies such as IoT, big data, artificial intelligence, and machine learning. Government initiatives, including the data protection bill 2023, draft data centre policy, and infrastructure status for data centres, will also provide a boost to the industry.

This growth of the data center industry, driven by the increasing demand for cloud computing, big data, and IoT, would aid in surge of construction projects, with new facilities being built to accommodate the expanding need for data storage and processing. As a result, the construction industry is expected to boost, with data center construction becoming one of the key growth drivers.

Data center industry India

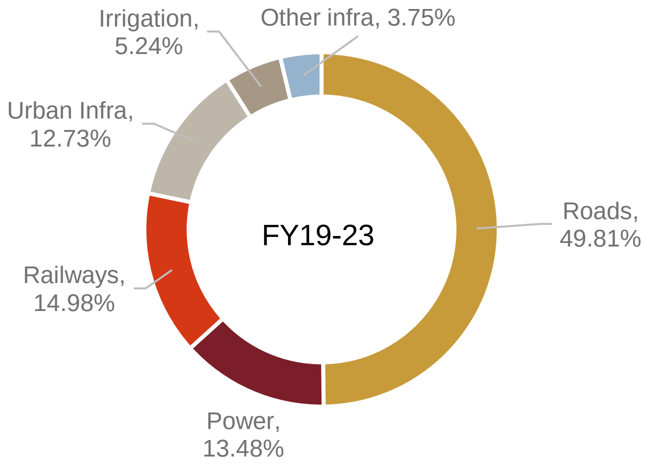


Note: P - Projected
Source: CRISIL MI&A

2.5 Infrastructure construction

In India, government's focus on the National Infrastructure Pipeline (NIP), National Monetization Pipeline (NMP), and the Gati Shakti initiatives majorly drives the infrastructure investments. Over the past few years between fiscal 2019 and fiscal 2023, in the total infrastructure investments, roads occupy the largest share (49.81% of the overall investments), followed by railways, urban infrastructure, and power segments.

Share of various segments in Indian infrastructure investments



Source: CRISIL MI&A

The share of infrastructure vertical in overall construction sector is expected to increase to 68-70% in the next four fiscals from 2024 to 2028 as against 62.43% over past four fiscals between fiscal 2019 and 2023 led by the central government's focus on roads, urban infrastructure, and railways.

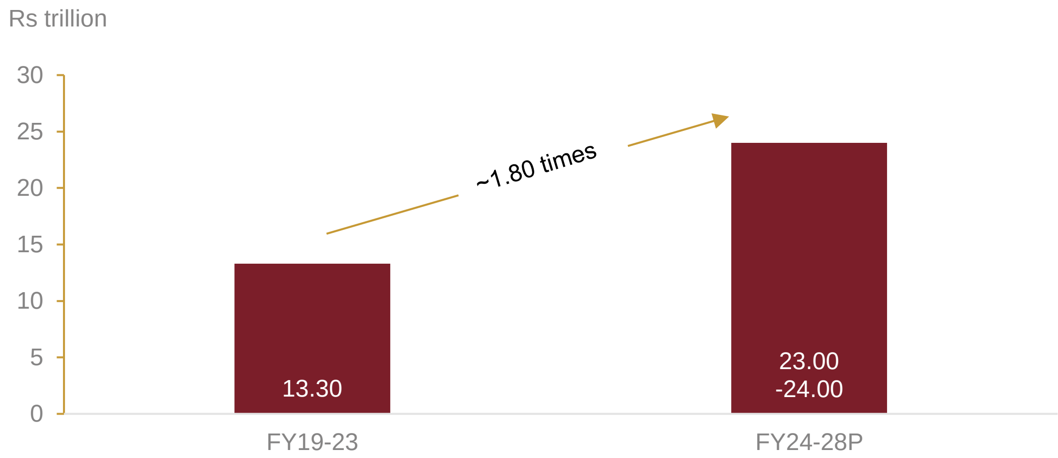
Investments in road infrastructure to rise 1.80 times during fiscal 2024-28 when compared fiscal 2019-23

In roads, as nearly all funds (save those used for land acquisition) are used only in construction, these investments augur well for construction players.

During fiscal 2019-23, the segment has attracted a total investment of Rs 13.30 trillion. Bharatmala project and increased state spending supported these investments despite brief hiccups, such as the pandemic and hampered construction due to elongated monsoons. Further, these investments in roads and highways are forecasted to nearly double over fiscals 2024-28 compared to fiscals 2019-23, reaching a total of Rs 23.00 – 24.00 trillion. Steady execution of national highway and high-value expressway projects will drive these investments.

The demand for road construction is primarily driven by rapid urbanisation, improvements for existing road network and increased vehicular traffic. Government initiatives like Bharatmala Pariyojana aim to enhance the connectivity and boost economic development through extensive road development. The rise in e-commerce and industrial sectors necessitates better logistics and transportation infrastructure. Further, development in rural regions is also pushing for improved road connectivity in order to get better access to markets, healthcare and education among others.

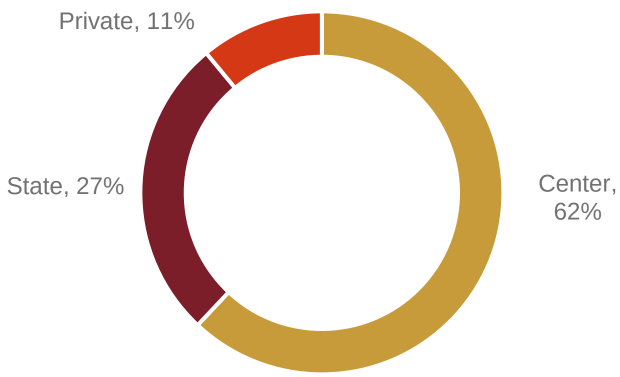
Investments in Indian road segment



Source: CRISIL MI&A

Going forward, the share of HAM in awarding projects is expected to be similar to fiscal 2020 levels or rise marginally going forward. As the HAM project requires 40% of the total construction cost to be paid by the government during the construction period, coupled with EPC projects (where 100% of the cost is funded by government) occupying major share in road construction, 75-80% of the total investment expected in national highways will be expensed by public funds (state and centre).

Source of funds (fiscal 2024E)



Source: CRISIL MI&A

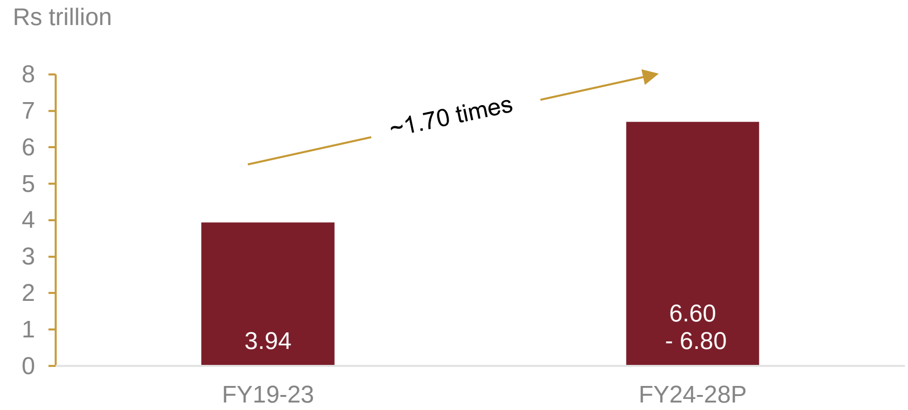
Investments in railway infrastructure to rise during fiscal 2024-28 led by Amrit Bharat station scheme

During fiscal 2019-23, due to the government's focus on completing dedicated freight corridor (DFC) projects, traction in high-speed rail, investment in newer avenues such as Vande Bharat trains, and focus on the station redevelopment program, the segment has attracted a total investment of Rs 3.94 trillion.

In the future, a construction investment of Rs 6.60 - 6.80 trillion is estimated over the next five years between fiscal 2024 and 2028, which is an increase of ~1.70 times over the past five years, led by investments in network decongestion, Amrit Bharat station development scheme, and high-speed rail projects. With construction investments over fiscal 2024 to 2028 expected to nearly double, raising funds through external agencies, IEBR, and via PPP would be a key monitorable.

Further, the railway infrastructure development is also driven by the need to support economic growth, enhance fright efficiency and improve long distance passenger connectivity. Government initiative such as dedicated freight corridor and high speed rail projects aim to modernise and expand the existing national rail network. Increased industrial trade and tourism activity require better logistics and transportation facilities. Additionally, the push towards sustainable transportation is also driving the investments in railway electrification and modernisation.

Investments in Indian railway segment

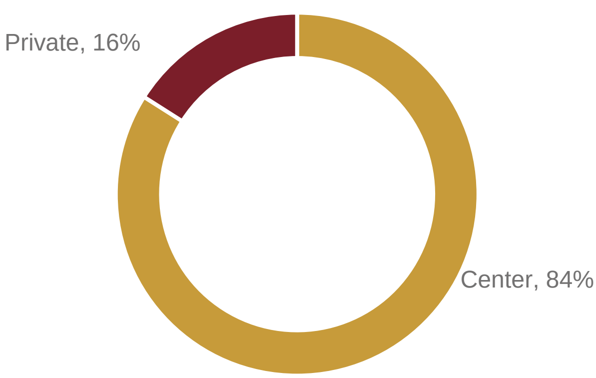


Source: CRISIL MI&A

The central government announced a capital outlay of Rs 2.52 trillion for the Indian Railways in the Union Budget 2024-25 which is a rise of 5% over the revised capital outlay under budget 2023-24. Under the proposed capital outlay the government aims to convert 40,000 conventional rail bogies to Vande Bharat standards. In addition, the government is also focusing on developing three major economic corridors - energy, mineral, and cement; port connectivity; and high-traffic density corridors – with an aim to boost efficiency and connectivity. As of July 2024, Energy, Mineral and Cement corridors (192 Projects); Port connectivity corridors (42 Projects) and High Traffic Density corridors (200 Projects) have been identified under the PM Gati Shakti Mission for enabling Multi-Modal connectivity.

As of fiscal 2024, center contributes to 84% of total investments made during the period, while the rest is contributed through private investments.

Source of funds (fiscal 2024E)

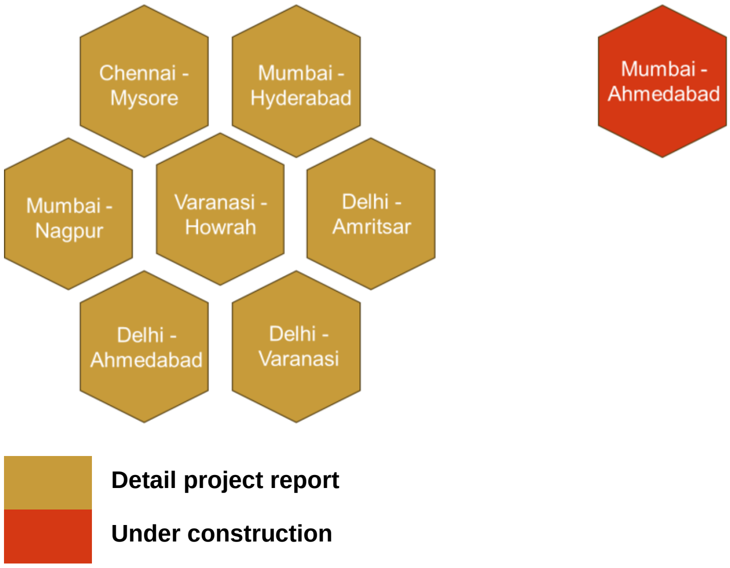


Source: CRISIL MI&A

High speed rail projects

The Government of India has envisaged development of high speed rail (HSR) corridors and has identified 8 corridors for constructing HSR projects of which the Mumbai Ahmedabad corridor is under construction while DPR preparation of the remaining projects is under preparation.

Status of HSR projects



Source: CRISIL MI&A

Amrit Bharat Station Scheme

Launched on 6th August 2023, the Amrit Bharat Station Scheme aims to transform and revitalize 1,309 railway stations nationally. The scheme involves

- Preparation and implementation of master plans to improve the amenities at the stations.
- The scheme also envisages improvement of the building, integrating the station with both sides of the city, multimodal integration, amenities for Divyangjans, sustainable and environment-friendly solutions, provision of ballast less tracks, 'roof plazas' as per necessity, phasing and feasibility and creation of city centres at the station in the long term.

On 26th February 2024, the Government of India, as part of the Amrit Bharat Station Scheme, proposed redevelopment of 553 railway stations with an overall cost of Rs 190.00 billion.

In addition, it also proposed 1,500 infrastructure redevelopment projects like overbridges and underpasses at an overall cost of Rs 215.20 billion. It will be providing an overall opportunity of Rs 410.00 billion.

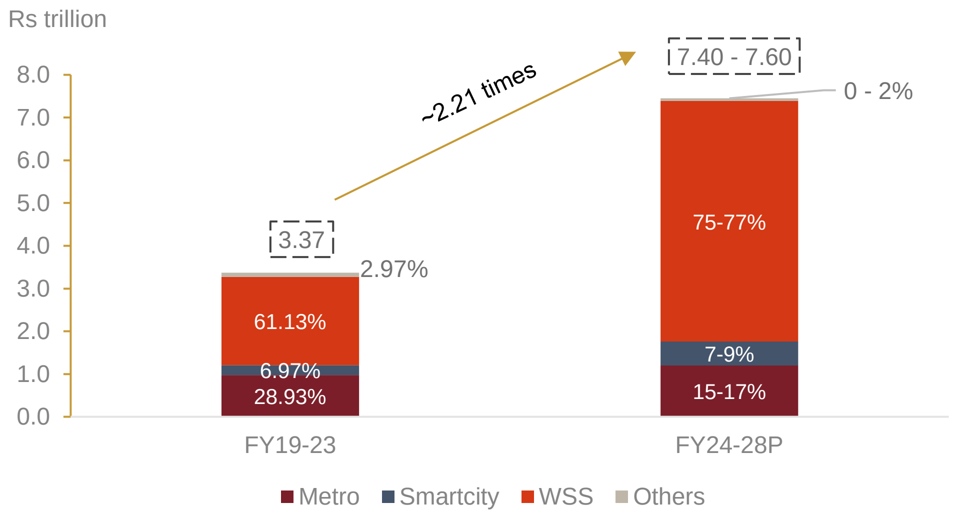
Urban infrastructure investments to continue rising led by rising urbanisation and increase in investments under Water Supply and Sanitation

Urban infrastructure includes construction-intensive mass rapid transit system (MRTS), bus rapid transit system (BRTS), water supply and sanitation (WSS) projects, smart cities, and related infrastructure development. The segment has seen an investment of Rs 3.37 trillion during fiscal 2019-23 majorly led by investments in Water supply and sanitation under schemes such as Swachh Bharat Mission, Jal Jeevan mission, AMRUT and investments in Metro projects.

Going ahead, investments in urban infrastructure are expected to rise by ~2.21 times, reaching to the levels of Rs 7.40 – 7.60 trillion majorly led by investments in WSS and metro construction in major Indian cities. Further to this, progress of work on 105 smart cities announced so far will also be a key monitorable, which would aid in further bolstering the investments in the sector. The growth also further aids in the development of building construction in the sector.

The demand for urban infrastructure development in India is driven by rapid urbanisation and increasing population density. The need to reduce traffic congestion, pollution and create a sustainable environment propels the investments in the sector. While rising commuter demand aids investments in metro, rising health awareness and water scarcity necessitate efficient resource management and infrastructure resilience in WSS segment. Further, rising migration towards urban cities and need for improved quality of life and economic opportunities fuels the demand for smart cities in turn aiding the growth in investments.

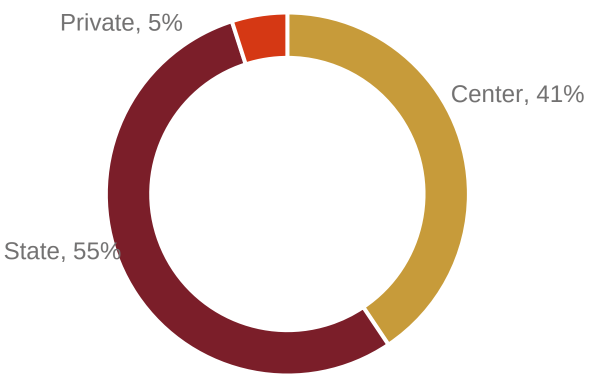
Investments in urban infrastructure segment



Source: CRISIL MI&A

As of fiscal 2024, center and state are major contributor of total investments made during the period with share of center at 41% and state share at 55%.

Source of funds (fiscal 2024E)



Note: The above values are rounded off to the closest integer, hence will not add up to 100%
Source: CRISIL MI&A

Key announced government initiatives to power WSS projects

Government schemes such as the Swachh Bharat Mission (SBM), Jal Jeevan mission and the National Mission for Clean Ganga (NMCG) are likely to boost WSS investments. On October 2, 2014, Prime Minister Narendra Modi launched SBM in order to focus on sanitation and accelerate efforts to achieve universal sanitation coverage. It comprises two sub-missions - Gramin (for the rural areas) and Urban - aimed at achieving a clean India by 2019.

The measures undertaken by the mission include construction of household, community and public toilets, and conversion of insanitary latrines into pour-flush latrines; solid waste management; and public awareness.

The overall budgetary allocation under SBM (Rural and urban) during Union budget 2024-25 is Rs. 184.92 billion with revised estimates for 2023-24 at Rs. 123.12 billion.

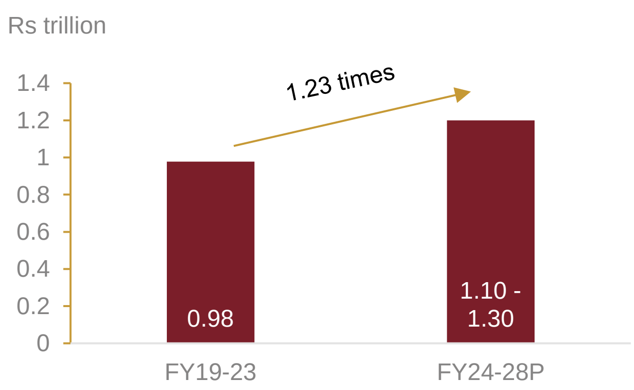
Metro projects to be second largest contributor under urban infrastructure investments

CRISIL MI&A estimates that construction spends on metro projects in India will increase ~1.23 times from Rs 0.98 trillion during fiscal 2019-23 to Rs 1.10 – 1.30 trillion over fiscals 2024 to 2028, making it the second-largest contributor to urban infrastructure investments. Bulk of the metro projects are under construction and have achieved financial closure, with the lockdown and migration of labour the only impediments that drove investments lower in fiscal 2021, while deferral of investments led to revival in fiscal 2022 with the momentum continuing during next two fiscals.

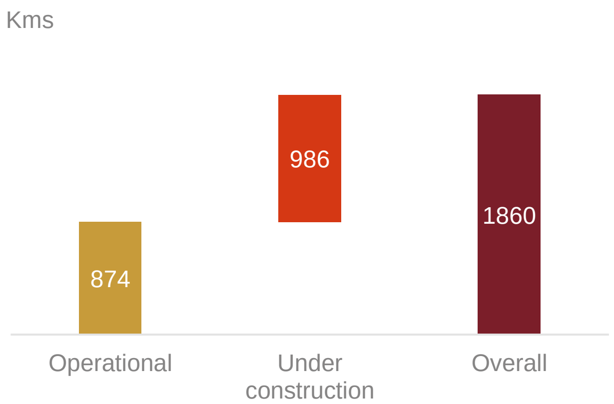
Going ahead, new project announcements, as well as completion of under construction projects, by state governments to aid growth in the sector. In addition, new metro rail policy was announced during the Union Budget (2018) to develop private interest in the segment.

To increase the viability of metro projects and make them available across cities with lesser populations, Government of India has announced Metro-Neo and Metro-Lite. These are cheaper to construct and operate and are suited for cities with lower population densities. These also would aid in creating construction opportunities in the segment which include construction of buildings and other metro infrastructure.

Investments in metro network



Metro network to double in coming years



Note: data for metro network mentioned in the above graph (right side) as of October 2023
Source: PIB, CRISIL MI&A

Progress in metro projects across states

Project	Status
Mumbai	Work for three lines in advanced stages, five more lines under implementation, total 14 lines approved
Pune	First two phases on track, third phase to be awarded on public private partnership (PPP) basis
Delhi	Phase three almost complete, phase four-three out of six corridors approval received
Chennai	Phase one extension line to begin soon, phase two in planning stage
Hyderabad	Phase one complete, phase two in proposal stage
Bengaluru	Phase one complete, phase two under construction

Source: CRISIL MI&A

Smart cities to further push infrastructure spending under urban infrastructure

To further push urban infrastructure spending, the government approved a budget of Rs 480 billion for the development of 100 smart cities over five years, beginning fiscal 2017. The focus is on adequate and clean water supply, sanitation, solid waste management, efficient transportation, affordable housing for the poor, power supply, robust IT connectivity, e-governance, safety and security of citizens, health, and education.

The selected cities will receive central assistance of Rs 2 billion in the first year, Rs 1 billion in each of the next four years, and a matching contribution from the respective state.

The state and central government funds will only meet part of the cost. The rest will be raised through user fees, municipal bonds, existing central/state schemes such as AMRUT, and PPPs.

Under recent union budget of 2024-25, the Government of India has extended the deadline for the smart cities project till 31st March 2025.

Each smart city will have two plans:

Area-based development (ABD): Under this plan, one chosen area of the city will be developed, through retrofitting, redevelopment, or greenfield, or a combination of these. The delineated area should be contiguous within the city

Pan-city solution: Under this plan, the entire city area is considered, and information and communications technology (ICT) is used for diverse purposes, such as traffic management, water and electricity supply (smart metering), and solid waste management.

The opportunity in smart cities will primarily come from ABD projects such as affordable housing, sanitation, solid waste management, water supply, and storm water reuse.

All 105 cities announced ; Tendering activity on the uptick

Out of the 60 smart cities declared in rounds one and two and the fast track round, only ~29 cities are seeing reasonable amount of activity. Of the first 20 cities announced, only 10 have progressed in terms of execution. About eight cities have no progress or only marginal progress in execution as against what was planned initially. Except Raipur, cities from the fast-track round that were to start execution from fiscal 2017 have seen almost no activity.

For the balance 40 cities selected in rounds three and four, tendering is at a very nascent stage for the newly formed special purpose vehicles (SPVs).

Smart city status

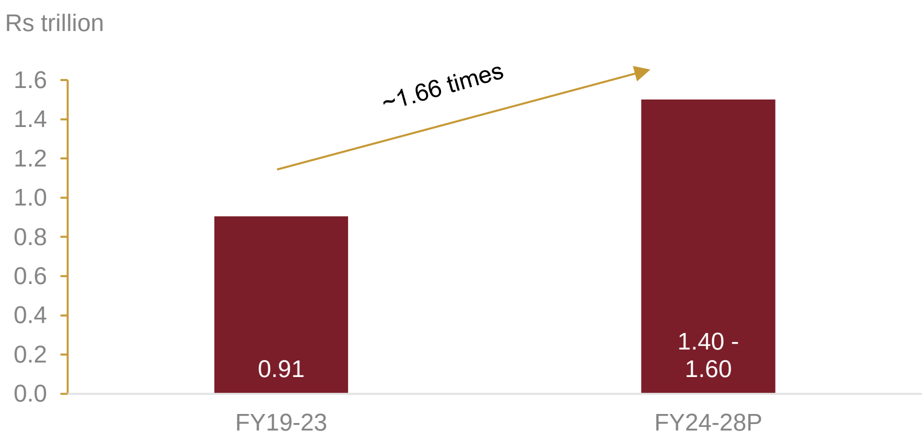
Status	Number of projects	Projects value (Rs Bn)	Percentage (%)
Completed	7,066	1,415.00	84.63%
In progress	959	256.86	14.37%
Total	**8,025**	**1,671.86**	**100.00%**

Note: Data as of May 2024
Source: CRISIL MI&A

Construction investment in other segments also to see an uptick in long term over fiscals 2024 to 2028

Other major segments include airports, ports, telecom towers and warehousing and cold storages. Investment in construction for these segments is also expected to see an uptick rising from ~Rs 0.91 trillion during fiscal 2019 to 2023 to ~Rs 1.40 – 1.60 trillion during fiscal 2024 to 2028.

Investments in other major segments



Source: CRISIL MI&A

Construction investments in **airports** is driven by expansion Bangalore, Delhi, Hyderabad and Chennai airports as well as with progress of greenfield projects at Jewar, Navi Mumbai, Mopa and Bhogapuram airports. The plan under national monetisation pipeline (NIP) to monetise 25 airports will aid in boosting PPP investments with the money raised by AAI going towards establishment / upgradation of smaller, underserved and unserved airports. Moreover, significant anticipated investments from airports such as Navi Mumbai, Goa (Mopa), Bhogapuram and Jewar airports are expected to increase the share of greenfield investments. Further, government initiatives, such as speeding up of project approvals through automated clearances using digital platforms, setting up of project monitoring group to fast-track investments, and monitoring of timelines set for clearances by various ministries to aid greenfield investments over the next five years during fiscal 2024 and 2028.

The incremental investment in **ports** is expected to be majorly in Port of loading (POL) and container segments as iron ore segment is currently facing oversupply, and fresh investments in the coal segment are tepid. The private sector has accounted for most of the investments in the ports sector in the past few years, concentrating on non-major ports. Public sector contribution has remained limited to the maintenance of draft and building of allied infrastructure, such as roads at major ports.

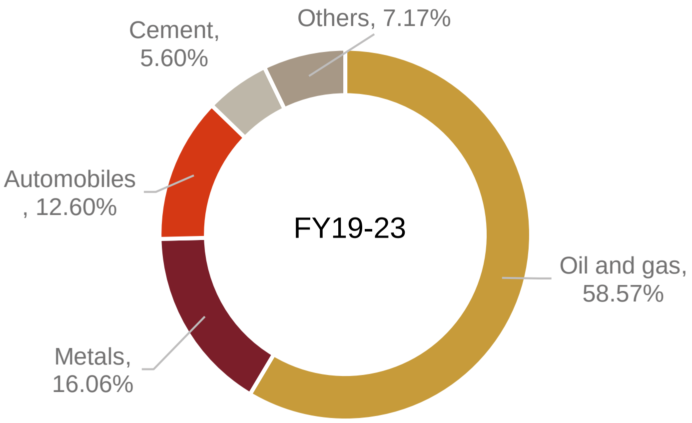
Construction investments in the **warehousing** (agricultural and industrial) and **cold-storage** (single- and multi-commodity) sectors is led by increased demand. India's warehousing stock per capita is only 0.15-0.02 sq. m. while that of China is 0.7-0.9 sq. m. and that of the USA is 4.4 sq. m. providing an opportunity for growth. Players are also likely to invest in automation to lower touch points especially since automated services have seen increasing preference among the occupiers of late. However, in agriculture warehousing, the investments are expected to be lower owing to the muted growth in demand for agricultural warehousing space amidst low FCI procurement. Given the scenario, Industrial warehousing is likely to comprise over 85-90% share of total investments in warehousing. In cold-storages, early payback in multipurpose cold storages as against single-commodity storages is expected to boost investments in the segment.

2.6 Industrial construction

CRISIL MI&A considers Oil and gas, petrochemicals, fertilisers, paper, textiles, cement, metals, and automobile sectors as a part of Industrial construction. In addition to this, the investments in the industrial construction are also driven by PLI scheme, which is a time bound incentive scheme by the Government of India which rewards companies in the range on 5-15% of their annual revenues based on the companies meeting pre-decided targets for incremental production and/or exports and capex over a base year.

During fiscal 2019 to fiscal 2023, the industrial construction has seen a total investment of ~Rs 3.50 trillion of which major share is occupied by Oil and gas sector (58.57%) followed by Metals (16.06%) and Automobiles (12.60%).

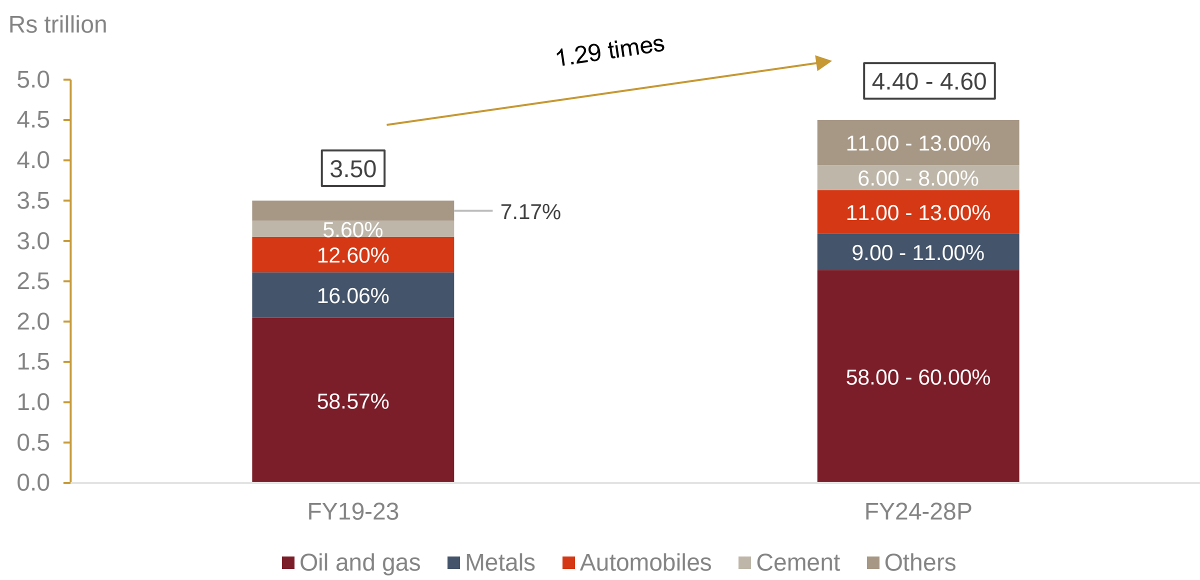
Share of various segments in Indian industrial construction investments



While the PLI scheme entails 13 sectors, CRISIL MI&A has only considered 3 capital intensive sectors which are Auto and auto components, Textiles and Specialty steel as a part of analysis
Source: CRISIL MI&A

Major driven by the investments growth in Oil and gas segment, the overall investments in Industrial construction are estimated to grow by ~1.29 times to reach ~Rs 4.40 – 4.60 trillion during fiscals 2024 and 2028.

Investments in industrial construction



Others include petrochemicals, fertilisers, paper, textiles and PLI scheme
While the PLI scheme entails 13 sectors, CRISIL MI&A has only considered 3 capital intensive sectors which are Auto and auto components, Textiles and Specialty steel as a part of analysis
Source: CRISIL MI&A

Overview of construction investments in various segments under industrial construction

Segment	Construction investments in Rs trillion (FY19-23)	Construction investments in Rs trillion (FY24-28P)	Growth (times)	Outlook	Demand drivers
Oil and gas	2.05	2.50 – 2.70	1.29 times	Refinery expansion plans by Reliance Industries Ltd, Nayara Energy, IOCL as well as investments by upstream oil & gas and downstream natural gas players expected to drive the investments.	Growth in automobile segment, increasing energy consumption due to industrialisation and urbanisation coupled with government initiatives for infrastructure development
Automobiles	0.44	0.40 – 0.60	1.24 times	Rise in automobile sales coupled with upgradation of technologies and introduction of corporate average fuel efficiency norms and shift towards ACES - Autonomous, Connected, Electric, shared architecture would drive investments in the automobile space.	Enhancement in economic activities, rising income levels, development of rural infrastructure, government initiatives to boost farm income coupled with growing penetration in passenger and commercial vehicle segments
Metals	0.56	0.30 – 0.50	0.79 times	The upcoming investments are expected to be in the brownfield expansions with players like ArcelorMittal Nippon Steel India Ltd expanding capacities. Investment is expected to grow in the aluminium segment, led by capacity expansion plans of Nalco as the export and domestic demand continue to rise.	Growth in construction activities across sectors, rising automobile sector, coupled with government policies such as PLI scheme supporting manufacturing and increasing demand for consumer goods among others
Cement	0.20	0.40 – 0.60	1.58 times	Growth in demand for residential housing coupled with increased government spending on Pradhan Mantri Awas Yojana (PMAY) will provide impetus to	Rising urbanisation coupled with infrastructure development across various sectors of roads, railways,

Segment	Construction investments in Rs trillion (FY19-23)	Construction investments in Rs trillion (FY24-28P)	Growth (times)	Outlook	Demand drivers
				the housing segment. Further, the grant of infrastructure status to affordable housing will facilitate easier access to low-cost finance. Investments are also expected to increase considerably in other infra segments such as roads, railway, irrigation, and urban infrastructure. These are expected to boost cement demand in turn leading to increase in investments in the sector.	urban etc coupled with growth in residential housing and commercial real-estate demand
Others	0.25	0.50 – 0.70	2.23 times	Construction spending in the **petrochemicals** industry is expected to rise due to China plus 1 strategy being followed by global players and supported by India's well established chemical production base seeing renewed push by players. Construction investment in **fertilisers** is expected to rise led by government's focus on reducing import of urea and becoming self-sufficient to cater to domestic demand is expected to drive investments. Further, the government has been trying to revive sick urea units at Sindri, Gorakhpur, and Barauni. It has also been incentivising private players to enhance domestic capacity which is further expected to drive investments.	In case of Petro-chemicals, the demand is expected to be driven by end-use sectors, like automobiles, infra, industrial, packaging, irrigation and construction as the consumption is expected to rise with increasing population and mobility. In case of fertilisers the demand is expected to be driven by increase in agriculture acreage, government subsidies and initiatives such soil health card scheme to increase awareness about fertiliser usage.

Note: P: Projected

Source: CRISIL MI&A

2.7 Overview of line of credit for Infrastructure in India

According to Reserve Bank of India's deployment of Bank credit, lending to segments such as power, telecom, roads, airports, ports, and railways among others, has grown at CAGR of 4.55% between fiscal 2019 and 2024. During the same period construction credit has seen 3.60% growth.

During fiscal 2024, as per RBI data, outstanding credit to power segment stands at Rs 6,440.51 billion occupying a lion's share of 49.38% in overall infrastructure credit disbursed during fiscal 2024. This is followed by roads with a share of 24.39% during the same period.

Having said that, the credit growth in fiscal 2024 is majorly led by telecommunications and railways, while the major segments of roads and power saw a moderate growth. Further, the growth is constrained by reduction in disbursals towards infrastructure projects in airports and ports.

Deployment of bank credit

	FY19	FY20	FY21	FY22	FY23	FY24	CAGR FY19-24
Infrastructure	10,441.99	10,836.56	10,954.67	11,974.16	12,247.90	13,041.66	4.55%
Power	5,698.57	5,773.27	5,710.28	6,125.00	6,202.32	6,440.51	2.48%
Telecommunications	1,105.45	1,471.76	1,149.61	1,276.71	1,082.62	1,381.95	4.57%
Roads	1,762.54	1,815.31	2,262.99	2,714.82	3,013.20	3,180.90	12.53%
Airports	44.24	51.44	85.73	67.08	95.93	72.80	10.47%

	FY19	FY20	FY21	FY22	FY23	FY24	CAGR FY19-24
Ports	94.79	127.45	101.53	86.73	79.83	66.81	-6.76%
Railways (other than Indian Railways)	97.04	108.85	124.71	106.05	101.75	130.63	6.13%
Other Infrastructure	1,639.37	1,488.49	1,519.81	1,597.78	1,672.26	1,768.06	1.52%
Construction	1,119.37	1,278.38	1,196.70	1,205.54	1,249.56	1,336.20	3.60%

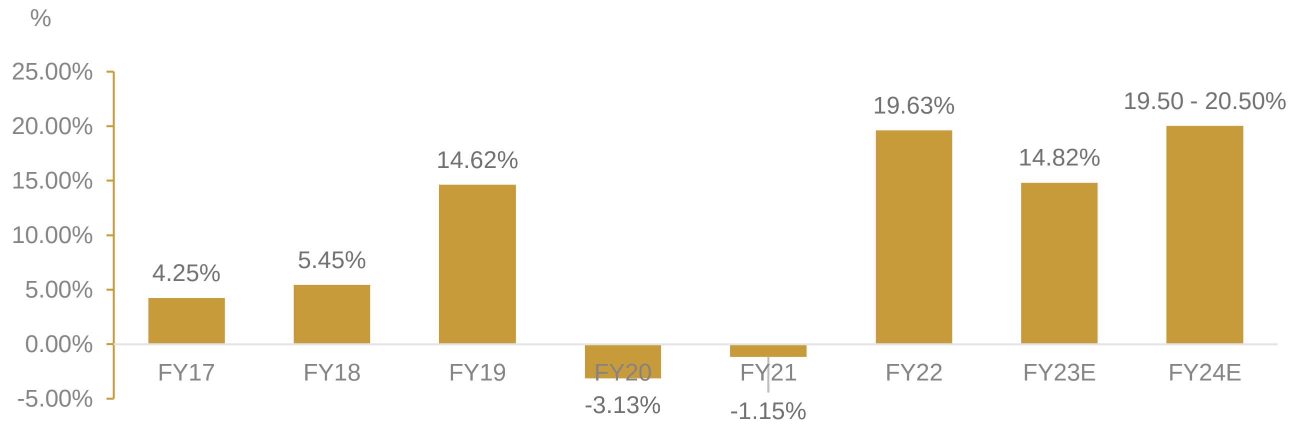
Source: RBI, CRISIL MI&A

2.8 Overview of construction sector revenue growth and profitability

Revenues of players rise by 19.50 – 20.50% in fiscal 2024

Revenue of players considered has seen an increase of 19.50 – 20.50% year on year in fiscal 2024, supported by rise in residential demand coupled with government thrust towards infrastructure development. This is post, 14.82% rise on year in fiscal 2023, led by pick up in execution, healthy order books padded by deferred investments from fiscal 2022, execution of high value projects such as expressways and the bullet train project. Whereas for fiscal 2022, revenue of players considered increased 19.63% on year attributable to the low base created in fiscal 2021 owing to lockdown impacting construction activities.

Revenue growth over the years



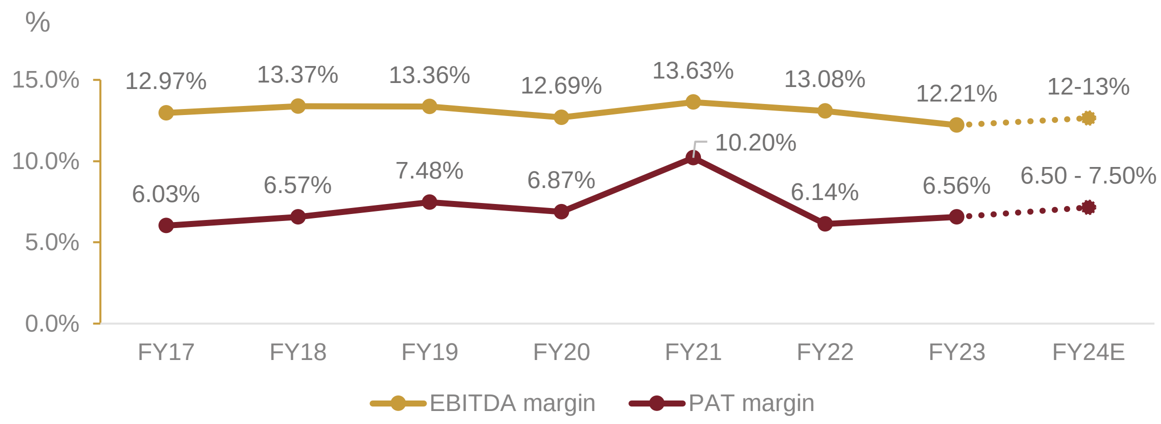
Note: The above values are arrived using a sample of 28 companies (standalone financials)
E: Estimated
Source: CRISIL MI&A

EBITDA margins remain flat in fiscal 2024 with increasing competitiveness in the sector

Construction sector firms have low proportion of fixed costs, whereas the variable costs are linked to power, fuel, raw materials and contractual labour forming the bulk of the cost heads for firms.

During fiscal 2024, EBITDA margins are estimated to have remained flat in the range of 12-13% due to rising competitiveness in the sector coupled with raise in commodity prices. Margins for fiscal 2023 seen at 12.21% led by improved execution, softening of commodity prices, operating efficiencies brought about during the pandemic and delayed pass on of commodity inflation price hikes. With more than 75-80% of projects having cost escalation clauses built in, the rising costs of raw materials would be passed on to the project owners with some delays based on contract clauses. The lag in passing on input cost escalation, has led to margins being capped in the upcoming fiscals.

Margins for players considered



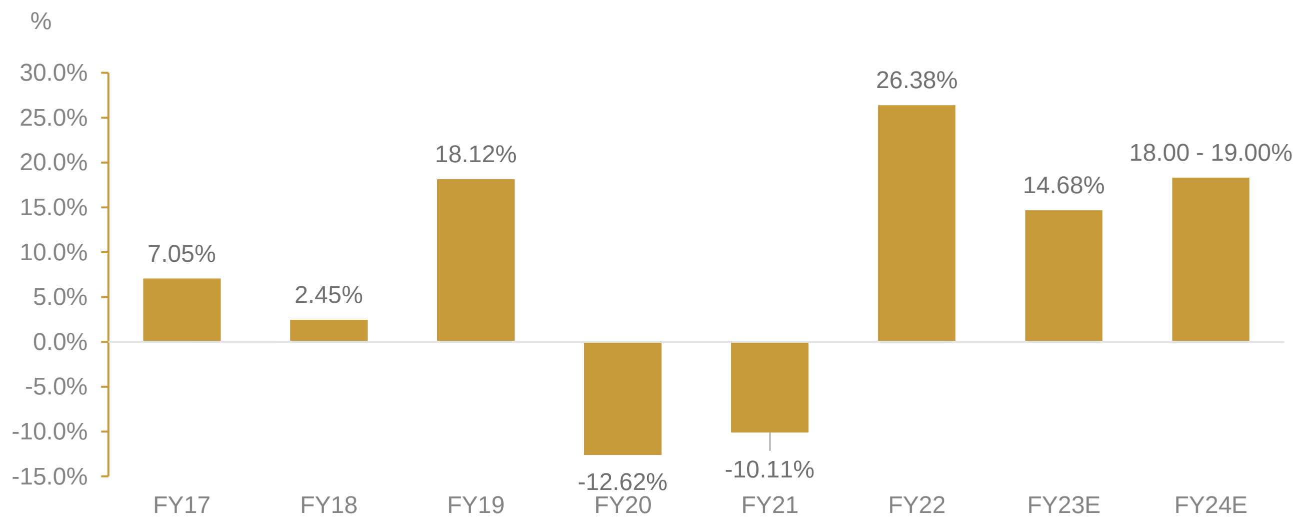
Note: The above values are arrived using a sample of 28 companies (standalone financials)
E: Estimated
Source: CRISIL MI&A

2.9 Overview of building construction vertical revenue growth and profitability

Revenues of players rise by 18.00 – 19.00% in fiscal 2024

The revenue of players considered has seen an increase of 18.00 – 19.00% year on year in fiscal 2024, majorly due to government's strong emphasis on infrastructure development across sectors. This growth comes after substantial revenue growth in fiscal 2022 and fiscal 2023 with 26.38% and 14.68% respectively. These earlier gains were majorly due to low base, during fiscal 2021 where the industry has faced a revenue degrowth 10.11% respectively as the construction activities were halted due to imposed lockdown, non-availability of labour for construction during the covid-19 pandemic.

Revenue growth over the years

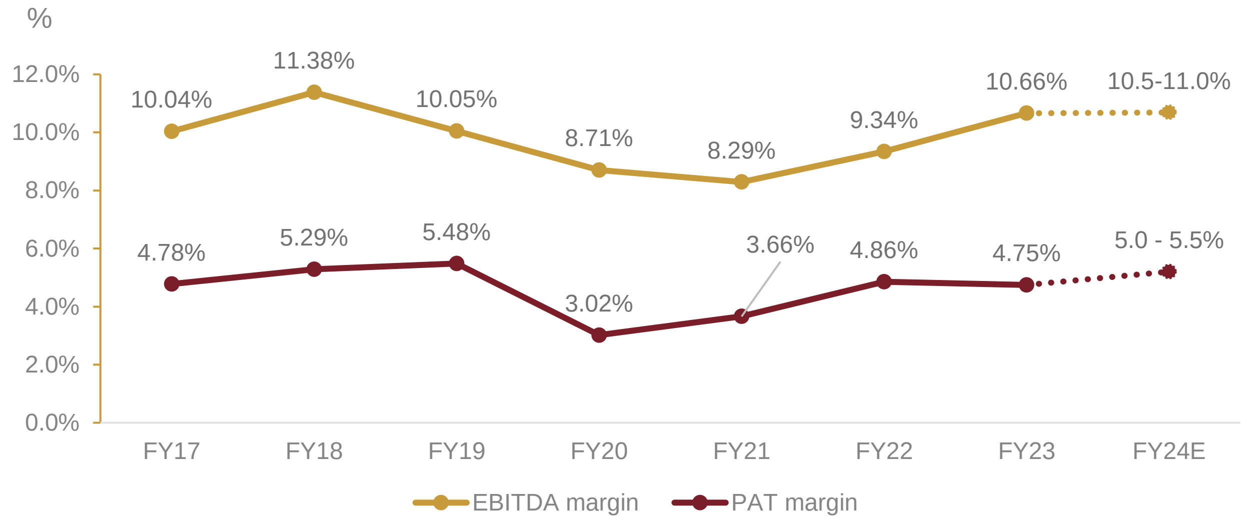


Note: The above values are arrived using a sample of 6 companies (standalone financials)
E: Estimated
Source: CRISIL MI&A

EBITDA margins remain flat in fiscal 2024 aided by cool down in raw material prices

In fiscal 2024, CRISIL estimates EBITDA margins to had remained flat in the range of 10.5-11%. During fiscal 2024, EBITDA margins for the industry are supported by cool down in commodity prices such as cement and steel, however they are constrained by slight slowdown in construction activity during March 2024 due to national elections coupled with shortage of labour during the period. Historically, the EBITDA margins in the industry have been steady typically ranging from 10-12%. Similarly, the PAT margins remain stable with a range of 5.0-5.5%.

Margins for players to remain flat



Note: The above values are arrived using a sample of 6 companies (standalone financials)
E: Estimated
Source: CRISIL MI&A

2.10 Policy & Regulatory Overview of construction industry in India

Overview of construction spending by key ministries

The central government is the primary financier for construction projects across India, making it vital for the country's infrastructure development. Its substantial financial backing catalyses the realisation of crucial projects ranging from highways to urban development. For instance, during fiscal 2024, of the total construction investments in major construction sectors of roads and railways, the share of central government stood at 62% and 84%, respectively underscoring its significant contribution to construction spending. Below are the construction spends by few key central government ministries over the years.

National Building Construction Corporation (NBCC)

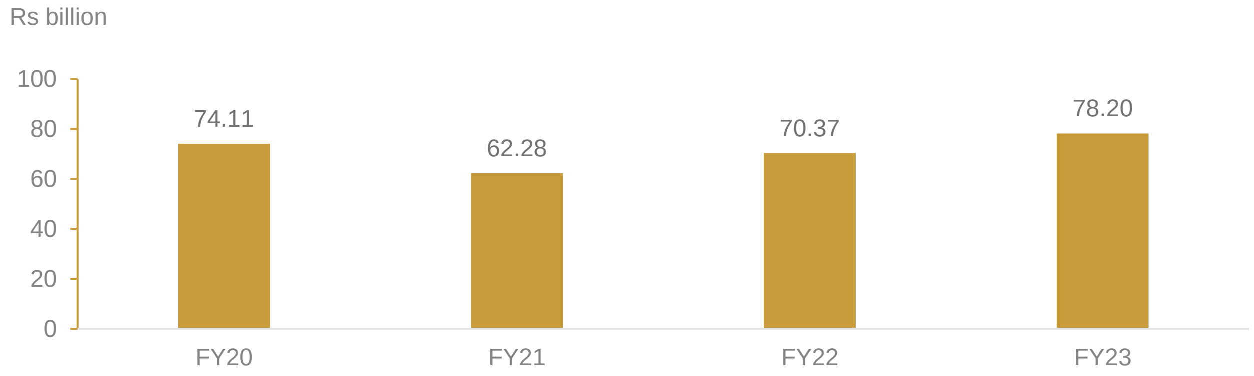
NBCC was established in 1960 as the construction arm of the Government of India to execute civil engineering projects for the state governments, various central government ministries, public and private sectors. It operates in three business segments which include

Project Management Consultancy (PMC): Under PMC it executes, civil construction projects including residential and commercial complexes, hospitals, educational Institutions, re-development projects of the Government. Infrastructure. It also executes infrastructure projects for the national security as well as civil sector. It does, project implementation for Pradhan Mantri Gram Sadak Yojna (PMGSY) and developmental work in North-Eastern Region.

Engineering Procurement & Construction (EPC): Under EPC it provides services such as Projects conceptualisation, feasibility studies, detailed project reports, basic and detailed engineering, procurement, construction, commissioning and testing.

Real-estate development: It also executes residential projects, such as apartments and townships and commercial projects such as corporate office buildings and shopping malls.

Construction spending of NBCC over the past years



Note: Latest available annual report for NBCC is as of fiscal 2023
Source: Annual reports, CRISIL MI&A

As of fiscal 2024 as per the annual report, NBCC has a total order book of approximately Rs 522.42 billion. Further as per the August 2024 conference call of NBCC, the total order book as of fiscal 2025 stands at Rs. 810.00 billion. Major works secured by NBCC during fiscal 2024 are as follows:

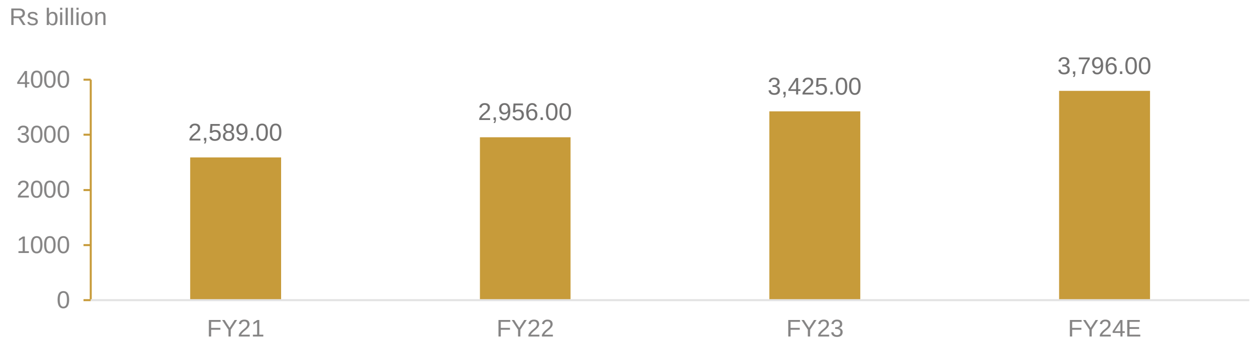
- Development and monetization of major land parcel of Kerala state Housing Board (KSHB)
- Government presses redevelopment
- Ravenshaw university works
- Public Works Department, Puducherry
- Bokaro Steel, township, works
- Paradip Port authority works
- SAIL Bhilai Steel Plant

Ministry of Road Transport and Highways and National Highway Authority of India

The Ministry of Road Transport and Highways (MoRTH) and the National Highways Authority of India (NHAI) play pivotal roles in shaping and managing India's road construction.

MoRTH is the apex body responsible for the formulation and administration of rules, regulations, and laws relating to road transport, highways, and road safety in India. It formulates policies and programs for the development and maintenance of road infrastructure, including national highways, state highways, and rural roads. NHAI is an autonomous agency of the Government of India, responsible for the development, maintenance, and management of national highways in India. Its primary function is the construction and operation of highways across the country.

Construction spending of MoRTH and NHAI over the past years

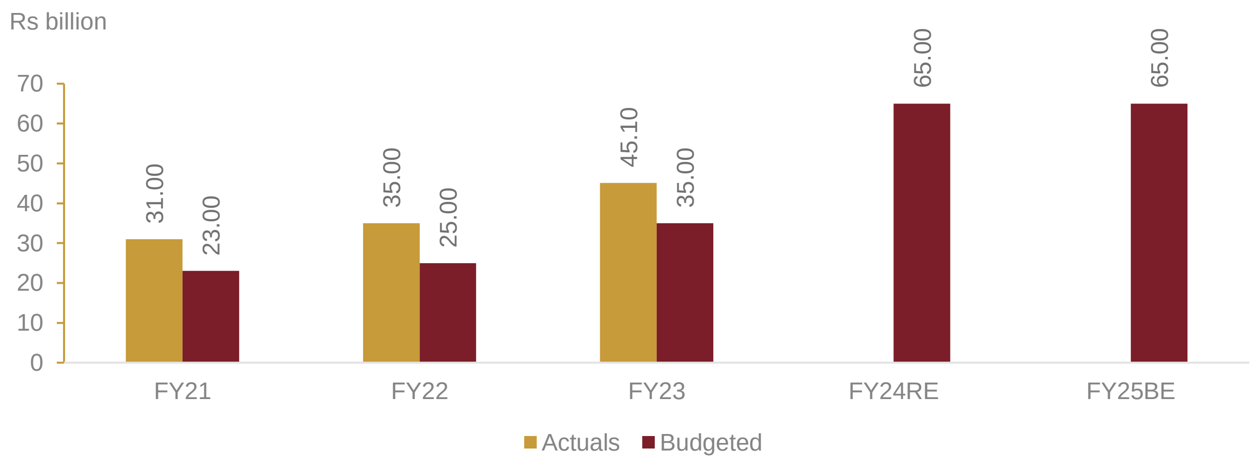


Source: CRISIL MI&A

Border Roads Organisation (BRO)

Established on 7th May 1960, the Border Roads Organisation (BRO) has been instrumental in enhancing India's border infrastructure. Serving as a key player in road construction, BRO provides crucial support to the Indian Armed Forces, focusing on the development and maintenance of road networks in border regions of the country.

Construction spending of BRO over the past years

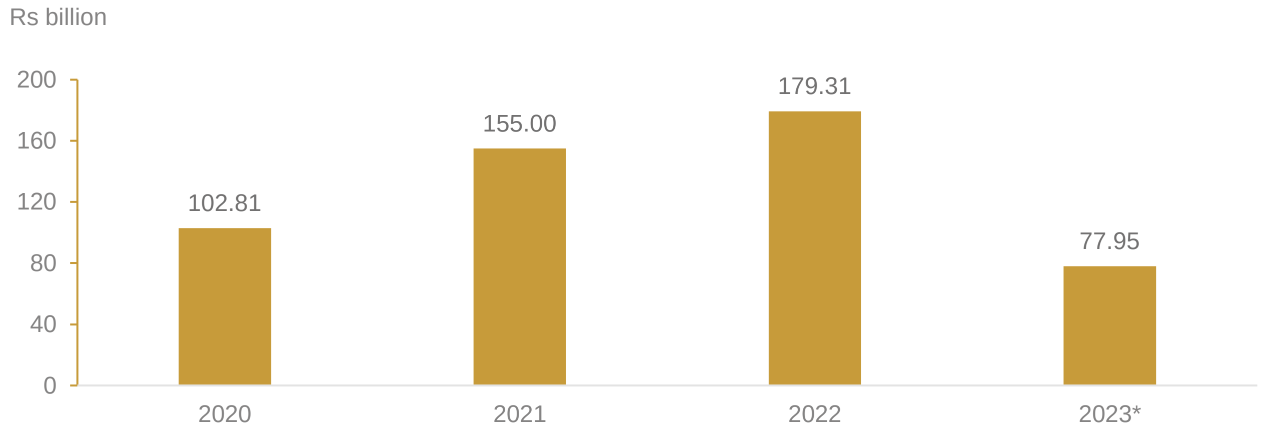


Source: Budget documents, CRISIL MI&A

Central Public Works Department (CPWD)

The Central Public Works Department (CPWD), operating under the Ministry of Housing and Urban Affairs, stands as a one of the major engineering entities. CPWD offers a wide array of services encompassing planning, design, and construction, along with post-construction maintenance management. CPWD undertakes diverse construction projects such as residential complexes, offices, schools, laboratories, hospitals, and storage facilities. Additionally, it handles infrastructure projects such as highways, flyovers, tunnels, bridges and runways.

Construction spending of CPWD over the past years

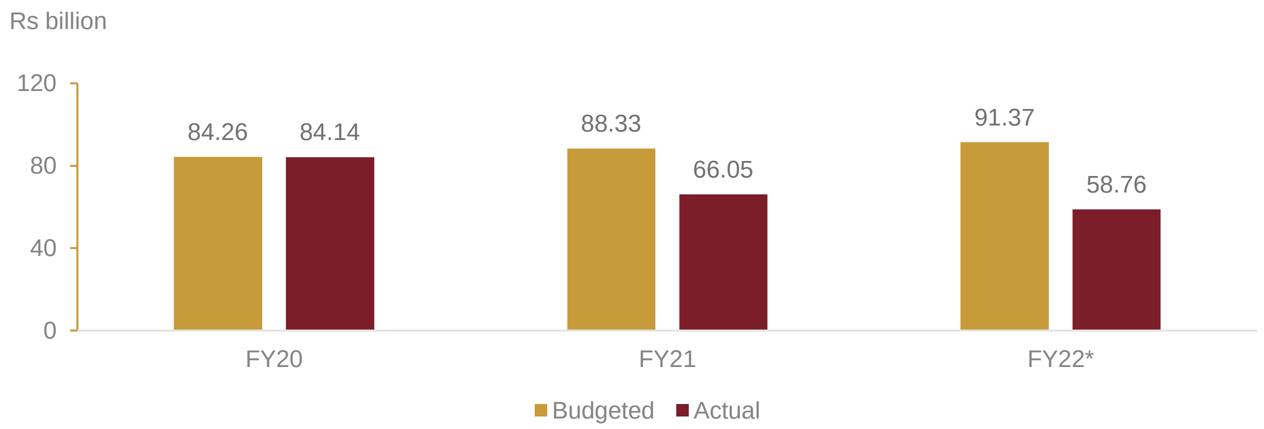


Note: The above values include spends for both construction and maintenance
**Data is projected and for January to March period during the calendar year 2023*
Source: Budget documents, CRISIL MI&A

Military Engineer Services (MES)

The Military Engineer Services (MES) is involved in development of strategic and operational infrastructure, excluding major roads, for the armed forces and associated organizations under the Ministry of Defence. MES is tasked with creating administrative facilities for the Army, Air Force, Navy, Coast Guard, Defence Estates, Defence Accounts Department, and Directorate Ordnance Coordination and Maintenance. Beyond providing engineering advice, MES executes military infrastructure projects, encompassing design, estimation, contracting, construction, and comprehensive maintenance. Its scope of work spans various areas such as runways, marine structures, ammunition storage, sewage systems, and more.

Construction spending of MES over the past years



Note: Budgeted value in the above graph indicates allocated
**Data is till 31st January 2022*
Source: Budget documents, CRISIL MI&A

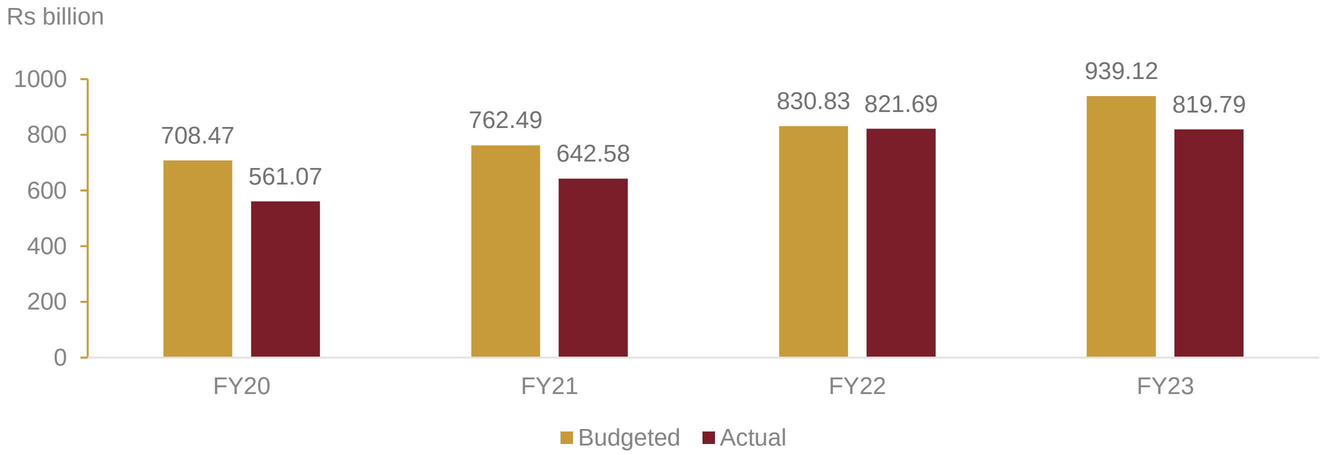
Ministry of Railways (MoR)

The Indian Railways is a government-owned organisation with monopoly in rail transportation in the country which oversees one of the world's largest railway networks. It plays a pivotal role in transportation, connectivity and economic development across India. The ministry is responsible for policy formulation, infrastructure development and operation of railway network nation-wide. All operations regarding railways are overlooked by the Railway Board, which, in turn, is headed by the Ministry of Railways.

In addition, railway land is licensed for railway-related purposes and leased to third parties for storage and public utility projects. Vacant land is also utilized for commercial purposes. The Rail Land Development Authority (RLDA) oversees commercial development on railway land, with 126 sites covering 997.83 hectares entrusted to it as of 2023. RLDA also develops Multi-Functional Complexes, with 15 sites completed out of 123 entrusted.

In addition, government has introduced Amrit Bharat Station scheme which envisages development of stations on a continuous basis with a long-term approach.

Construction spending of MoR over the years



Note:
Actual indicates Net Actual Expenditure
The values include Civil Engineering and Workshops including Production Units
Source: Ministry of Railways, CRISIL MI&A

Key budgetary proposals for Infrastructure sector

Capital outlay of different infrastructure segments

The aggregate gross budgetary support (GBS) for capex fiscal 2025 is up 17% over fiscal 2024RE at Rs 11.1 trillion. For core infrastructure ministries, this is up 4% at Rs 5.6 trillion.

Railway capital expenditure budgeted at Rs 2.65 trillion is 2% higher than fiscal 2024RE, while the GBS at Rs 2.52 trillion increased 5% over fiscal 2024RE. The three corridors targeted-1) energy, mineral and cement, 2) port connectivity and 3) high traffic density will be developed under the PM Gati Shakti plan. Additionally, 40,000 normal rail bogies would be upgraded to Vande Bharat standards to enhance safety, convenience and comfort of passengers

The government intends to expand metro rail and Namo Bharat to more cities with focus on rapid urbanisation. Currently, 874 km of metro rail is operational in the country while another 986 km is under construction.

Outlay for core infrastructure ministries (Budget Documents – July 2024)

	FY23				FY24RE				FY25BE				FY25 BE vs FY24 RE
	GBS	IEBR	GIA	Total	GBS	IEBR	GIA	Total	GBS	IEBR	GIA	Total	
Ministry of railways	1,592.56	447.27	0.00	2,039.83	2,400.00	200.00	0.00	2,600.00	2,520.00	130.00	0.00	2,650.00	1.92 %
Ministry of road transport and highways	2,059.86	0.00	74.95	2,134.81	2,645.26	0.00	88.06	2,733.32	2,722.41	0.00	87.35	2,809.76	2.80 %
Ministry of rural development	0.00	0.00	1,502.96	1,502.96	0.04	0.00	1,291.42	1,291.46	0.04	0.00	1,548.29	1,548.33	19.89 %
Ministry of urban development	268.78	165.12	318.29	752.19	265.33	167.89	337.80	771.02	286.28	160.20	392.55	839.01	8.82 %
Ministry of power	0.23	573.84	48.94	623.01	1.24	591.20	131.08	723.52	10.86	672.86	152.91	836.63	15.63 %
Ministry of new and renewable energy	0.13	182.49	41.13	223.75	0.15	213.55	69.24	282.94	0.17	307.15	92.73	400.05	41.39 %
Ministry of water resources	1.68	0.08	49.23	50.99	3.25	0.02	74.50	77.76	4.00	0.02	131.83	135.85	74.70 %
Ministry of shipping	6.78	34.18	4.10	45.07	11.66	43.19	4.37	59.22	10.78	52.18	6.81	69.77	17.81 %
Ministry of civil aviation	0.86	44.42	13.89	59.17	7.72	34.28	7.11	49.10	0.99	34.48	3.59	39.06	-20.45 %
Department of atomic energy	138.32	100.63	7.70	246.65	150.04	91.61	10.10	251.75	138.61	107.79	8.06	254.46	1.08 %
Total Infra capex	4,069.21	1,548.02	2,061.19	7,678.42	5,484.69	1,341.73	2,013.68	8,840.10	5,694.15	1,464.67	2,424.11	9,582.92	8.40 %

Source: Budget documents, CRISIL MI&A

Impact

While the overall growth in GBS stands at 16.93%, growth in the total gross budgetary outlay for 10 core infrastructure ministries is only 3.70%. The differential in growth rate arises from the fact that non-core infrastructure ministries such as the Ministry of Telecommunications and the Ministry of Petroleum and Natural Gas have seen increased allocation. Additionally, the Department of Economic Affairs has been allocated Rs 740.52 billion, of which, Rs 704.48 billion has been allocated for new schemes. The deployment of this amount will be a key monitorable going forward

While growth has moderated, it is on a high base and the overall quantum of capex allocation is still high. The moderation implies the central government's capex is on a glide path to stabilisation. The foot is still on the pedal after a phase of robust growth where infrastructure capex was used to pump prime the economy during the Covid-19 years, thereby setting the stage for the private sector to step in and continue the healthy pace of capex for the infra build-out.

Development of the three new rail corridors along with the completion and full operationalisation of the dedicated freight corridor will improve the logistical efficiency and aid the government in achieving its target of reducing the overall logistical cost, which currently stands at 14% of the GDP.

Industry landscape of constructor sector

The construction industry accounts for ~9% of India's gross domestic product (GDP) as of fiscal 2024. The industry also provides huge employment opportunity because of its constant requirement for skilled and unskilled laborers. Moreover, growth in construction is also positive for sectors such as steel and cement, which are key raw materials.

Key growth drivers for the construction sector

A combination of economic and demographic factors is expected to drive investments in the construction sector. CRISIL MI&A believes the NIP launched by the government would also support these drivers.

Growth driver	Description and reasoning
National Infrastructure Pipeline (NIP)	NIP outlined in fiscal 2019 by the Government of India had an initial investment target of Rs 111 trillion over fiscals 2020-25. Subsequently, the target has been revised and it currently stands at Rs 147 trillion. NIP is expected to drive infrastructure investments as nearly 50% of projects are currently under construction. Engineering, procurement and construction (EPC) dominates mode of implementation of projects as ~72% of the outlined spends come under this mode. Even though capital spending of Rs 147 trillion might not be completed by 2025, CRISIL MI&A expects 70-75% achievement of these outlined spends, which is expected to give a huge boost to the infrastructure of the country.
National Monetisation Pipeline (NMP)	NMP estimates aggregate monetisation potential of Rs 6 trillion through core assets of the Central Government, over a four-year period, from fiscal 2021 to fiscal 2025. Asset monetisation, based on the philosophy of creation through Monetisation, is aimed at tapping private sector investment for new infrastructure creation. This is expected to help create employment opportunities, thereby enabling high economic growth and seamlessly integrating the rural and semi-urban areas for overall public welfare.
PM Gati Shakti	PM Gati Shakti is essentially a digital platform to bring 16 Ministries including Railways and Roadways together for integrated planning and coordinated implementation of infrastructure connectivity projects. The multi-modal connectivity will provide integrated and seamless connectivity for movement of people, goods and services from one mode of transport to another. It will facilitate the last mile connectivity of infrastructure and also reduce travel time for people. PM Gati Shakti will incorporate the infrastructure schemes of various Ministries and State Governments like Bharatmala, Sagarmala, inland waterways, dry/land ports, UDAN etc. Economic Zones like textile clusters, pharmaceutical clusters, defence corridors, electronic parks, industrial corridors, fishing clusters, Agri zones will be covered to improve connectivity & make Indian businesses more competitive.
Production linked incentive (PLI) scheme	PLI scheme is expected to provide the necessary boost to the various sectors which include auto and auto components, textiles, bulk drugs, medical devices, pharmaceuticals and specialty steel among others. The scheme is a time bound incentive scheme by the Government of India which rewards companies in the range on 5-15% of their annual revenues based on the companies meeting pre-decided targets for incremental production and/or

Growth driver	Description and reasoning
	exports and capex over a base year. Industrial investments are expected to increase by 25-27% during fiscals 2024-28 compared to fiscals 2019-23. The rise in investments is projected due to inclusion of PLI scheme in the capex investments of industrial sector.
Infrastructure investments expected to drive the sector	Growth in construction sector to be propelled by the infrastructure segment over the medium to long term as the building construction and industrial sector are expected to record sedate growth rates.

Government policies and regulations in the sector

Government policies related to infrastructure highly influence the construction industry and a well-defined policy framework helps in attracting investments. Government has taken various initiatives to boost infra investments by introducing fiscal incentives to BOT developers, increasing budget allocation to infrastructure sector, providing special focus to affordable housing, allowing tax-free bonds to be issued in various sectors by government entities.

Infrastructure Investments have slowed down in the last few years due to issues related to land acquisition, delays in clearances and fuel supply problems (in power sector). To resolve issues impacting execution, the government has allowed 100% exit to developers in road BOT projects and also allowed premium rescheduling for some projects. NHAI also now awards projects only after 80% of land is in its possession. The government has also started the coal block reallocation process for power projects. In order to address the issues of cash flow mismatch issues RBI introduced the 5/25 refinancing scheme for infra projects. The impact of these is evident, especially in the roads sector where execution has picked up significantly. However, in the pandemic impacted fiscal, Government has announced extensions of six months for project completions, Release of retention money based on project progress, monthly payment to contractors based on actual work completed and billed and no deduction of retention money from future bills for six months to aid EPC companies and contractors tide over the crisis.

Further, the Government has hastened the payment of bills with 75% of the bill amounts to be made within ten working days of bill submission while the balance amount should be disbursed within twenty-eight working days of initial bill submission. The faster payments will aid companies in better managing their working capital and boost margins. Quality-cum-cost based Selection (QCBS) introduced for public tenders instead of only L1 bidding. However, it is limited to projects which are non-standard (Project of quality designated by competent Govt. authority) and value of order is less than Rs 100 million. A weighted average of quality (30%) and cost (70%) to be considered for selection of contractors.

Other key regulations in the sector

Real Estate (Regulation and Development) Act

In order to protect the interest of homebuyers and to ensure transparency and accountability in the Real Estate Sector, Parliament has enacted The Real Estate (Regulation and Development) Act, 2016 (RERA). The act came into effect fully from 1st May, 2017. The Regulatory Authorities established under the Act are required to publish and maintain a web portal, containing relevant details of all real estate projects for which registration has been given, for public viewing.

Benefits under the Real Estate (Regulation and Development) Act, 2016 to Developers:

- The Act eliminates fly-by-night operators from the sector promoting genuine developers. It infuses credibility by making the sector mature and transparent
- Channelises investment into the sector
- Act/Rules would restore investment sentiment of consumers
- Increase the confidence of the financial institutions in real estate sector
- Proper regulatory mechanism of the Act will increase foreign investment (FDI, ECB) in the real estate sector

Coastal Regulation Zone Notification

Coastal regulation is a notification issued by central government under the Environment (Protection) Act, 1986, imposing restrictions on construction of building for residential purpose, industries, operations and processes in the Coastal Regulation Zone (CRZ). The objective of the Notification is to protect the coastal belt from unauthorized exploitation by way of construction and dumping of waste materials.

Indian Contract Act, 1872

With regards to housing, all the developers need to enter into contracts with government agencies and the buyers for acquisition of the land, environmental and safety clearances, transfer of rights over property etc. These contracts are governed by Indian Contract Act, 1872. This legislation specifies the composition of a valid contract. It specifies the eligibility of parties, nature of the objective, conditions, procedures etc under which a legal contract comes to effect.

The Right to Fair Compensation And Transparency in Land Acquisition, Rehabilitation And Resettlement Act, 2013

This act was passed in September 2013 and replaces the Land Acquisition Act, 1984. It unifies legislation for acquisition of land and adequate rehabilitation mechanisms for all affected persons.

2.11 List of projects in infrastructure, industrial and building construction verticals

Below is the list of key projects in select sectors. It is to be noted that the below list is not exhaustive but indicative in nature and does not contain all the projects announced by the below players.

Segments	Key announced / on-going projects	Project cost (Rs trillion)	Promoter
Roads and highways	Versova-Virar- Palghar Sea Link Project	634.26	Mumbai Metropolitan Region Development Authority
	Greenfield Highway(Thiruvananthapuram-Kottarakara-Kottayam-Anamaya)Project	194.28	National Highways Authority of India
	Highway (Neral-Shirur) Project	119.90	Public Works Department, Maharashtra
Railways and metro	Gurgaon Railway Station Project - Redevelopment	2.95	Indian Railway Stations Development Corporation limited
	Railway Station (Delhi Shahadara) Project - Redevelopment	0.7	Indian Railway Stations Development Corporation limited
	Colaba-Bandra-Seepz Metro Rail Corridor [Metro 3]	334.05	Mumbai Metro Rail Corporation Ltd.

Segments	Key announced / on-going projects	Project cost (Rs trillion)	Promoter
	Railway Station (Guindy) Project - Redevelopment	0.13	Southern Railway
Airports	Maintenance Repair & Overhaul Facility (Bengaluru)	13.00	Air India Ltd.
	Civil Enclave (Gorakhpur) Project	9.97	Airports Authority of India
	Civil Enclave (Darbhanga) Project	9.11	Airports Authority of India
Ports and waterways	Captive Jetties (Kendrapara) Project	111.16	ArcelorMittal Nippon Steel India Ltd.
	Port (Murbe) Project	42.59	JSW Infrastructure Ltd.
Urban Infrastructure (Water supply and Sanitation)	Desalination Plant (Vadinar)	84.00	Nayara Energy Ltd.
	Faecal Sludge Treatment Plant (Raigad) [Phase-2]	30.79	Water Supply & Sanitation Department, Maharashtra
	Drinking Water Supply Scheme (Kodambakkam & Adyar)	19.58	Chennai Metropolitan Water Supply & Sewerage Board
Industrial (Metals)	Steel Plant (Jatadhar) - Expansion	750.00	JSW Utkal Steel Ltd
	Steel Plant (Maharashtra)	400.00	ArcelorMittal Nippon Steel India Ltd.
	Steel Plant (Burnpur) - Expansion	240.00	Steel Authority of India Ltd.
Industrial (Oil and gas)	Petrochemical Complex (Mangalore)	470.00	Mangalore Refinery & Petrochemicals Ltd.
	KG/OSDSF/CHANDRIKA/2021 & KG/OSDSF/GS49/2021 Oil Exploration Project	46.06	Oil & Natural Gas Corporation Ltd.
	Oil Exploration (Kheda, Gandhinagar, Mehsana & Ahmedabad) Project	37.70	Oil & Natural Gas Corporation Ltd.
Buildings and construction (hospitals)	Cancer Hospital (Jatni) Project	6.50	Tata Group
	District Hospital (Dharashiv) Project	6.43	State Government
	ESIC Medical College & Hospital (Faridabad) Project	6.25	Central Government
Buildings and construction (Residential construction)	Group Housing (Fazilpur Jharsa) Project	33.52	Signature Global (India) Ltd.
	Residential Complex (Sion Koliwada) - Redevelopment	30.00	Maharashtra Housing & Area Development Authority
	High Rise Residential Complex (Ahmedabad) [Anamika High Point]	13.31	Constera Realty Pvt. Ltd.

Segments	Key announced / on-going projects	Project cost (Rs trillion)	Promoter
	Redevelopment of GPRA colony at Sarojini Nagar, New Delhi	8.1	Varindera Constructions Ltd
Buildings and construction (Commercial construction)	Industrial Park (Bhondsi-Ghamroj-Mahendwara)	42.39	Signature global Business Park Pvt. Ltd.
	High Rise Commercial Complex (Ghata)	19.43	Pioneer Urban Land & Infrastructure Ltd.
	Industrial Park (Sidrawali)	15.94	Signature Global (India) Ltd.
Buildings and construction (Retail construction)	Unity Mall (Guwahati) Project [Ekta Mall]	2.94	Public Works Department, Assam
	Unilly Mall (Egmore) Project	2.15	Public Works Department, Tamil Nadu
	Unity Mall (Chimbel) Project	1.32	Goa Tourism Development. Corporation Ltd.

Source: Projects Today, CRISIL MI&A

2.12 Conclusion

India is amongst the world's fastest-growing economies with real GDP growth of 8.15% in FY24 and expected to grow at an average of 6.70% between fiscal 2025 and 2031, aiding India to become to third-largest economy in the world. The contribution of construction industry in India's overall GVA (in constant terms) ranges between 7.00 - 10.00% between fiscal 2012 and 2024.

The construction sector has seen an investment of Rs 42.45 trillion during fiscal 2019-23 and is projected to reach Rs 67.00 - 69.00 trillion by fiscal 2024-28. The Indian construction industry can be categorized into three main verticals which include Building Construction, Infrastructure Construction, and Industrial/Manufacturing Construction. The building construction vertical includes construction of residential buildings as well as commercial buildings and social infrastructure. The commercial building and social infrastructure primarily includes construction of malls and offices, Institutional buildings, healthcare buildings among others.

The investment in building construction during fiscal 2019-23 was Rs 12.45 trillion and is expected to rise by 1.34 times reaching Rs 16.00 -17.00 trillion between fiscal 2024-28. During the period between fiscal 2019 to 2023, the residential building occupied a major share of 87.55% in the building construction investments with growth aided by annual demand for residential real estate in 8 key cities in India expected to grow at 8.00 -10.00% CAGR from 269.00 msf in FY23 to 305.00 – 325.00 msf in fiscal 2025.

In the Union Budget 2025, the central government has taken steps towards fiscal consolidation with emphasis on capital expenditure, allocating Rs 11.11 trillion (of which Rs. 5.69 trillion to 10 core infrastructure ministries) for fiscal 2025, a 16.93% increase from Rs 9.50 trillion in fiscal 2024.

The building sector is witnessing huge opportunities across ministries aided by the government initiatives. Key highlights are as follows:

- The aggregate construction spent of key ministries and departments (including MES, NBCC and MoR) has increased by 1.5 times from 630.94 billion FY19 to 950.82 billion in FY23 and expected to grow considering government's thrust towards infrastructure development. Also, CPWD the construction spends have seen an increase from Rs 102.81 billion in CY20 to Rs 179.31 billion in CY22 with a rise of 1.74 times.

- Recently under Amrit Bharat Station Scheme, government announced redevelopment of ~553 railway station worth ~Rs 190 billion. There is also an opportunity in redevelopment projects which is also visible in the NBCC's current order book which is ~ Rs 810.00 billion* with major share of redevelopment project.
- Additionally, as of August 2024, in total, more than 300 LOCs worth $32.00 billion have been extended by the Government of India (GoI) in 68 countries across the world, for approximately 600 projects across various sectors including railways, airport, sports stadiums, hospitals, disaster management, hydroelectricity, power transmission and Information Technology

With eye on key risk of environmental concern, financial constraints, input cost risk and regulatory challenges, the growth in the sector is attributed to several factors, including continued urbanization, rising income, and increased real-estate spending alongside economic growth.

** As per companies August 2024 conference call*.

3 SWOT analysis for construction industry in India

S (Strength)	• **Growing Economy**: India's economic growth supports infrastructure development and construction activities. • **Government Initiatives**: Programs like Smart Cities, Affordable housing, Sagar mala, Bharat mala and significant investment in infrastructure projects boost the construction sector. • **Abundant Labor Supply**: India has a large pool of skilled laborers, including masons, carpenters, and engineers, who are readily available for construction projects. • **Low-cost labour**: Labor costs in India are relatively low compared to other countries, making it an attractive destination for construction projects. • **Growing Domestic Market**: Growth in major sectors such as automobile, residential, commercial real estate, couple with population growth.
W (Weakness)	• **Regulatory Challenges**: Land is a critical component in infrastructure construction across segments. Delay in providing clearances and inability to acquire require land would hinder the progress. 4 • **Environmental concerns:** The construction sector in India has faced criticism for its impact on the environment, particularly in terms of waste generation and energy consumption. • **Financial Constraints**: Access to finance and high borrowing costs can limit the capacity for new projects and expansions. • **Input related risk**: Rise in raw material costs would impact the profitability of the companies. However, presence of cost escalation clause in contract would aid in protecting the contractor • **Working capital management** : delay in payment from government agencies and security and retention money stretch working capital resulting in high interest costs.
O (Opportunities)	• **Urbanization**: Rapid urbanization offers significant opportunities for residential, commercial, and infrastructure projects. • **Technological Advancements**: Adoption of new technologies like BIM, prefabrication, and green building practices can improve efficiency and sustainability. • **Rural Development**: Government focus on rural infrastructure development creates opportunities in new geographic areas.
T (Threats)	• **Economic Slowdown**: Any downturn in the economy can significantly affect the construction sector. • **Regulatory challenges**: Changes in regulations, such as the introduction of the Real Estate (Regulation and Development) Act (RERA), can impact the construction sector's growth. • **Competitive Pressure**: Intense competition from both domestic and international players can lead to margin pressures

Source: CRISIL MI&A

4 Key Risks and threats in the construction industry

The construction industry occupies a pivotal position in the nation's development plans. As of fiscal 2024, construction sector occupies a share of 9.0% in the overall GVA. Below are the key risks and threats impacting the industry

Risk	Description
Time contingency	In construction projects, cost savings and timely performance are crucial concerns for all stakeholders, including owners, contractors, and subcontractors. However, projects can be delayed or stalled due to various reasons, such as land unavailability, funding issues, and incomplete clearances. The allocation of risk determines which party, the owner or the contractor, bears the burden of increased costs in the event of project disruptions.
Risks involved in dealing with governmental agencies	In the construction industry, particularly in infrastructure development, many projects involve government authorities as counterparties. These authorities may be central or state governments, or special purpose vehicles established by governments to address specific needs. As a result, companies operating in sectors, where central or state governments, or special purpose vehicles are the primary payers, often face prolonged working capital cycles due to delayed payments.
Input related risk	Land is a critical component of infrastructure development, and its acquisition is a complex, time-consuming process involving multiple stages. The status of land acquisition at the time of project award and in the subsequent period is vital, as even a small portion of unacquired land can render the entire investment in the project useless.
Raw material	The prices of essential input materials, including bitumen, are heavily influenced by the global oil market. As a critical component, fluctuations in oil prices have a direct impact on the overall project cost. Furthermore, the industry is also susceptible to changes in the international market for other key commodities, such as steel and cement. Additionally, there is a risk of cost escalation or shortages of raw materials, which can further exacerbate the situation.
Climate Change and Extreme Weather Events	Climate change is leading to more frequent and intense natural disasters, which can cause significant damage to construction projects, disrupt supply chains, and impact worker safety. Additionally, changing weather patterns and rising temperatures can also affect the durability and performance of building materials, requiring companies to adapt their designs and materials to mitigate these risks
Labour Shortages	The construction industry is facing a severe shortage of skilled labourers, which can lead to project delays, increased costs, and compromised quality. This shortage is exacerbated by an aging workforce, lack of vocational training, and a decline in interest in construction careers among younger generations
Increase in competition	The construction industry is highly fragmented as low fixed capital requirement for construction contracts. Capital expenditure is only required for procuring necessary equipment, unlike a manufacturing business, which requires plants and machinery for production. This makes the industry less capital-intensive as compared with other industries, encouraging many contractors to enter the sector.

Risk	Description
Possibility of payment delays heightens working capital intensity	EPC contracts which are for longer than one year usually come with cost escalation clauses thereby protecting the contractor from rise in raw material costs. However, interest costs from high working capital will continue to impact profitability. The working capital requirement of construction companies is expected to remain high owing to delayed payments in sectors such as irrigation, power and urban infrastructure projects and disputes with clients. This is expected to lead to increased borrowings and thus higher interest cost and liquidity constrains.
Labour and land acquisition	Land is a critical input for infrastructure projects. In the past several projects have been delayed to inability to acquire required land and clearances. Further, construction work involves skilled and unskilled labour. Construction players struggle with wage increases, which can be attributed to labour shortages and rising inflation. Local job opportunities from government welfare schemes, growth in the overall rural economy and migration of labourers to Gulf countries for better prospects are some reasons that have led to a shortage of construction labourers. To solve the labour issue, construction companies are increasing mechanisation, particularly in the highway projects.
Fluctuations in raw material prices	The construction industry is raw material intensive. Any change in prices of raw materials like steel, cement, bitumen, etc impact the cost of the project. However, the impact is limited to the extent of the proportion of fixed price contracts in a company's order book. Some construction companies also own quarries to ensure constant raw material supply. In the recent times, in fiscal 2023, despite drop in prices for steel , prices for cement and bitumen have been fluctuating and had reached its all-time high. Hence, prices of all three raw materials remain a key monitorable for the sector.

Source: CRISIL MI&A

5 Competitor analysis

In this section, CRISIL MI&A has analysed EPC players operating in the Indian construction industry. Data in this section has been obtained from publicly available sources, which include annual reports and investor presentations, regulatory filings, rating rationales, and/or company websites. Financials in this section have been re-classified by CRISIL, based on annual reports and financial filings by the respective players. Financial ratios used in this report may not match with the reported financial ratios by the players on account of standardisation and re-classification done by CRISIL.

Note: The list of peers considered in this section is not an exhaustive but an indicative list. Key Indian construction EPC players with a comparable revenue range as Varindera Constructions Limited and offering similar product portfolio (with key focus in the EPC in building construction) have been considered in this segment.

Following nomenclature has been considered in this section of the report (values in the brackets indicate the order book bifurcation for the respective players for fiscal 2024):

- Ahluwalia Contracts India Limited : Ahluwalia Contracts (Infrastructure : 34%, Hospital : 25%, Institutional : 18%, Residential : 14%, Commercial : 9%, Hotel : 1%)
- Capacit'e Infraprojects Limited : Capacite Infraprojects (Residential : 41%, Mix use: 39%, Institutional : 21%)
- NCC Limited : NCC Ltd (Buildings : 39%, Transportation : 17%, Water and Railways : 12%, Electrical (T&D) : 20%, Irrigation : 0%, Mining: 1%, Others : 10%)
- PSP Projects Limited : PSP Projects (Government : 66%, Government residential : 3%, Industrial : 5%, Institutional : 20%, Residential : 6%)
- Varindera Constructions Limited : Varindera Constructions (Commercial Building – Railway: 16.05%, Infra project : 17.47%, Commercial building – complex and offices: 0.18%, Residential building : 53.08%, Institutional building : 8.77% , Healthcare building : 4.44%)

The peer set considered has been compared based on order book segmentation. The order book values have been provided above for the respective players. All the selected peers have presence in building construction segment, as highlighted in the below table. However, the order book values of the peers may not be directly comparable as reporting structures differ across the companies. Furthermore, to confirm their presence in similar businesses / segments, we have also reviewed the key types of projects executed by each peer.

Presence in sectors

Company name	Building construction				Infrastructure	Industrial
	Residential	Commercial	Institutional	Healthcare		
Ahluwalia Contracts	✓	✓	✓	✓	✓	✓
Capacite Infraprojects	✓	✓	✗	✓	✗	✗
NCC Ltd	✓	✓	✓	✓	✓	✓
PSP Projects	✓	✓	✓	✓	✓	✓
Varindera Constructions	✓	✓	✓	✓	✓	✗

Infrastructure : This includes construction segments such as roads, railways, power, urban infra and irrigation
Industrial construction : This includes construction segments such as oil and gas, automobiles, metals and cement
Building construction: This is construction of Residential, Commercial, institutional and healthcare
Source: Company website, Company filings, CRISIL MI&A

Peers considered above are into construction sector with presence in Building construction which includes Residential building. Commercial building , Institutional building and Healthcare building along with infrastructure projects.

5.1 Operational overview of players considered

Overview

Company name	About company	Geographic presence (FY24)
Ahluwalia Contracts	Founded by Late Sh. Karam Chand Ahluwalia father of Mr. Bikramjit Ahluwalia in 1965, Ahluwalia Contracts is engaged in the engineering and construction of infrastructure projects. ACIL develops and executes projects that span across segments such as hospitals, hotels, housing, irrigation and water supply, institutional buildings and industrial plants among others.	India : 99.97% Foreign: 0.03%
Capacite Infraprojects	Headquartered in Mumbai, the company provides end-to-end building construction services with a portfolio comprising of residential projects, commercial office buildings, such as data centres and buildings for educational, hospitality and healthcare purposes, and other institutional buildings along with buildings for mixed use. It also provides mechanical, electrical and plumbing ("MEP") and finishing works including interior services.	India : 100%
NCC Ltd	NCC Ltd. was established in 1978, as a partnership firm and converted into a limited company in 1990. The company undertakes civil construction in segments such as buildings, water, roads, irrigation, power, electrical, railways, metals, mining. It also has a presence in the Middle East where it undertakes works in roads, buildings, and water segments.	India: 99.78% Outside India: 0.22%
PSP Projects	Incorporated in 2008, PSP projects offers a diversified range of construction and allied services which include industrial, institutional, and residential projects in India. It also provides its services across the construction value chain, ranging from planning and design to construction and post-construction activities, including MEP work and other interior fit outs. Historically, it was more focused on projects in the Gujarat region of India.	India : 100%
Varindera Constructions*	Varindera Constructions Ltd was established by Mr. Varinder Kumar Garg in the year 1987, and got reconstituted into a public-limited company in 2007. The company has presence in building construction segments such as construction of residential units, commercial malls, office complexes, hospitals among others along with infrastructure projects such as railway station, metro depot, aircraft hangars. The company, based in Delhi-NCR, executes contracts for various government agencies across Delhi, Uttar Pradesh, Rajasthan, Madhya Pradesh and Assam. Varindera Constructions is among the companies to be pre-qualified in "Class-I(Super) (Composite) category" and "Super Special" category which are the highest possible grading of construction contractors eligible to execute projects for CPWD and MES respectively, in the buildings and roads segment.	India : 76.08%, Outside India : 23.92%

** Geographical split for the company is basis the revenue from operations for the period*
Source: Company website, Company filings, CRISIL MI&A

Among the peers considered above VCL has highest share of revenue (23.92%) from outside India.

Key projects executed

Below is the list of key projects executed by the company. The below list is in no particular order and, is indicative in nature and not exhaustive.

Company name	Key projects -indicative (Industry)
Ahluwalia Contracts	• India Bulls "Skyz" Residential complex • Indiabulls Office Building • South Asian University • CNCI Hospital building complex • Mumbai Metro Depot • ITC Cigarette Factory Modernisation Project
Capacite Infraprojects	• Oberoi enigma • Commerz III, Mumbai • Tata Trust cancer hospital
NCC Ltd	• Multi-storied residential housing units under Package -4 for RGRHCL, Bengaluru, • Multi-storied commercial spaces at Nauroji Nagar, New Delhi • University at Bolpur, West Bengal • Department of Medical Education & Research at Bhiwani • Agra-Lucknow Expressway, Uttar Pradesh • Nandyal Water treatment plant
PSP Projects	• Venus Parkland in Vejalpur • Surat diamond bourse • Sports complex for Ahmedabad university • Zydus hospital, Baroda • Metro Depot, Gyaspur • Banglore Milk Union Dairy at Kanakpur
Varindera Constructions	• Residential project pertaining to Amrapali Group, Greater Noida, Uttar Pradesh • Construction of commercial building, Sarojini Nagar, New Delhi • Rajasthan High Court, Jodhpur • Construction of Renal Transplant Unit at J. Nehru Hospital, Mauritius • Aircraft Hangar complex, Hasimara

Source: Company website, Company filings, CRISIL MI&A

Order book

Company name	FY22 (Rs million)	FY23 (Rs million)	FY24 (Rs million)	CAGR (FY22-24)
Ahluwalia Contracts	57,918.00	81,627.00	111,799.00	38.94%
Capacite Infraprojects	87,020.00	95,130.00	90,110.00	1.76%
NCC Ltd	393,610.00	502,440.00	575,360.00	20.90%
PSP Projects	43,240.00	50,520.00	60,490.00	18.28%
Varindera Constructions*	19,295.18	32,238.35	38,447.93	41.16%

*Note: * Order book for Varindera Constructions includes taxes*
Source: Company website, Company filings, CRISIL MI&A

Segmental bifurcation of order book (fiscal 2024) – Rs million

This sub-section provides bifurcation of order book of respective players as reported. Data in this section has been obtained from publicly available sources, which include annual reports and investor presentations or regulatory filings.

Ahluwalia Contracts

Fiscal 2024	Rs million	Share
Infrastructure	37,613	34%
Hospital	27,711	25%
Institutional	19,577	18%
Residential	15,203	14%
Commercial	10,519	9%
Hotel	1,176	1%
Overall	**111,799**	**100%**

Kindly note, the percentages mentioned are calculated as per the values mentioned in the investor presentation. The overall percentage may not add up to 100% on account of rounding off
Source: Company filings, CRISIL MI&A

Capacite Infraprojects

Fiscal 2024	Rs million	Share
Residential	36,945	75%
Mix use	35,143	14%
Institutional	18,923	10%
Overall	**90,110**	**100%**

Kindly note, the values mentioned are calculated as per the percentages mentioned in the investor presentation. The overall percentage may not add up to 100% on account of rounding off
Source: Company filings, CRISIL MI&A

NCC Ltd

Fiscal 2024	Rs million	Share
Buildings	224,390	39%
Transportation	97,811	17%
Water & Railways	69,043	12%
Electrical (T&D)	115,072	20%
Irrigation	0	0%
Mining	5,754	1%
Others	57,536	10%
Overall	**575,360**	**100%**

Kindly note, the values mentioned are calculated as per the percentages mentioned in the investor presentation. The overall percentage may not add up to 100% on account of rounding off
Source: Company filings, CRISIL MI&A

PSP Projects

Fiscal 2024	Rs million	Share
Government	3,992	66%
Govt. Residential	181	3%
Industrial	302	5%
Institutional	1,210	20%
Residential	363	6%
Overall	**6,049**	**100%**

Source: Company filings, CRISIL MI&A

Varindera Constructions

Fiscal 2024	Rs million	Share
Commercial Building - Railway	6,171.39	16.05%
Infra Project	6,718.65	17.47%
Commercial Building -Complex and Offices	67.87	0.18%
Residential Building	20,408.08	53.08%
Institutional Building	3,373.72	8.77%
Health Care Building	1,708.21	4.44%
Total	**38,447.93**	**100.00%**

Source: Company filings, CRISIL MI&A

Order book to revenue from operations

Company name	FY23 (times)	FY24 (times)
Ahluwalia Contracts	2.88	2.90
Capacite Infraprojects	5.29	4.66
NCC Ltd	3.23	2.76
PSP Projects	2.61	2.41
Varindera Constructions*	3.07	2.77

Note:
Order book to revenue from operations = order book / revenue from operations
** Order book for Varindera Constructions includes taxes*
Source: Company filings, CRISIL MI&A

Order inflow (Rs billion)

Company name	FY24 (Rs billion)
Ahluwalia Contracts	65.37
Capacite Infraprojects	20.09
NCC Ltd	272.83
PSP Projects	34.98
Varindera Constructions	21.14

Source: Company website, Company filings, CRISIL MI&A

Credit rating

Long term rating	Rating agency	FY22	FY23	FY24
Ahluwalia Contracts	CARE Ratings Limited	CARE A+	CARE AA-	CARE AA-
Capacite Infraprojects	India Ratings and Research Private Limited	IND BBB	IND BB+	IND BB+
NCC Ltd	India Ratings and Research Private Limited	IND A	IND A+	IND A+
PSP Projects	CARE Ratings Limited	CARE A+	CARE A+	CARE A+
Varindera Constructions	CRISIL Ratings Limited	CRISIL A-	CRISIL A	CRISIL A

Note: Latest credit rating for the fiscal year considered by the rating agency mentioned has been considered in the above table
Source: CRISIL MI&A

5.2 Financial overview of players considered

Few financial used in this section have been standardised and re-classified by CRISIL and may not match with the reported financials by the players.

Revenue from operations (Rs million)

Revenue from operations (Rs million)	FY19	FY20	FY21	FY22	FY23	FY24	CAGR FY19-24
Ahluwalia Contracts	17,547.14	18,849.27	19,821.90	26,924.69	28,383.93	38,552.98	17.05%
Capacite Infraprojects	17,966.20	15,289.92	8,797.22	13,398.28	17,985.87	19,316.38	1.46%
NCC Ltd	128,956.40	89,010.70	79,494.20	111,379.60	155,534.10	208,449.60	10.08%
PSP Projects	10,504.07	14,992.59	12,408.62	17,480.63	19,378.06	25,057.89	18.99%
Varindera Constructions	2,638.60	3,628.08	7,572.59	9,943.29	10,485.51	13,889.28	39.40%

Source: Company filings, CRISIL MI&A

Key financial parameters

Fiscal 2022

Parameter	Type of parameter	UoM	Ahluwalia Contracts	Capacite Infraprojects	NCC Ltd	PSP Projects	Varindera Constructions
Order book	Operational	Rs billion	57.92	87.02	393.61	43.24	19.30
Order book to revenue from operations	Operational	times	2.15	6.49	3.53	2.47	1.94
Order inflow	Operational	Rs billion	NA	6.16	121.58	NA	9.96
Total Income	Financial	Rs million	27,216.09	13,522.23	112,100.80	17,701.57	9,971.48
Revenue from operations	Financial	Rs million	26,924.69	13,398.28	111,379.60	17,480.63	9,943.29
EBITDA	Financial	Rs million	2,857.02	2,309.29	10,959.20	2,805.33	1,191.62
EBITDA Margin	Financial	%	10.61	17.24	9.84	16.05	11.98
PAT	Financial	Rs million	1,552.17	477.57	4,940.30	1,666.52	761.47
Cash Profit after Tax	Financial	Rs million	1,887.99	1,465.70	6,807.70	1,987.05	824.42
PAT Margin	Financial	%	5.76	3.56	4.43	9.53	7.66
Cash Profit Margin	Financial	%	7.01	10.94	6.11	11.37	8.29
Total Networth	Financial	Rs million	10,351.85	9,651.74	58,961.50	6,869.59	2,538.05
Total Debt	Financial	Rs million	6.87	3,282.95	13,024.30	996.57	1,493.79
Net Debt	Financial	Rs million	(3,356.34)	2,146.08	10,204.20	(647.94)	750.67
Net Debt to EBITDA Ratio	Financial	times	(1.17)	0.93	0.93	(0.23)	0.63
Net debt to Equity	Financial	times	(0.33)	0.22	0.17	(0.09)	0.30
Return on Equity (including total networth)	Financial	%	16.22	5.07	8.69	27.26	35.32
Return on Capital Employed (including total networth)	Financial	%	22.06	8.14	10.66	30.52	26.87
Working capital days	Financial	days	35.63	114.10	35.27	41.29	82.14
Cash Flow from Operations (CFO)*	Financial	Rs million	657.49	344.95	14,155.50	1,472.72	(520.24)
Interest Coverage Ratio	Financial	times	5.77	1.97	1.90	9.38	9.24
Gross Block /revenue from operations	Financial	%	9.77	81.96	21.42	19.75	5.80

Source: Company filings, CRISIL MI&A

Fiscal 2023

Parameter	Type of parameter	UoM	Ahluwalia Contracts	Capacite Infraprojects	NCC Ltd	PSP Projects	Varindera Constructions
Order book	Operational	Rs billion	81.63	95.13	502.44	50.52	32.24
Order book to revenue from operations	Operational	times	2.88	5.29	3.23	2.61	3.07
Order inflow	Operational	Rs billion	NA	34.62	258.95	NA	23.78
Total Income	Financial	Rs million	28,677.71	18,086.02	157,114.70	19,601.07	10,637.84
Revenue from operations	Financial	Rs million	28,383.93	17,985.87	155,534.10	19,378.06	10,485.51
EBITDA	Financial	Rs million	3,335.06	3,613.76	16,170.50	2,523.65	1,645.46
EBITDA Margin	Financial	%	11.75	20.09	10.40	13.02	15.69
PAT	Financial	Rs million	1,939.77	952.97	6,462.10	1,319.41	1,090.14
Cash Profit after Tax	Financial	Rs million	2,327.51	2,312.93	8,488.20	1,719.46	1,199.83
PAT Margin	Financial	%	6.83	5.30	4.15	6.81	10.40
Cash Profit Margin	Financial	%	8.20	12.86	5.46	8.87	11.44
Total Networth	Financial	Rs million	12,283.32	10,734.52	64,854.60	8,009.93	3,630.84
Total Debt	Financial	Rs million	26.92	3,696.52	9,738.20	1,449.81	2,361.39
Net Debt	Financial	Rs million	(4,893.48)	2,300.02	6,582.90	593.99	1,190.04
Net Debt to EBITDA Ratio	Financial	times	(1.47)	0.64	0.41	0.24	0.72
Net debt to Equity	Financial	times	(0.40)	0.21	0.10	0.07	0.33
Return on Equity (including total networth)	Financial	%	17.14	9.35	10.44	17.73	35.34
Return on Capital Employed (including total networth)	Financial	%	21.92	13.55	16.60	21.74	24.90
Working capital days	Financial	days	49.44	110.42	42.88	82.89	100.69
Cash Flow from Operations (CFO)*	Financial	Rs million	3,013.09	1,009.27	11,001.10	452.78	539.13
Interest Coverage Ratio	Financial	times	8.91	2.52	2.75	6.64	9.12
Gross Block /revenue from operations	Financial	%	12.75	65.78	16.81	21.48	12.35

Source: Company filings, CRISIL MI&A

Fiscal 2024

Parameter	Type of parameter	UoM	Ahluwalia Contracts	Capacite Infraprojects	NCC Ltd	PSP Projects	Varindera Constructions
Order book	Operational	Rs billion	111.80	90.11	575.36	60.49	38.45
Order book to revenue from operations	Operational	times	2.90	4.66	2.76	2.41	2.77
Order inflow	Operational	Rs billion	65.37	20.09	272.83	NA	21.14
Total Income	Financial	Rs million	38,912.71	19,646.55	209,761.90	25,295.20	14,039.81
Revenue from operations	Financial	Rs million	38,552.98	19,316.38	208,449.60	25,057.89	13,889.28
EBITDA	Financial	Rs million	4,244.71	3,643.74	19,001.10	2,846.67	2,397.60
EBITDA Margin	Financial	%	11.01	18.86	9.12	11.36	17.26
PAT	Financial	Rs million	3,748.26	1,203.30	7,404.10	1,229.73	1,433.82
Cash Profit after Tax	Financial	Rs million	4,416.82	2,216.89	9,523.30	1,878.41	1,622.18
PAT Margin	Financial	%	9.72	6.23	3.55	4.91	10.32
Cash Profit Margin	Financial	%	11.46	11.48	4.57	7.50	11.68
Total Networth	Financial	Rs million	15,999.45	15,170.75	68,118.80	9,148.70	5,054.91
Total Debt	Financial	Rs million	449.66	3,257.98	9,800.20	4,550.90	3,481.54
Net Debt	Financial	Rs million	(5,587.43)	1,873.66	3,731.50	4,046.77	1,976.22
Net Debt to EBITDA Ratio	Financial	times	(1.32)	0.51	0.20	1.42	0.82
Net debt to Equity	Financial	times	(0.35)	0.12	0.05	0.44	0.39
Return on Equity (including total networth)	Financial	%	26.51	9.29	11.14	14.33	33.02
Return on Capital Employed (including total networth)	Financial	%	19.93	12.21	19.00	15.23	25.03
Working capital days	Financial	days	66.25	150.49	22.68	98.58	118.81
Cash Flow from Operations (CFO)*	Financial	Rs million	2,574.54	(388.16)	13,594.50	(2,239.84)	416.68
Interest Coverage Ratio	Financial	times	7.43	2.75	2.84	4.32	6.78
Gross Block /revenue from operations	Financial	%	12.09	63.06	13.31	22.32	14.49

Source: Company filings, CRISIL MI&A

Other key financials considered

Current receivable days

Current receivable days	FY22	FY23	FY24
Ahluwalia Contracts	59.99	77.97	70.59
Capacite Infraprojects	107.52	70.55	103.54
NCC Ltd	83.41	74.52	54.58
PSP Projects	64.94	81.72	49.83
Varindera Constructions	108.22	90.84	84.87

*Current receivable (in days) is calculated as (Current receivables *365)/ Revenue from operations*
Source: Company filings, CRISIL MI&A

Payable days

Payable days	FY22	FY23	FY24
Ahluwalia Contracts	94.66	98.60	75.02
Capacite Infraprojects	185.73	172.47	210.53
NCC Ltd	162.85	140.72	130.65
PSP Projects	64.42	79.82	69.60
Varindera Constructions	41.92	50.06	43.59

*Payable (in days) is calculated as (Payables *365) divided by sum of cost of materials, construction expenses (including subcontracting expenses), Employee benefit expense, traded goods purchased and change in inventory*
Source: Company filings, CRISIL MI&A

Inventory days

Inventory days	FY22	FY23	FY24
Ahluwalia Contracts	36.26	35.15	33.25
Capacite Infraprojects	36.31	24.85	25.33
NCC Ltd	41.62	35.58	33.75
PSP Projects	20.06	32.73	51.68
Varindera Constructions	11.92	41.70	51.29

*Inventory (in days) is calculated as (Inventory*365)/ (cost of sales). Cost of sales include total expenses minus finance costs and depreciation / amortisation*
Source: Company filings, CRISIL MI&A

Current unbilled revenue days

Current unbilled revenue days	FY22	FY23	FY24
Ahluwalia Contracts	34.04	34.92	37.42
Capacite Infraprojects	156.00	187.48	232.14
NCC Ltd	73.08	73.50	65.00

Current unbilled revenue days	FY22	FY23	FY24
PSP Projects	20.72	48.26	66.67
Varindera Constructions	3.92	18.21	26.25

*Current unbilled revenue days is calculated as (Current unbilled revenue*365)/ Revenue from operations.*
Source: Company filings, CRISIL MI&A

Current ratio

Current ratio	FY22	FY23	FY24
Ahluwalia Contracts	1.77	1.80	2.17
Capacite Infraprojects	1.43	1.44	1.75
NCC Ltd	1.37	1.34	1.34
PSP Projects	1.45	1.39	1.42
Varindera Constructions	1.93	1.81	1.73

Current Ratio is calculated as Current Assets divided by Current Liabilities
Source: Company filings, CRISIL MI&A

CFO to revenue from operations

CFO to revenue from operations	FY22	FY23	FY24
Ahluwalia Contracts	0.02	0.11	0.07
Capacite Infraprojects	0.03	0.06	(0.02)
NCC Ltd	0.13	0.07	0.07
PSP Projects	0.08	0.02	(0.09)
Varindera Constructions	(0.05)	0.05	0.03

CFO divided by Revenue from operations
Source: Company filings, CRISIL MI&A

Key observations:

- Among the players considered above, during fiscal 2022-24, Varindera Constructions has seen the highest growth (CAGR) in terms of EBITDA.
- As of fiscal 2024, among the players compared above, in terms of EBITDA margin, Varindera Constructions (17.26%) stands second only next to Capacite Infraprojects (18.86%).
- Varindera Constructions has the highest PAT margin. 10.32% among the players considered above, as of fiscal 2024. Ahluwalia Contracts has the second highest PAT margin of 9.72% among the players considered above in fiscal 2024.
- Varindera Constructions has the highest RoCE (including tangible networth) of 25.03% among the players compared above during fiscal 2024. Ahluwalia Contracts has second highest RoCE (including tangible networth) of 19.93% during fiscal 2024.
- Varindera Constructions has the highest RoE (including tangible networth) of 33.02% among the players compared above during fiscal 2024.

- During fiscal 2024, Varindera Constructions had second highest current ratio of 1.73 times, among the players considered above. It is only next to Ahluwalia Contracts with an current ratio of 2.17 times during fiscal 2024

- During fiscal 2024, Varindera Constructions had second highest interest coverage ratio of 6.78 times, among the players considered above. It is only next to Ahluwalia Contracts (7.43 times) during fiscal 2024, among the players considered above.

- Between fiscal 2019 and 2024, among the listed construction companies with revenue from operations greater than Rs. 5,000 million for the fiscal year 2024, Varindera Constructions was one of the fastest growing construction companies in terms of revenue from operations with growth at CAGR of 39.40% during the aforementioned period.

- Varindera Constructions has seen improvement in the credit rating for long-term borrowings from CRISIL A- to CRISIL A over the past three fiscal years from fiscal 2022 to fiscal 2024.

- Among the players considered above, during fiscal 2019-24, Varindera Constructions has seen the highest growth (CAGR) in terms of Revenue from operations.

Formulae for key KPIs

Parameters	Formulae
Order book	Order Book is calculated as sum of value of unexecuted contract as on a particular date.
Order book to revenue from operations	Order book / revenue from operations
Order inflow	Order inflow is calculated as sum of all the order won during a particular period.
Total Income	Total income is calculated as sum of Revenue from operation plus other income plus share of profit from associates / joint ventures minus share of loses from associates / joint ventures
Revenue from operations	Revenue from operation is calculated as sum of Revenue from operating activities of the company during a particular period under consideration
Earnings Before Interest Tax Depreciation / Amortisation (EBITDA)	EBITDA is considered profit before exceptional items plus finance costs plus depreciation / amortisation
EBITDA Margin (%)	EBITDA Margin (%) is the percentage of EBITDA divided by revenue from operations
PAT	PAT is calculated by considering EBITDA minus any finance costs, depreciation / amortisation, exceptional items, and tax expenses.
Cash Profit after Tax	Cash profit after Tax is sum of PAT and depreciation
PAT Margin (%)	PAT Margin (%) is calculated as profit (after tax) for the period / year as a % of revenue from operations
Cash Profit Margin %	Cash Profit Margin is calculated as Cash Profit as a % of revenue from operations
Total Networth	Total Net worth has been defined as the aggregate value of the paid-up equity share capital and all reserves, after deducting the aggregate value of the accumulated losses, deferred expenditure and miscellaneous expenditure not written off, as per the audited balance sheet, but does not include reserves created out of revaluation of assets, write-back of depreciation and amalgamation as on March 31, 2022; 2023, 2024.
Total Debt	Total Debt is computed as Non-Current Borrowings plus Current Borrowings.
Net Debt	Net debt is total debt minus cash and bank balances. Cash and bank balances is calculated by subtracting balance with banks in unpaid dividend account, deposits pledged with banks, deposits kept as margin money, bank balances part of escrow accounts and long-term deposits with banks
Net Debt to EBITDA Ratio	Calculated as Net Debt divided by EBITDA.
Net Debt to equity	Calculated as Net Debt divided by tangible networth. Tangible networth is calculated as total networth minus intangible assets
Return on Equity (including total networth) %	ROE (including total networth) is calculated as PAT as a % of Average total net worth. Average is computed as simple average of current year and previous year
Return on Capital Employed (including total networth) %	RoCE (including total networth) is calculated as Earnings before depreciation, interest and tax (EBIT) as % of capital employed, where in capital employed is considered as sum of total networth, total debt, lease liabilities and deferred tax liabilities. In EBIT the interest includes all interest costs except for interest on income tax.
Working capital days	Working Capital (in days) is calculated as Receivables days + Unbilled revenue days – Payables days + Inventory days.
Cash Flow from Operations (CFO)	Cash Flow from Operations (CFO) Is calculated as Profit Before Tax Plus Non-operating expenses and non-cash expenses plus interest expense Less Non-operating income / non-cash income Less Increase in current assets / decrease in current liabilities add Decrease in current assets / increase in current liabilities Less Tax paid).

Parameters	Formulae
Interest Coverage Ratio	Interest coverage ratio is calculated by dividing the company's Earnings before interest and tax expense by the finance cost for that period
Gross Block /revenue from operations	Gross Block /revenue from operations is calculated as Gross Block including intangible assets as a % of revenue from operations. Intangible assets include goodwill and other intangible assets and exclude intangible assets under development

Source: CRISIL MI&A

Explanation for key KPIs

Parameter	Explanation
Order book	Order Book represents the as reported contract value of the unexecuted portion of a company's existing assigned contracts and is an indicator of visibility of future revenue for the company.
Order book to revenue from operations	Orderbook to Revenue Ratio is an indicator of the size of the order book at the end of reported period to the revenue generated for that period.
Order inflow	Order Inflow represents the value of orders won during the period.
Total Income	Total income represents the revenue from goods or services sold by the company as well as non-operating income generated during the period.
Revenue from operations	Revenue from operations represents the revenue from goods or services sold by the company during the period.
Earnings Before Interest Tax Depreciation / Amortisation (EBITDA)	EBITDA indicates company's profit/loss before interest expenses, depreciation / amortisation and tax expenses incurred
EBITDA Margin (%)	EBITDA Margin (%) is an indicator of the profitability/losses of a company's business and indicates earnings margin profile of a company's business for the period.
PAT	PAT provides information regarding the overall profitability / Losses of a company's business during the period
Cash Profit after Tax	Cash Profit is an indicator of the profitability/losses of the business excluding depreciation and amortization expense.
PAT Margin (%)	PAT Margin (%) is an indicator of the profit / loss margin of a company's business during the period
Cash Profit Margin %	Cash Profit Margin (%) is an indicator cash profit / loss margin of a company's business excluding the depreciation / amortisation during the period.
Total Networth	Total Net Worth is an indicator of a company's total equity as on end date of the reporting period.
Total Debt	Total Debt is a financial position metric, and it represents the absolute value of borrowings.
Net Debt	Net Debt is a liquidity metric, and it represents the absolute value of borrowings net of cash and cash equivalents, bank balances and other cash and cash equivalents.
Net Debt to EBITDA Ratio	Net Debt to EBITDA ratio enables a company to measure the ability and extent to which a company can cover their debt in comparison to the EBITDA being generated by them.

Parameter	Explanation
Net Debt to equity	Total net debt to Equity Ratio is a measure of the extent to which a represents a company's debt position in comparison to their equity position. It helps evaluate a company's financial leverage
Return on Equity (including total networth) %	Return on Equity represents how efficiently a company generates profits from their shareholders funds.
Return on Capital Employed (including total networth) %	Return on Capital Employed represents how efficiently a company generates earnings before interest and tax from the shareholders funds and borrowings.
Working capital days	Working Capital Days describes duration it takes for a company to convert its working capital into revenue.
Cash Flow from Operations (CFO)	Cash Flow from Operations is a measure of the cash generated or utilised by a company for its operations, excluding any financing, or investing activities during the year
Interest Coverage Ratio	Interest coverage ratio indicates company’s ability to pay the finance costs during the period.

Source: CRISIL MI&A

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