Market Intelligence
& Analytics

CRISIL
An S&P Global Company

Rider in the storm

Tracing India's growth in a volatile world

In fiscal 2024, the Indian economy will grow a tad slower, hemmed in by sluggish exports and the lagged impact of rate hikes manifesting fully. Yet, corporate revenue will continue to grow in double digits, helped by buoyant domestic demand. Margins are expected to recover from a decadal low.

March 2023

CRISIL's INDIA OUTLOOK
ECONOMY • INDUSTRIES • MARKETS

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Executive summary

There are three reasons why CRISIL expects India's gross domestic product (GDP) growth to decelerate 100 basis points to 6% in fiscal 2024 from 7% predicted by the National Statistical Office for fiscal 2023.

One, a slowing world — stemming from elevated inflation and aggressive rate hikes by major central banks — will create downside risks to India's growth. Domestic demand, therefore, will have to do the heavy lifting next fiscal.

Two, the full impact of rate hikes by the Reserve Bank of India (RBI) will manifest next fiscal. Monetary moves typically impact growth with a lag of 3-4 quarters.

Three, the tricky geopolitical situation implies that India will continue to reckon with volatility in crude and commodity prices.

But some optimism is in order on the domestic inflation front.

Consumer inflation is expected to moderate to 5% next fiscal from 6.8% this fiscal, owing to a high-base effect.

A good rabi harvest would help cool food inflation and a slowing economy to moderate core inflation.

The risks to this are, however, tilted upwards, given the ongoing heat wave and the World Meteorological Organization's prediction that an El Niño warming event is likely in the next couple of months. That can hurt farm output.

The picture, however, is better over the medium term.

Over the next five fiscals, we expect the Indian economy to grow at 6.8% annually, driven by capital and productivity increases.

Capital investments at a higher scale by the government to begin with, and fresh ones by the private sector should drive medium-term growth.

Digitalisation, together with efficiency-enhancing reforms, will raise the contribution of productivity. We expect the economy to continue reaping efficiency gains from reforms such as Goods and Services Tax (GST) and the Insolvency and Bankruptcy Code (IBC).

Better physical infrastructure will improve connectivity and lower logistics costs for industries, while digital infrastructure will bring in efficiency gains by serving as a platform for innovation and efficient payments systems.

Labour's contribution to growth is likely to be the lowest, not least because India lacks people in the working age group (15-64 years). While this cohort represents 67% of the population, inadequate quality and skilling of the workforce will hold back its potential.

As for corporate growth, the drivers may differ from those of nominal GDP depending on the economic cycle. But overall, they are seen moving in tandem.

We expect corporate revenue to grow in double digits in fiscal 2024, despite the global slowdown and interest rate hikes.

Importantly, this will be on the back of a 16-18% on-year rise in revenue this fiscal, after the commodity supercycle boost in fiscal 2022.

To understand the impact of commodity cycles on revenue growth, we analysed 748 listed companies (other than those in the oil and gas, and banking, financial services and insurance sectors) from fiscal 2011 onwards, dividing them into two categories — commodity and non-commodity sectors.

We found that the revenue increase this fiscal has been led by an estimated 18-20% on-year increase in the revenues of non-commodity sectors. The commodity sectors, on the other hand, recorded an anemic growth of 5-7%, coming off a high base of the previous fiscal. This would bring down their share in overall revenue next fiscal, closer to pre-pandemic levels.

Operating (Ebitda) margin of the sample set of 748 companies is expected to improve 120-170 bps in fiscal 2024 aided by benign commodity prices, the full effect of price hikes in fiscal 2023 playing out, and volume-driven expansion. The margins of both commodity and non-commodity segments are expected to settle at pre-Covid levels.

In fiscal 2023, we estimate a 180-220 bps decline in margins, with the commodity segment accounting for 80% of decline owing to the cooling commodity cycle.

CRISIL MI&A Research also looked at how 10 key sectors performed over fiscals 2021 and 2022, and their likely performance this fiscal and next, analysing the contribution of volumes and value to their growth.

We expect volume growth to drive seven of the 10 sectors in fiscal 2024, with value growth accounting for only 11% and volume for the rest.

In fiscal 2023, too, with the cooling of the commodity cycle and pent-up demand, six of the 10 sectors were driven by volume expansion than value.

How about demand?

In terms of domestic demand impetus, we see the growth in urban incomes and government employee payouts once again outperforming rural incomes next fiscal. This would continue to skew consumption towards premium products and stoke the two-speed recovery underway.

On the exports front, we note that India and a few other geographies ship out proportionately more commoditised goods, so the decline in their overall exports is sharper during economic slowdowns.

During both, upturns and downturns in the US, India gains exports share, while in Europe, it gains mostly during upturns.

This is not surprising, since exports to Europe are largely commodities.

The current downturn should have impacted India's exports substantially, but six of the top 10 export segments have propped the numbers, primarily because of the Production-Linked Incentive (PLI) scheme.

After an estimated 5-7% growth in merchandise exports this fiscal, we still expect growth, albeit moderate at 2-4% next fiscal, with the PLI scheme supporting demand owing to global supply chain diversification and 'friend-shoring' strategies.

We estimate PLI would have helped Indian manufacturers add ~$25 billion to the ~$450 billion merchandise of exports this fiscal. In fiscal 2022 itself, ~$9 billion, or 2% of exports, were from PLI-based projects. Potentially, PLI-linked exports alone can be as high as $140 billion annually.

Next fiscal, capacity utilisation across sectors will top decadal averages despite modest growth in the domestic and export markets. But many sectors will show below-peak utilisation, which will limit a sharp uptick in investments in legacy assets.

As for capex, our analysis of ~400 companies that account for half of industrial capex yields interesting results.

Only three out of 49 companies in the automobiles and components sector have shown meaningful growth in capex in the first half of fiscal 2023.

On the other hand, metals, cement, oil and gas may continue to account for higher capex as larger companies gained market share during the recovery from pandemic and benefited from a sharp improvement in profitability because of the commodity upcycle, which improved their credit profiles.

PLI and new-age capex account for nearly 15-17% of the total industrial capex.

Overall industrial capex is set to rise to nearly Rs 5.7 lakh crore on average between fiscals 2023 and 2027 compared with Rs 3.7 lakh crore in the past five fiscals.

Nearly half of this incremental capex will be driven by PLI and new-age sectors.

While industrial capex will get a push from government policies and new-age opportunities, infrastructure spending will continue to drive 12-16% growth in capex next fiscal, given targets under the National Infrastructure Pipeline.

Then, there is the sustainability angle.

At present, nearly 9% of the spending in both, infrastructure and industrial capex are green. This is expected to rise to 15% by fiscal 2027.

Down the road, the impact of climate risk mitigation will be felt across revenue, commodity prices, export markets and capital spending.

It will remain the most watched aspect over the medium term.

Crosscurrents in growth

The Indian economy is likely to close fiscal 2023 with 7% growth in real gross domestic product (GDP) amid a challenging global macroeconomic environment, but will slow to 6% next fiscal. While the post-pandemic recovery has turned broad-based, with domestic demand returning fast especially for contact-based services, there are fresh headwinds. Global growth is slowing and tighter domestic financial conditions could curtail a consumption lift-off. Amid this, moderating domestic inflation could be a relief.

The key challenge to the Indian economy in the coming fiscal is to grow when the world is slowing.

This year's edition of India Outlook examines domestic growth prospects in a shifting world order that continues to be shaped by geopolitics, stubbornly high inflation and high interest rates, and climate concerns.

Growth for the current fiscal is estimated at 7%.

With all major sectors now above pre-pandemic levels, the recovery from the pandemic shock has been fairly broad-based. But that is about to be tested again by slowing global growth and tighter domestic financial conditions.

For the coming fiscal, we expect India's real GDP growth to taper to 6.0%, for the following reasons: The challenges have shifted — from the pandemic to the fallouts of the Russia-Ukraine war and aggressive rate hikes by major central banks to fight inflation. Policy rates are at decadal highs across the advanced world. Slowing global growth will put the brakes on India's exports.

Additionally, as policy rate hikes filter through the economy, tighter domestic financial conditions are likely to weaken demand.

Inflation remains the 'swing factor'. After a sharp rise to 6.8 % in the first 10 months of this fiscal, it is expected to moderate to 5% next year, driven by lower global commodity prices, expectation of softer food prices, demand slowdown, easing core inflation, and base effect.

But we need to watch out for disruptions to food production due to El Niño and other extreme weather events (leading to volatile food prices), and continuing geopolitical risks (impacting commodity prices), as that could undo the math.

Metrics that matter

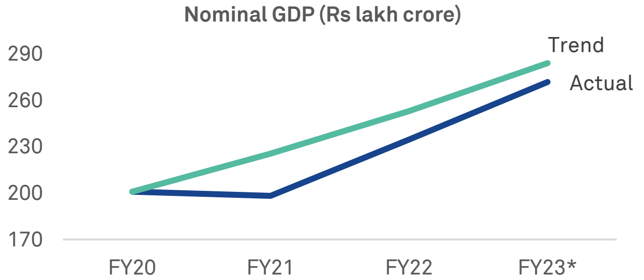
Macro parameter	FY23 forecast	FY24 forecast	Rationale for outlook
Real GDP growth (y-o-y %)	7.0^	6.0	Slowing global growth will weaken India's exports in FY24. Domestic demand could also come under pressure as the RBI's rate hikes transmit to end-consumers
CPI inflation (y-o-y %)	6.8	5.0	Lower commodity prices, expectation of softer food prices, cooling domestic demand, and base effect will help moderate inflation
10-year G-sec yield (fiscal-end, %)	7.5	7.0	A moderate increase in budgeted gross market borrowing along with expected lower inflation and RBI's rate cuts towards the end of the fiscal will help moderate yields
Current account deficit (% of GDP)	3.0	2.4	Lower crude oil prices and cooling domestic demand should narrow the trade deficit
Exchange rate (fiscal-end, Rs/$)	82.0	83.0	While a lower current account deficit will support the rupee, challenging external financing conditions will continue to exert pressure next fiscal

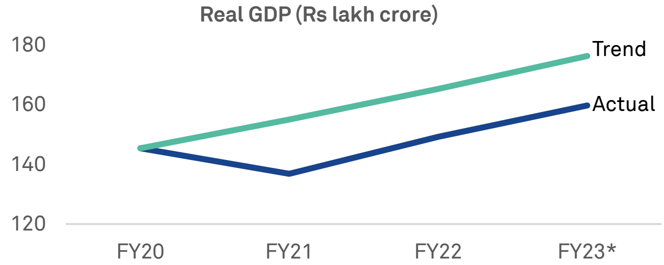
^Second advance estimates
Source: National Statistical Office (NSO), RBI, CRISIL

Making sense of recent GDP estimates

As the Indian economy battled the four Cs — Covid-19, conflict (geopolitical), climate change, and central bank actions — it has shown a fair degree of resilience, particularly in the absence of a direct, large fiscal push to consumption. The growth pattern, though, highlights two key features. First, the economy has recovered faster in nominal terms than in real terms (because of high inflation). Second, official data revisions released in February reveal that the economy was more resilient than estimated earlier.

When will the twain meet?





Note: *Second advance estimates, NSO
Source: NSO, CRISIL

- Post pandemic, India's nominal GDP sprinted, as inflation raced ahead. But real GDP slow-marched. It still has quite some catching up to do with the decadal trend levels (see charts above).

Let's put some numbers to this statement. Over fiscals 2021 to 2023, nominal GDP grew 11.0% on average, while real GDP expanded only 3.4%.

The gap is explained by inflation.

Seen another way, nominal growth was only slightly lower than the pre-Covid-19 decadal average growth, but real growth halved.

This means the economy has caught up faster in nominal terms towards its pre-Covid decadal trend (i.e., where the economy would have been had Covid-19 not hit), while the real economy in contrast is 9% below its pre-Covid-19 trend.

The inflation rate[1] averaged 7.8% over fiscals 2021 to 2023 compared with the pre-Covid-19 decadal average of 5.2%.

- The economy was more resilient to the pandemic than estimated earlier.

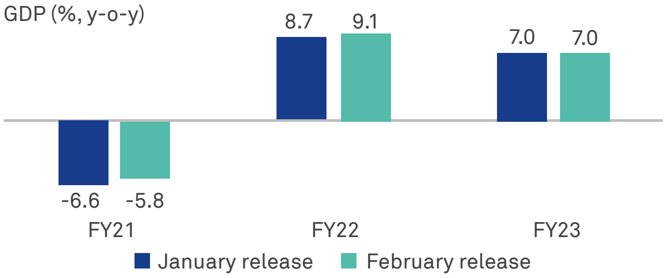
Latest GDP estimates released by the National Statistical Office (on February 28) show much more resilience in the economy than exhibited by the estimates released earlier in January. Another set of estimates are due in May which will provide richer information on the strength of revival post the pandemic.

Latest estimates, however, have raised the last three fiscal (fiscals 2021 to 2023) growth average to 3.4% from 3% estimated earlier. Major revisions are seen in exports, private consumption, and fixed investment where estimates were pushed up and in imports, and government consumption where estimates were revised down.

What gives?

Revival in private consumption post the pandemic-hit has been slightly stronger than estimated earlier. But it remains a laggard when compared with fixed investment and exports. The slowest to recover (when compared to the pre-pandemic level of fiscal 2020) is government consumption – which surged during the pandemic but then saw a moderation as government spending on welfare schemes somewhat normalised. In terms of numbers and when compared with fiscal 2020, exports are 31% higher, fixed investment 18.1%, private consumption 13.2% and government consumption is 6.9% higher.

Latest estimates show the economy held up slightly better

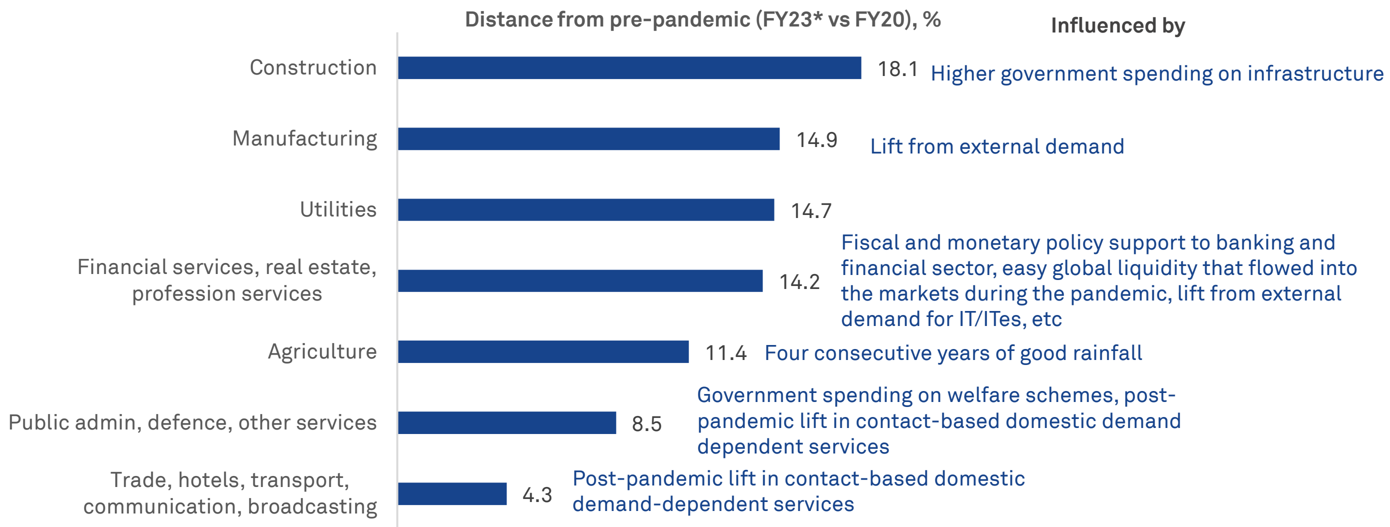


Note: February release includes Second advance estimates for FY23, First revised estimates for FY22, Second revised estimates for FY21 and Third revised estimates for FY20
Source: NSO, CRISIL

[1] Measured by GDP deflator-based inflation, which is a function of consumer and wholesale price inflation, and measures the inflation rate faced by the economy as a whole

What has supported growth so far

Government support, global demand, good monsoon have lifted demand in these sectors



*Second advance estimates
Source: NSO, CRISIL

Four factors have been responsible for the recovery post pandemic:

- Higher government spending on infrastructure creation and on welfare schemes that allowed for faster catch-up in construction and public administration sectors
- Buoyant global demand post-pandemic, which lifted exports from the manufacturing sector, information technology (IT)/IT-enabled services (ITeS) and other professional services
- Inflow of abundant global liquidity into Indian markets. Policy intervention – from fiscal and monetary policies – supporting the banking and financial services sectors
- Consecutive years of good rainfall benefitted the agriculture sector

While contact-based services (trade, hotels, travel, etc.), saw strong growth this fiscal, there is still some ground to cover.

Distance from pre-pandemic (FY23* vs FY20) — exports and fixed investment have caught up faster

31%	18.1%	13.2%	6.9%
Export	**Fixed investment**	**Private consumption**	**Government consumption**
Lift from external demand	Higher government spending on infrastructure	Post-pandemic lift in contact-based domestic demand-dependent services	Normalising of government welfare schemes among others

*Second advance estimates, NSO
Source: NSO, CRISIL

Exports, which were on a decline even before the pandemic (-3.4% in fiscal 2020), dropped further 9.1% at the peak of the pandemic (fiscal 2021), and later recovered to average 20.4% growth during fiscals 2022 and 2023. This was supported by a sharp recovery in growth of trading partners and higher demand for merchandise goods and services such as IT/ITeS.

However, with goods exports expected to slow down, India's export growth is bound to moderate next fiscal.

Fixed investment, too, saw a sharp recovery, with most of it driven by government spending on infrastructure.

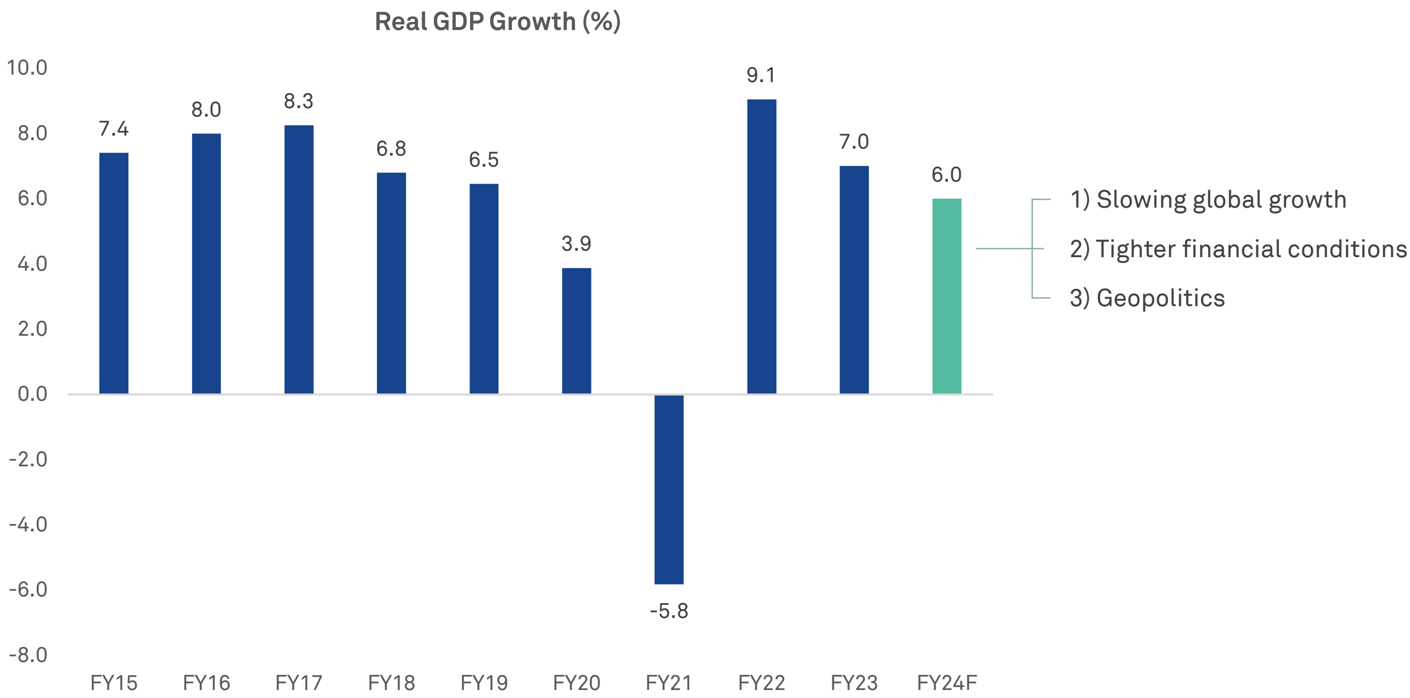
What lies ahead

How do we arrive at the 6% real GDP growth projection for the next fiscal? On one side, slowing global growth will reduce demand for India's exports and affect domestic industrial activity in those sectors. The full-blown impact of RBI's tighter monetary policy, which typically plays out with a lag of 3-4 quarters, will show up in the coming months. Continued geopolitical strife will keep commodity prices elevated compared with the pre-pandemic years and can create headwinds for growth. On the other side, corporate balance sheets look healthy. A robust banking system and the government's capex thrust should create forward momentum and support fixed investment. Net-net, real GDP should grow, but at a slower pace than in this fiscal.

Going forward, we expect government capex support to moderate as pressure to fiscally consolidate rises. Meanwhile, private capex is expected to start seeing an uptick (more on this in the investment segment).

Private consumption, which has been slow to recover compared with exports and fixed investment, has more recently been driven by a pick-up in contact-based services, some improvement in rural incomes, and resilience in urban demand (more on this in the consumption segment).

Three reasons why India's GDP growth could slow to 6% next fiscal



F: Forecast
Source: NSO, CRISIL

I. Ripples of the global slowdown

Global GDP growth is forecast to moderate to 2.2% in 2023 from 3.4% in 2022.

In Europe, higher interest rates, a weaker housing market, and slowdown in hiring are beginning to bite. In the US higher interest rates are leading the weakness. Finally, China's rebound from the latest wave of Covid-19 and relaxation on restrictions is suggesting some possibility of offsetting the weakness emanating from the West.

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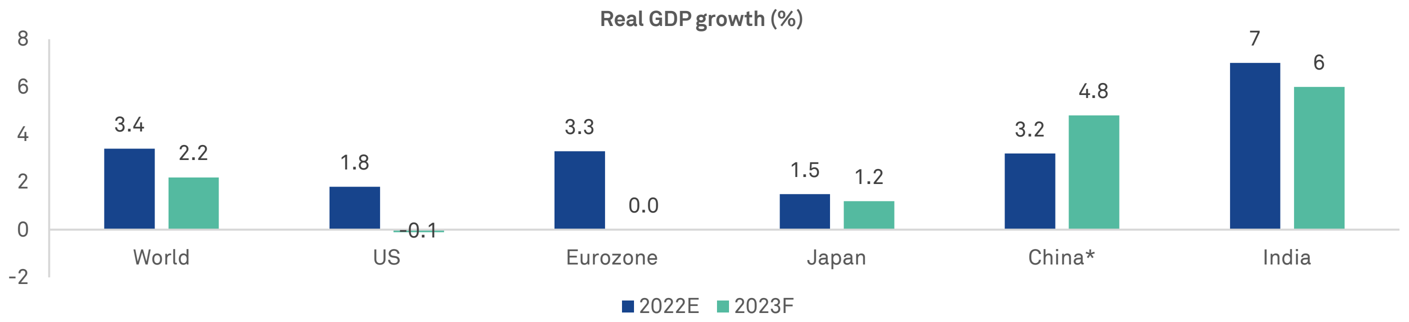
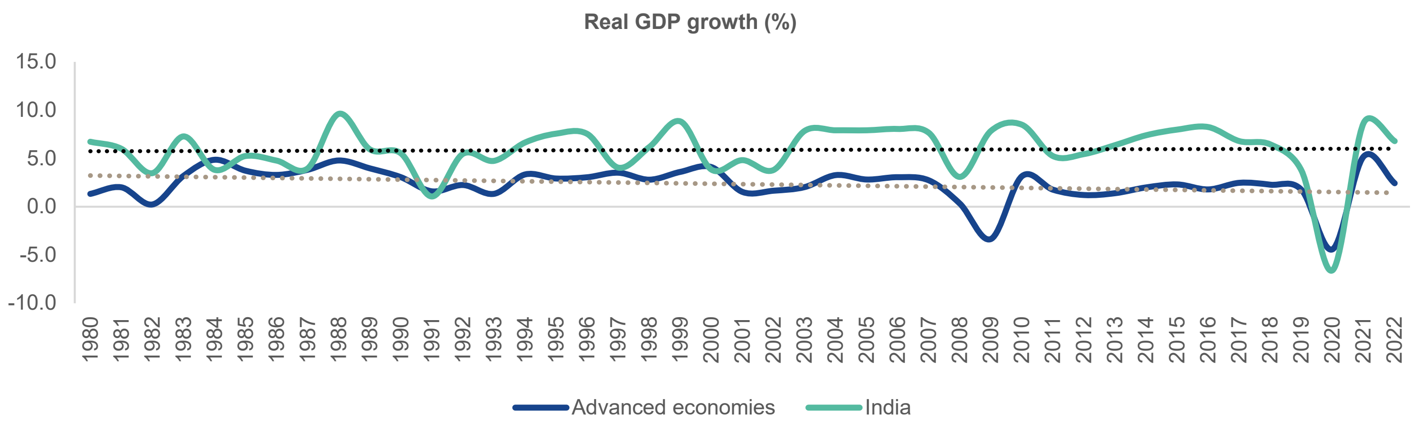


Note: Data for India is for fiscals 2023 and 2024. E=Estimate, F=Forecast
Source: S&P Global (November 2022) forecasts

We unpack three ways in which teetering global growth is likely to transmit to the domestic economy.

One, India's growth cycles have become remarkably synchronised with those of advanced economies since the 2000s, which means deceleration in the latter will create downside to domestic growth.

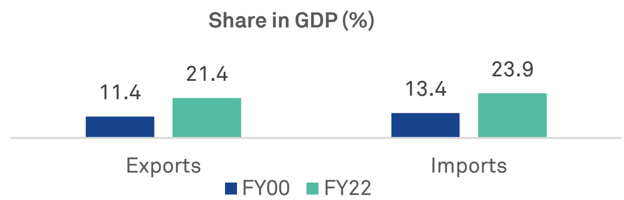
Growth cycles tango, trends go solo



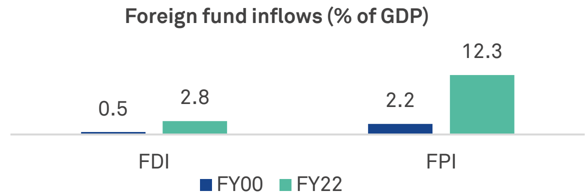
Source: International Monetary Fund, NSO, CRISIL

This is a result of India's greater inter-linkage with the world economy, both through trade and financial channels (see charts on the right). Increasing global interconnectivity has accentuated this effect. This implies that any change in demand and policies in advanced countries is bound to spill over to India and other emerging countries.

Exports share has almost doubled



FPI inflows have grown about six times



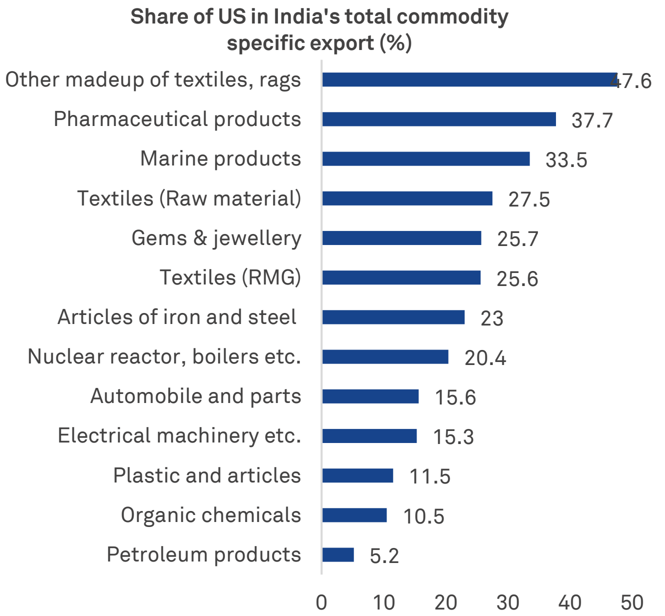
Source: NSO, RBI, Ministry of Commerce, CRISIL

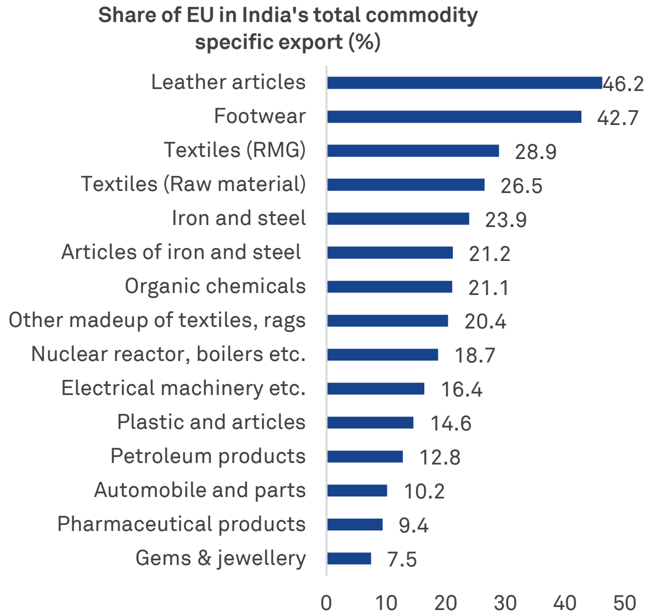
Trade flows: Advanced economies account for ~45% of India's merchandise exports. The United States (US) and the European Union (EU), which comprise 72% of advanced economies' GDP, are the two largest export destinations, with 18.0% and 15.4%[2] share in total exports, respectively. Both economies are projected to slow down sharply in 2023.

Financial flows: While foreign direct investment (FDI) as well as foreign portfolio investor (FPI) inflows have increased over the years, the rise in the latter far outpaces the former. A sharper rise in FPI inflows in the recent past — which is more volatile — points to greater vulnerability of the domestic financial markets to external monetary policy shocks

Exports of domestic labour-intensive sectors such as textiles, footwear and leather depend significantly on the US and the EU (see chart below), making these particularly vulnerable to a slowdown in the two economies.

Skies darken for these export sectors





Note: Data in the charts is average of pre-pandemic years fiscals 2019 and 2020
Source: Ministry of Commerce, CRISIL

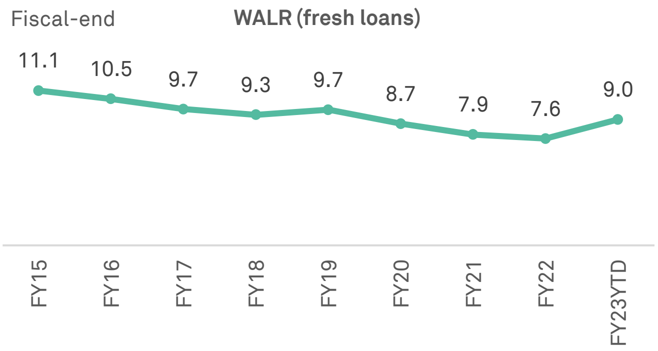
Three, the growth slowdown in the US and the EU, and recovery in China puts the Asia-Pacific region in an odd situation, with winds blowing from both sides. For India, the uptick in China's demand when India's growth moderates will bring some positive benefit to India's trade deficit. But slower demand from the US and the EU will create a net negative impact on India's overall exports.

An S&P Global study[3], which looked at trade in value-added data to estimate the net impact of these opposing forces, found "the net effect of these offsetting growth forces is largely negative. Asia-Pacific economies are closely integrated with China, whose economic influence in the region has growth quickly. On the other hand, the region is also enmeshed with the US and Europe with strong trade, financial and business linkages." The study found that for India (along with some other Asia-Pacific countries such as Singapore, Vietnam, the Philippines, Thailand, and Japan), the significance of the US and the EU combined is greater than that of China.

II. Tighter financial conditions

- The full-blown impact of rate hikes by the RBI is expected to kick in next fiscal, as monetary policy typically impacts growth with a lag of 3-4 quarters
- The RBI hiked policy rates by 250 basis points (bps) in fiscal 2023 and reduced excess liquidity in the banking system. This has led banks to increase lending and deposit rates, with the pace accelerating since December 2022. However, the cumulative rise in lending rates remains lower than the repo rate hikes in some segments. For instance, the 1-year marginal cost of funds-based lending rate, or MCLR, rose only 132 bps up to February. This suggests further transmission and rise in lending rates are in the offing
- With the rise in lending rates so far, the weighted average lending rate (WALR) of scheduled commercial banks already crossed pre-pandemic levels in January 2023. Further hikes would bring it closer to fiscal 2019 levels

[2] in fiscal 2022
[3] February 2023, 'Asia-Pacific in 2023: China Rebound Cannot Offset Western Slowdown', S&P Global Ratings

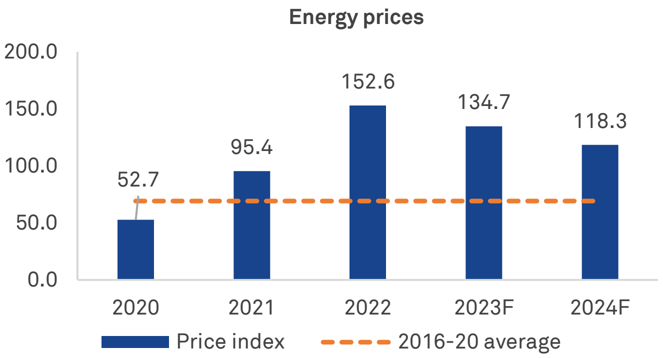


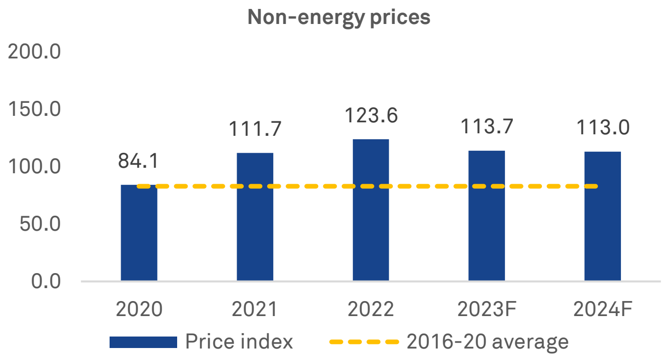
Note: FY23YTD refers to interest rates as on January 2023
Source: RBI, CRISIL

III. Only a moderate reduction in global commodity prices

- While global growth is expected to slow down to 2.2%[4] this year, from an estimated 3.4% in 2022, commodity prices are expected to remain elevated – above the pre-pandemic five-year average – thanks to geopolitical uncertainties and supply disruptions
- India will have to continue to reckon with volatility and elevated (compared to pre-conflict period) crude oil and commodity prices
- High commodity prices pose an upside risk to inflation, fiscal deficit, and trade balance, and create headwinds for growth. High input costs could keep manufacturers profitability under pressure.

Slower fall





Note: Price indices are in nominal USD (2010 = 100)
Source: World Bank Commodity Market Outlook, October 2022

[4] Lower than pre-pandemic five-year (2015-2019) average of 2.9%

What will add to resilience

Healthy corporate balance sheets provide a better cushion against shocks

- Corporates, particularly large and mid-sized, have been deleveraging all through the pandemic. In fact, the median gearing ratio[5] of CRISIL Ratings' portfolio is expected to touch a decadal low of less than 0.5 this fiscal
- CRISIL Ratings' credit ratio (upgrades to downgrades) remains high, improving to 5.52 times in the first half of fiscal 2023 from 5.04 times in the second half of fiscal 2022, underscoring broad-based improvement in India Inc's credit quality
- Strong balance sheets are expected to cushion corporates through a period of global uncertainty. Also, once conditions become conducive, the private corporate sector will be well placed to undertake large investments

A robust financial system could help lubricate growth

- The domestic financial system is in good health, with well capitalised banks and decline in their bad loans. As on September 2022, the gross non-performing asset ratio of the banks – a key indicator of asset quality – was down to a seven year low of 5.0%
- Average bank capital adequacy ratio[6] at 15.4% as on September 2022 is a substantial improvement from previous levels
- CRISIL expects the gross non-performing asset ratio to further fall to a decadal low of sub-4% by March 31, 2024, riding on post-pandemic economic recovery and high credit growth
- The asset quality of the banking sector will also benefit from the proposed sale of non-performing assets to the National Asset Reconstruction Company Ltd

Government capex will continue to support the investment drive

- Effective central government capex (capex + grants in aid for creation of capital assets) is budgeted to rise to 4.5% of GDP next fiscal, significantly higher than pre-pandemic five-year average of 2.7%. Total outlay, including capex of public sector units, is budgeted at 6.2% of GDP
- This will cushion the economy through its relatively large multiplier effect, and at the same time is expected to crowd in private investment, especially in infrastructure linked sectors such as steel and cement

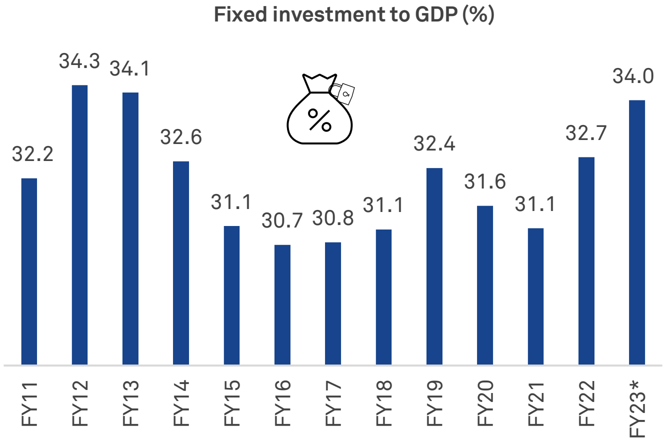
[5] Gearing = Total debt/Tangible net worth
[6] Only for public sector banks

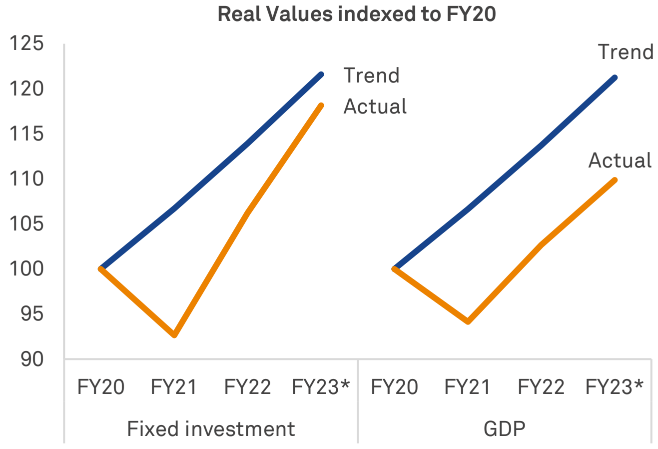
Investment at a cusp

Fixed investment has recovered faster than overall economic growth, such that investment to GDP ratio is now back to its earlier peak of 34% (last seen in fiscals 2012 and 2013). Consequently, investments in fiscal 2023 were only 3% below their trend, vs overall GDP at 9% below trend.

To be sure, government capex did most of the heavy lifting. While enhanced support from the government will continue next fiscal, it is expected to moderate in the years to come, given fiscal consolidation pressures. Moreover, government capex alone cannot move the needle enough for overall investment growth. We see private sector investments gaining momentum next fiscal, supported by higher investment in infrastructure segments (such as through the National Infrastructure Pipeline, NIP), manufacturing (through Production-Linked Incentive (PLI) schemes), and green investments (in the power and transport sectors).

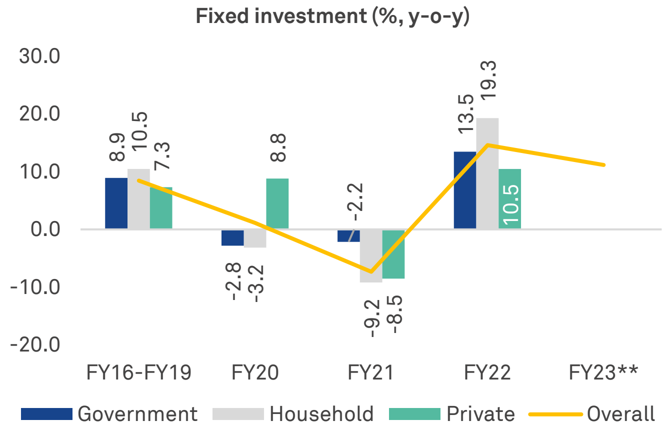
Fixed investments recovering faster than GDP, but need more firepower

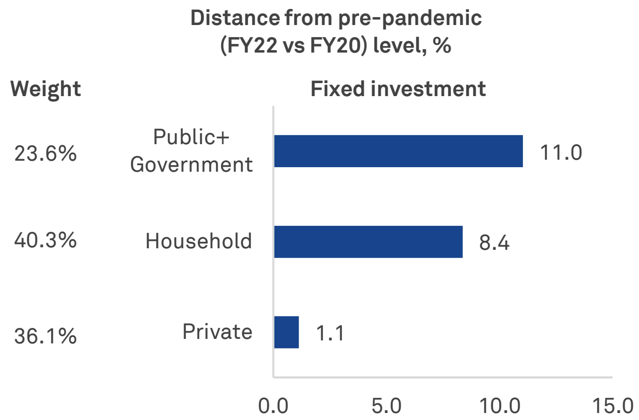




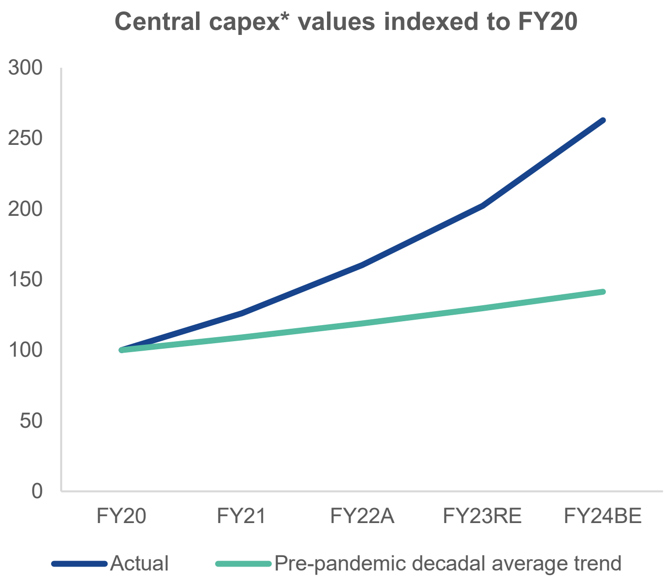
Note: *Second advance estimates, NSO
Source: NSO, CRISIL

Government still key investor, but private sector making a slow comeback





Note: *Second advance estimates, NSO
Source: NSO, CRISIL



Note: *Effective capex, RE=Revised estimates, BE=Budget estimates
Source: Budget documents, CRISIL

This fiscal, India's investment rate rose to its fiscal 2014 peak of 34% of GDP after hovering at 30-32% for a decade. Most of the pick-up was seen in fiscals 2022 and 2023, when fixed investment grew 14.6% and 11.2%, respectively, in real terms.

The data highlights three main strands in the investment story:

- Post-pandemic, fixed investments in India have recovered faster than the overall economy. While real GDP is ~9% below the pre-Covid decadal trend, fixed investment is 3% below its trend. However, the gap from the trend (see chart Fixed investment recovering faster but need more firepower) also suggests that fixed investment growth has been lower than desirable, and that some catching up remains to be done
- Most of the catch-up in fixed investment has been led by government capex (centre, states, and public sector units) on infrastructure, which provided support during the pandemic when the private and household sectors were wary to invest. For fiscal 2024, with the budgetary increase in central capex at ~30%, we expect government capex to continue playing a bigger role in driving overall investment. In fact, our estimates suggest that central capex next fiscal will be twice higher than the pre-Covid decadal trend. There is also state capex, which is substantial as well
- That said, government capex constitutes less than 30% of the country's total fixed investment, and hence, is not enough to move the needle on overall investment growth to cover for lost ground. The household and private corporate sectors will need to step in. Recent data has been encouraging. Helped by a low base and some improvement in investment sentiment, household fixed investment grew 19% on-year this fiscal and private investment was up 10.5%. However, private sector investment till fiscal 2022 was the slowest to recover from the pandemic impact (it is only 1.1% higher than the pre-Covid level)

Will the fresh sightings in private investment last?

Though private capex was tepid during the pandemic, a gradual pick-up has been seen in fiscals 2022 and 2023, supported crucially by deleveraged corporate balance sheets, enhanced bank appetites to lend, and improving capacity utilisation.

The PLI schemes are also expected to push investments in the auto, steel, renewable, pharmaceuticals, textile, and electronics sectors next fiscal. Further, under the government's NIP, healthy growth in infrastructure investments will be seen until fiscal 2026, led by the expressways segment. Highways, renewables, electrification, railways, urban metros, airports, and irrigation are other segments that fall under the NIP.

However, the government's role in leading capex recovery is expected to moderate from hereon.

That is because trimming the fiscal deficit (from 5.9% in fiscal 2024 to below 4.5% in fiscal 2026) would take over government priorities. Our estimates[3] suggest that the government will have to moderate capex growth to meet this deficit target.

That said, despite slower growth, the central capex share in GDP will remain marginally higher than the pre-pandemic rates, implying that the capex thrust to the economy remains.

Some of the retreat in government capex will have to be made up by private capex.

Indeed, a decisive lift in private investments is now needed to render the improvement in the investment cycle sustainable. While there are good tidings on that front, an uncertain environment could come in the way of a broad-based private investment revival, curtailing overall investment growth.

[3] February 2023, 'Fiscal consolidation path: Three scenarios and the arithmetic thereof', CRISIL

Getting consumption right

Private consumption grew 7.3% this fiscal , faster than overall GDP growth of 7.0%. This would bring its share in GDP to 58.5%, which is higher than the pre-pandemic decadal average.

The sharp rise in household spending was led by the catch-up to pre-Covid levels, especially for contact-based services in urban areas. Income prospects have improved in both rural and urban areas this fiscal, which has boosted consumer confidence. Strong credit offtake further supported demand this fiscal.

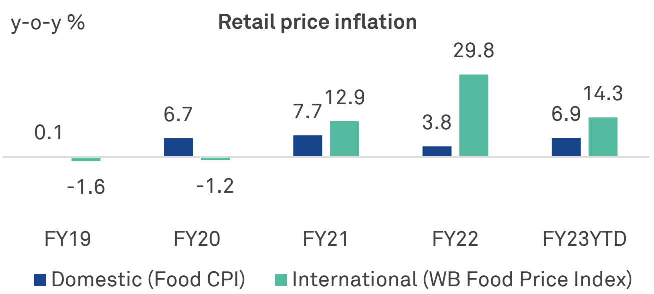
However, rising borrowing costs will be the key challenge next fiscal, which is likely to moderate domestic demand, going ahead. We are already seeing signs of a slowdown in demand for goods, even as demand for contact-based services continues to rise.

To understand the granular picture, it pays to view consumption through two lenses: rural-urban, and goods and services.

Rural prospects gradually improving, but watch out for unannounced risks

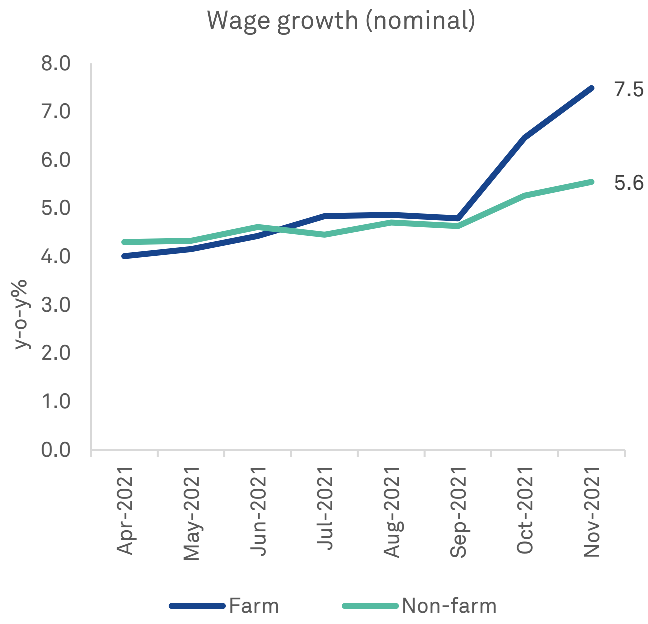
- Farm incomes showed an improvement in fiscal 2023 supported by higher agriculture prices. In fiscal 2024, rabi sowing so far suggests better prospects for production. However, climate risk from the ongoing heatwave and an expected El Nino condition could put some pressure on output.
- Rural wages in nominal terms, however, have been showing some encouraging signs lately. Average rural wage growth for the October to November 2022 rose to 6% average on-year, from 4% in the first quarter of fiscal 2023.
- Also, signs of easing rural distress is reflected from reducing household employment demand for Mahatma Gandhi National Rural Employment Guarantee Act (NREGA). According to the government, such demand was 15.5% lower on-year average this fiscal until February. This has been supported by a pickup in farm activity and reverse migration to urban areas (as indicated by rising labour force participation rate, or LFPR, in urban areas)

Farm incomes get a leg up from rising prices



Note: FY23YTD refers to April 2022-January 2023; WB Food Price Index refers to World Bank's food price index
Source: NSO, Ministry of Finance, CEIC, CRISIL

Rural wages are on a rising trend

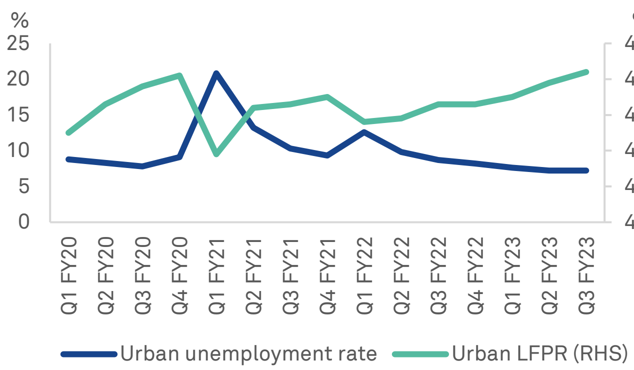


Source: RBI, CEIC, CRISIL

Urban demand benefitting from a rebound in services

- Urban employment market has rebounded strongly this fiscal. Quarterly Periodic Labour Force Surveys (PLFS) by NSO show that the urban unemployment rate is down to below pandemic levels in fiscal 2023 (see figure below). The participation of labour force (LFPR) has also risen to above pre-pandemic levels this year
- Improving employment prospects have been led by a rebound in contact-based services this year. About 60% of employment in urban areas is provided by the services sector, according to PLFS data. Two-thirds of GDP in contact-intensive services comes from urban areas
- The RBI's consumer confidence surveys – conducted across 19 major cities - indicate an improving trend, supported by improving income prospects

Employment prospects improve in urban areas



Source: NSO, RBI, CRISIL

Goods demand slipping, services going strong

Recent data shows demand softening for goods but still robust for services.

- Goods are seeing some softening in demand, as reflected in muted growth in the index of industrial production (IIP) for consumer durables and non-durables. Core imports have also been softening since December, recording a decline in January 2023
- A K-shaped recovery can be seen in segments such as automobiles, where two-wheeler sales have been lagging passenger vehicle sales till date
- Demand for services remains strong, as reflected in high growth in air and railway passenger traffic

What the high-frequency indicators suggest (growth, y-o-y %)

Category	Indicator	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23
Goods	IIP consumer non-durables	-0.8	1.4	2.9	-2.9	-9.0	-5.7	-13.4	9.1	7.6	6.2
	IIP consumer durables	7.2	59.1	25.2	2.3	-4.4	-5.5	-17.8	5.3	-11.0	-7.5
	Two-wheeler sales	15.4	255.3	24.0	10.2	17.0	13.5	2.3	17.7	3.9	5.0
	Passenger vehicle sales	-3.8	185.1	19.1	11.1	21.1	92.0	28.6	28.1	7.2	17.2
	Core imports	24.5	25.2	32.9	37.0	40.9	30.6	8.8	13.5	6.2	-6.7
Services	Railway passenger traffic	116.2	478.1	237.6	168.6	113.6	87.6	62.2	51.1	40.7	64.5
	Air passenger traffic	95.3	502.4	288.1	127.4	73.1	61.6	40.0	21.8	23.1	101.0

Source: NSO, SIAM, Indian Railways, Airports Authority of India, RBI, CEIC, CRISIL

Financial conditions have so far been supportive of demand so far. Credit offtake for personal loans has been unaffected by rate hikes thus far and is contributing the most to bank credit growth. However, a further rise in lending rates could take some steam off credit growth next fiscal.

Inflation, the swing factor

Inflation is expected to moderate next fiscal, helped by a reduction in fuel and core inflation. Food – a big mover of overall inflation – faces risks from weather disruptions and abnormal monsoons. The easing of commodity prices from the highs seen last year will nevertheless offer comfort to fuel and core inflation. Producers, meanwhile, continue to pass on higher costs to retail prices. While goods inflation has already risen sharply, services inflation is gradually catching up as well.

Inflation continues to make headlines. What started as an impact of supply shortages (pandemic, then geopolitical conflicts, and impact of domestic heatwave) quickly became a broad-based phenomenon, with all three sub-components of inflation – food, fuel, and core – entering the red zone.

For the fiscal, overall Consumer Price Index-based (CPI) inflation is estimated to have risen to 6.8%, with food inflation higher at 6.9%, fuel at 9.1%, and core inflation at 6.1% in the first 10 months of this fiscal. This is the highest inflation rate that the core category has seen in nearly a decade. Core inflation has a weight of 47% in the overall CPI index.

We believe core inflation will come down as demand moderates, but will still remain above overall inflation. Producers continue to pass on cost pressures that have not abated yet. While goods inflation has already risen sharply, services inflation is catching up.

Some easing of crude prices from the highs seen soon after the Russia-Ukraine conflict began, will offer comfort to fuel inflation. A high base will also lend some benefit. However, depreciation in the rupee could lessen the impact of softening global commodity prices.

In the base case, food inflation is expected to moderate, given the expectation of a good rabi output this year, comfortable buffer stock[7], and softer global food prices. However, there are risks from weather disruptions on account of heatwaves and possibility of El Niño this year.

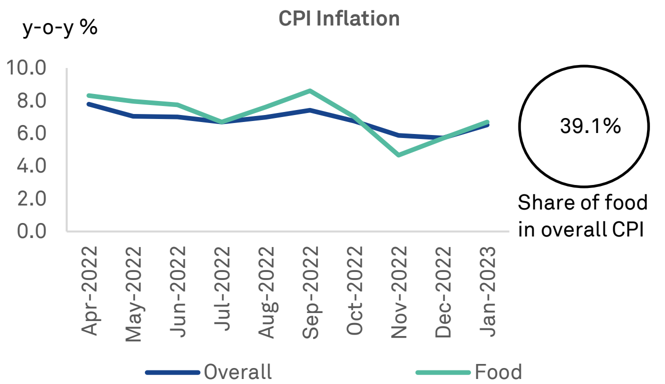
Hence, we expect CPI inflation to moderate to 5% next fiscal from an estimated 6.8% this fiscal, led by a reduction in fuel and core inflation. In addition to climate risks, the Russia-Ukraine conflict creates a critical upside risk to our inflation forecast in the coming fiscal.

High fuel inflation to dissipate next fiscal

	Weights (%)	FY20	FY21	FY22	FY23 (April-January)	FY24
Headline	100	4.8	6.2	5.5	6.8	5.0
Food and beverages	45.9	6.0	7.3	4.2	6.9	4.7
Fuel	6.8	1.3	2.7	11.3	10.6	3.0
Core	47.3	4.0	5.6	6.0	6.1	5.5

Source: MoSPI, CRISIL

CPI inflation closely tracks food inflation



Source: MoSPI, CRISIL

Food inflation to moderate, but could emerge as a pressure point

- Overall inflation closely tracks food inflation in India as it has a high weight in the CPI basket. Food inflation was high this fiscal because of high international commodity prices and food shortages on account of the Russia-Ukraine conflict. Ukraine was a major exporter of cereals and oilseeds before the war. Crop losses due to the heatwave in the summer of 2022 also added to food inflation pressures. High food inflation meant that low-income households were more impacted since food makes up a larger portion of their consumption basket

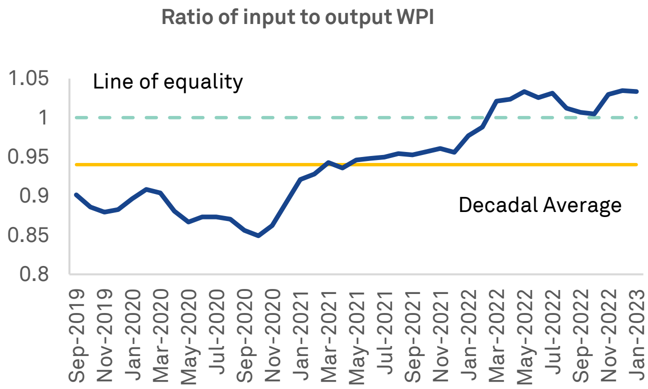
[7] As of January 2023, wheat stocks with the Food Corporation of India stood at 17.2 million tonne (MT), compared with the required norm of 13.8 MT, whereas rice stocks stood at 12.5 MT compared with the norm of 7.6 MT

- Food inflation is expected to cool next fiscal, benefitting from a high base and healthy food production. A moderate monsoon can further help soften food inflation. Cereal inflation (which is 21% of the food index) may remain a pressure point in the coming fiscal[8] driven by adverse monsoon events – which have in recent years repeatedly hurt production, strong global demand and rise in domestic demand. The central government has banned the export of wheat from India to increase domestic supply and have also released wheat stocks to help ease inflation.
- Food inflation is particularly susceptible to climate change risks as agriculture is vulnerable to physical climate risks. Heatwaves, irregular monsoons, and El Niño conditions — which can cause temperatures to rise and rainfall to be uneven — are critical upside risks for food inflation in fiscal 2024.

The ever-sticky core

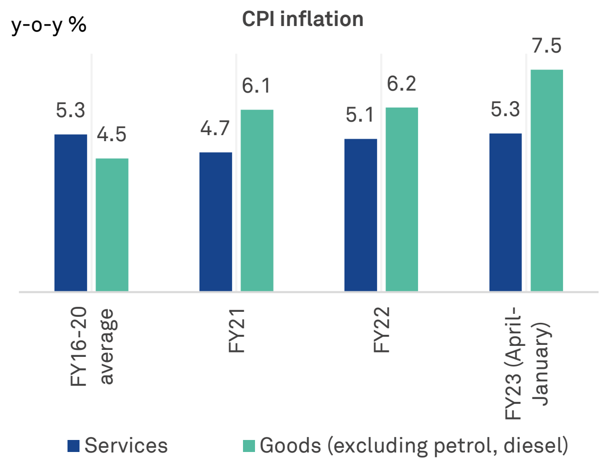
- Core inflation, which excludes volatile goods such as food and fuel, has hovered at ~6% throughout this fiscal. Food and fuel inflation are volatile and are affected more adversely by supply shocks. Core inflation is sticky and moves slower than the former. This makes it a better indicator of underlying demand conditions. While food and fuel inflation are expected to moderate to under 5% in fiscal 2024, core inflation is expected to remain relatively higher than food and fuel. Persistence of high core inflation restricts the RBI's ability to ease monetary policy
- What is keeping core elevated:
    - Continued pass-through of high input costs to retail prices: Producers had seen a sharp rise in input costs since fiscal 2022 but were unable to fully pass on the prices amid weak demand conditions. The pickup in demand in fiscal 2023 enabled them to raise selling prices. In recent months, both input and output prices have come down, but input prices remain higher. CRISIL's analysis of disaggregated WPI into input WPI and output WPI shows that the ratio of input WPI to output WPI has remained above 1 this fiscal. A ratio above 1 poses upside risk for CPI inflation since it indicates that the pass-through can continue
    - Strong services sector demand could add the upside to core inflation: Typically, services inflation outpaced goods inflation in India in the years before the pandemic. This however changed during the pandemic as demand for goods rose and contact-intensive services were restricted. Services inflation as a result softened compared to goods. As demand for services continues to recover, pressure on services inflation is likely to continue next fiscal, while that for goods moderates
        - o Services, including those related to airline tickets, domestic work, and laundry, which are typically used by higher income groups, have seen high inflation this fiscal and this is likely to continue
        - o Lower inflation in services is supported by relatively lower inflation in rent and education, which have high weights (9.5% for rent and 4.5% for education in CPI computation). Cumulatively, the two have a 52% weight in the services inflation computation, and are thus, dragging down the index
        - o The upward revision in bus/tram/ transportation charges seen in the current fiscal will likely continue as mobility will remain strong.

Input cost pressures stay high



Source: Office of Economic Advisor, CRISIL

Goods inflation has outpaced services inflation since the beginning of the pandemic



Source: NSO, CRISIL

[8] February 2023, 'Cereal killers', CRISIL Market Intelligence and Analytics

Prices of discretionary services on the rise

Services categories		Weights (%)	FY16-20 Average	FY21	FY22	FY23 (April-January)
Essentials	Telephone Charges: Landline	0.2	1.1	4.9	1.3	0.7
	Water Charges	0.2	4.4	2.4	3.7	2.2
	Sweeper	0.0	6.6	5.7	4.5	3.2
	Education	4.5	5.6	2.8	2.9	3.9
	House Rent, Garage Rent	9.5	5.7	3.0	3.5	4.1
	Health	5.9	5.5	5.1	7.5	4.5
	Internet Expenses	0.1	2.0	2.3	8.2	5.4
	Telephone Charges: Mobile	1.8	2.3	11.9	6.5	6.9
	Monthly Maintenance Charges	0.0	2.0	15.2	-5.2	10.8
Discretionary	Hotel Lodging Charges	0.0	3.7	14.4	6.7	2.5
	Monthly Charges For Cable Tv Connection	0.8	4.9	7.6	6.0	3.5
	Club Fees	0.0	2.4	0.7	1.5	3.6
	Other Entertainment	0.1	3.4	-3.1	3.7	4.1
	Other Consumer Services Excluding Conveyance	0.2	6.1	0.5	7.2	4.2
	Tailor	0.4	5.7	3.3	4.8	6.0
	Barber, Beautician, Etc.	0.6	6.6	7.2	5.9	6.1
	Domestic Servant or Cook	0.6	6.1	3.5	7.6	6.7
	Washerman, Laundry, Ironing	0.1	6.5	5.1	6.0	8.6
	Cinema: New Release for Normal Day	0.1	7.0	-20.9	6.7	10.9
	Porter Charges	0.0	6.0	16.9	6.8	15.7
Transport related	Horse Cart Fare	0.0	4.3	-3.7	-11.9	-6.6
	Rickshaw Hand Drawn and Cycle Fare	0.0	4.7	8.3	3.0	3.0
	Railway Fare	0.2	1.6	1.3	2.6	3.6
	Steamer, Boat Fare	0.0	8.3	6.6	12.4	6.7
	Bus or Tram Fare	1.4	4.5	11.1	5.3	6.9
	Taxi, Auto-Rickshaw Fare	0.6	4.4	6.3	7.4	7.6
	School Bus, Van, Etc.	0.2	5.5	2.8	5.5	10.7
	Air Fare Normal: Economy Class Adult	0.1	-5.3	138.7	24.9	11.0

Source: NSO, CRISIL

External balances

India's external vulnerability is expected to come down with a narrower CAD and modest short term external debt. While CAD is expected to narrow to 2.4% of GDP (~$88 billion) next fiscal from an estimated 3.0% (~USD 100 billion) this fiscal, financing of CAD may face challenges, as FPI flows remain volatile and external commercial borrowings becoming less attractive. This could create some pressure on forex reserves next fiscal.

External vulnerability on the mend

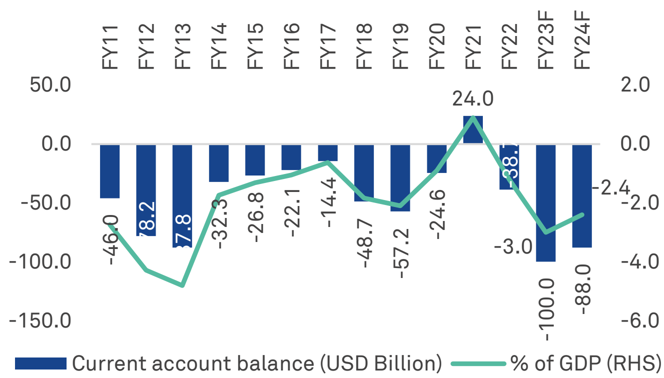
Indicator		FY 11	FY12	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23F	FY 24F
External liabilities	CAD (% of GDP)	2.7	4.3	4.8	1.7	1.3	1.1	0.6	1.8	2.1	0.9	-0.9	1.2	3.0	2.4
	External debt (% of GDP)	18.6	21.1	22.4	23.9	23.8	23.4	19.9	20.1	19.8	20.6	21.2	19.9	19.2$	N/A
	- Short-term external debt (% of GDP)	3.9	4.3	5.3	4.9	4.2	4.0	3.8	3.9	4.0	3.8	3.8	3.8	4.1$	N/A
Adequacy of forex reserves	Months of import cover	9.4	7.6	7.2	7.7	8.7	11.2	11.5	10.4	9.4	11.4	18.0	12.4	9.5^^	N/A
	Reserves / (short-term debt + CAD)	2.7	1.9	1.6	2.5	3.0	3.4	3.6	2.8	2.5	3.6	7.5	3.8	2.4$	N/A
Domestic macro economic health	GDP growth (% y-o-y)	8.5	5.2	5.5	6.4	7.4	8.0	8.3	6.8	6.5	3.9	-5.8	9.1	7.0	6.0
	CPI inflation (% y-o-y)	10.4	8.4	9.9	9.4	5.9	4.9	4.5	3.6	3.4	4.8	6.2	5.5	6.8	5.0
	General govt deficit (% of GDP)	8.6	8.3	7.5	7.0	7.1	7.4	7.4	6.7	6.4^	7.5^	12.8^	10.0^	9.9^	9.0^
	General government gross debt (% of GDP)	66.0	68.3	67.7	67.4	66.8	68.8	68.7	69.5	70.4^	75.1^	89.2^	84.2^	83.5^	83.9^

$As of September 2022, ^^ April-January FY23, ^IMF Article IV, India, December 2022, F = Forecast
Source: NSO, IMF, CRISIL

- India's external liabilities position is improving
  - CAD is projected to narrow to ~2.4% of GDP in fiscal 2024 from an estimated 3.0% this fiscal (3.3% in the first half and 2.7% in second half)
  - External debt as a percentage of GDP declined to 19.2% as of September 2022, from 19.9% as of end-March 2022. Short-term external debt remains low
- While import cover came under some pressure this fiscal, it should improve as imports are expected to soften next fiscal
- While macro indicators such as fiscal deficit and inflation are expected to see some improvement, elevated government debt remains a sore point.

But financing the CAD could remain a challenge

CAD to narrow...



Source: RBI, CRISIL

...but it still needs to be covered

USD Billion	Current account	Capital and financial account	Reserve assets
FY10	-38.4	51.9	13.4
FY11	-46.0	62.0	13.1
FY12	-78.2	67.8	-12.8
FY13	-87.8	89.0	3.8
FY14	-32.3	48.7	15.5
FY15	-26.8	89.2	61.4
FY16	-22.1	41.1	17.9
FY17	-14.4	36.4	21.6
FY18	-48.7	91.3	43.6
FY19	-57.2	54.3	-3.3
FY20	-24.6	83.1	59.5
FY21	24.0	63.6	87.3
FY22	-38.7	85.7	47.5
FY23 H1	-54.5	28.9	-25.8

Note: Reserve assets (+ means accretion/ - means depletion), F = Forecast
Source: RBI, CRISIL

- While CAD is projected to decline, its financing will still remain a monitorable as the external environment turns volatile. For instance, in the first half of this fiscal, net financial and capital flows of $28.9 billion fell well short of the CAD of $54.5 billion, leading to depletion of $25.8 billion of forex reserves
- Tighter monetary policy abroad, especially in the US, points towards weaker FPI inflows. To be sure, global monetary policy – led by the US Fed – started turning tighter last year and is expected to remain so in 2023 as well. Past trends suggest that FPI flows remained buoyant during the US easing cycle (between 2008 and 2016), but became subdued during the tightening cycle (2016-2019)
  - Despite India being a relative outperformer, improving growth prospects and cheaper valuation in some of the other Asian economies, especially China, seem to be diverting some of the FPI equity flows towards those economies
- Higher interest rates abroad and rupee depreciation have also meant lower external commercial borrowing inflows and pressure on non-resident Indian deposits
- That said, net FDI flows into India have remained more stable over the years and are expected to provide some cushion for financing the CAD, especially given policy initiatives such as PLI schemes amid the ongoing supply-chain derisking strategy of global companies/multinationals
- But the overall shortfall in financing the CAD could continue to put pressure on foreign exchange reserves

The next five years

After three tumultuous years, the Indian economy is looking at better growth prospects over the next five years. Structural improvements in the financial system, the ongoing pace of reforms, and policies that support a revival of the private sector pave way for an improved medium-term growth outlook. Technological advancements, and other structural shifts such as emerging trends in global supply-chain de-risking and green transition, hold out greater promise.

Overall, we expect GDP growth to average 6.8% in the next 5 years (fiscals 2024-2028), a tad better than the pre-pandemic five-year average (6.7% during fiscals 2016-2020). We arrive at this through a growth accounting framework that allows for capturing the role of capital, labour, and efficiency. We expect an increased contribution of capital to growth. Productivity growth, too, is likely increase further, as the fruits of reforms give yield. However, the contribution of labour might diminish or remain muted, in the absence of adequate skilling.

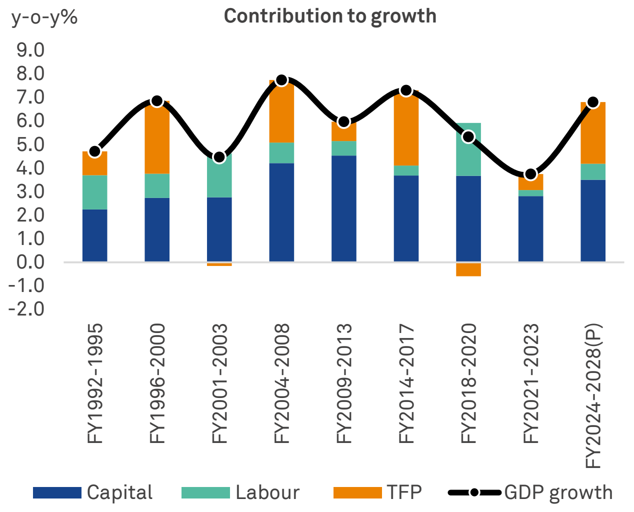
Drivers behind medium-term growth

We use growth accounting framework[9] to dissect GDP into contribution from two main factors of production, i.e., capital and labour. It also allows us to derive productivity gains in the economy. We then estimate these trends for the next five years to arrive at our growth estimates.

Apportioning shares — who contributes how much to growth

- We expect GDP growth to average 6.8% over fiscals 2024 to 2028 in our base case. While growth is expected to be 6.0% in fiscal 2024, it is estimated to rise over time to touch 7.1% by fiscal 2028
- Growth will primarily be driven by capital and productivity, while the contribution of labour is expected to remain the lowest

Capital and productivity, the key pivots of growth in the next five years



Source: NSO, United Nations, CRISIL

With investment revival, capital will become a dominant driver

- Investment prospects look brighter for the Indian economy at present compared with the decade before Covid-19.
- While the Centre is currently leading investment revival, we expect private sector investment to play a bigger role over the next five years. Clean corporate balance sheets, banks' improved capacity to lend, improving capacity utilisation of manufacturing sector, positive spillovers from infrastructure creation, and incentives under PLI schemes have created ripe conditions for private sector to increase investment. We expect private investment to gain momentum once uncertainties subside. CRISIL MI&A Research estimates that between fiscals 2023 to 2027, an additional Rs 111 lakh crore of capex (industrial plus infra) will come by, compared with Rs 66 lakh in the past five years. This is ~1.7 times higher than in the past.
- Foreign investor interest in India has increased with a move towards supply-chain diversification among global multinationals. The world is yet again reckoning with a shift in investments out of China, given the rising costs of production, policy uncertainty, and tensions with the US. In the fragmented geopolitical milieu, India has a favourable positioning at present. The fact that India has one of the largest domestic markets, which is poised to grow faster than most emerging market peers, adds to its attractiveness as an investment destination.
- Green investments are an opportunity to establish India as a production destination. Countries across the world are positioning themselves as manufacturing hubs for climate-friendly technologies. India has also moved ahead with investments in green hydrogen – a critical input towards 'greening' of existing manufacturing processes. If implemented

[9] For further details on the methodology, refer to the box A primer on growth accounting in annexure

well, it could add to the investment growth of the Indian economy, and cater to growing external demand of this commodity. CRISIL MI&A Research estimates that between fiscals 2023 and 2027, 10-15% of total capex will be towards green initiatives.

Digitalisation, efficiency-enhancing reforms to raise overall productivity

- The economy is expected to continue seeing efficiency gains from reforms, such as GST and Insolvency and Bankruptcy Code (IBC). Improved compliance led by streamlining of GST contributed to increase in tax buoyancy of GST. Standardisation and rationalisation of taxes could further aid the ease of doing business in the country. Adequate implementation of IBC could further sustain healthy credit culture in the economy
- The government's infrastructure push will lead to improved physical connectivity and lower logistics cost for industries
- The robust digital infrastructure developed over the past decade has already set the stage for efficiency gains. In particular, the development of Aadhaar, India Stack and payments infrastructure creates conditions for further improvement in efficiency of government's welfare policies through direct-benefit transfer programme. It has also aided growth of new private sector companies and startups in the financial sector

Labour's love's lost

- India's working age group (15-64 years) is set to expand by 100 million over the next decade, despite the declining trend in birth rates. In the global context, a whopping 22.5% of the incremental global workforce over the next decade will come from India.
- However, the quality of manpower and skills have not kept up with demand from employers. According to PLFS survey (2021-22), 80% of population in 15-59 age bracket have not received any vocational training.
- PLFS surveys also show that participation of women in the labour force in India remains low. This will have to be reversed by introducing women-friendly employment policies and investing in the health and education of women. According to a World Bank report in 2018, India could add 1.5 percentage points to its GDP growth and increase it to 9%, if ~50% of women could join the labour force

So what could bring greater gains?

- Push fundamental reforms: India continues to lag on land and labour reforms, which have discouraged the private sector from setting up large manufacturing units and employ in big numbers. Proper documentation of land records and simplification of labour laws are some of the measures that can go a long way in improving the business environment in India
- Ease procedures: Further steps need to be taken to create a more business-friendly environment, such as better contract enforcement
- Accelerate human capital growth: There needs to be a focus on improving education and skill sets of workers, especially at lower-income segments, to increase labour productivity

Risks to our forecasts

Global risks

Global slowdown: Risks to global outlook are tilted downwards. As India's growth cycles have got synchronised with those of advanced countries, a sharper-than-expected slowdown/recession resulting from aggressive policy stance of systemically important central banks can create a downside to our growth outlook of 6% for fiscal 2024.

High global debt: High global leverage in a scenario of rising interest rates and slowing growth creates conditions for financial stress. According to S&P Global[10], the world debt/GDP ratio for the total of government, household, financial institution, and non-financial corporate sectors was 349% at June 2022, more than one-fourth higher than the 278% in June 2007.

Geopolitics: A further spike in geopolitical tensions, which already remain elevated, can lead to flare ups in global crude and commodity prices and create fiscal stress and downside to India's growth.

Climate risks

Climate change has begun to play out in the form of rising global temperatures, frequent and more intense weather events such as droughts, cyclones, heat waves and flooding. In addition to the risk to human lives and damage to property, these developments have implications for food security as the immediate impact of climate change is on food production and its prices.

For India, climate change is particularly worrying for following two reasons.

- First, the Intergovernmental Panel on Climate Change (IPCC) 2022 report identifies India as highly vulnerable to climate change
- Second, agriculture (which faces immediate threat from climate change) is a significant part of the economy in terms of its share of GDP and livelihood provision

Last year was a grim reminder of the implications of extreme whether events on agriculture.

Last year, India experienced the hottest March since 1901, hitting wheat production and driving up their prices which continue to be high even a year after the event. Another heat wave threatens wheat production this year.

El Niño and monsoons

After four consecutive monsoons, chances of another normal monsoon in 2023 are low, statistically speaking[11]. Additionally, we need to see how predictions of El Niño this year pan out. According to Skymet, ~80%, of El Niño years end with subnormal monsoons. The last time India had one was in 2015.

El Niño and its impact on rainfall activity in India

El Niño is an ocean-atmospheric phenomenon which signifies unusual warming of sea surface waters in eastern and central equatorial Pacific and generally has an adverse effect on the Indian monsoon. According to various weather agencies around the world, including the India Meteorological Department (IMD), conditions are becoming ripe for La Nina (the opposite of El Niño which has been prevalent since the last two years and contributed to above-average monsoons) to give way to El Niño this year. A clearer picture on the onset and intensity of El Niño will emerge by April when the IMD releases the first long term forecast of the southwest monsoon.

How has El Niño impacted monsoons in the past?

Various monsoon and drought-related studies have found El Niño to be invariably associated with poor monsoon performance. For ~70% of the times the country has received below normal rainfall in the El Niño years. The last major El Niño event was in 2015 and monsoon rainfall was 13% below its long period average.

To be sure, the impact of El Niño conditions on monsoons has been unpredictable as well. For instance, despite one of the strongest El Niño years, 1997 saw above normal rainfall, while a weak El Niño year of 2002 saw severe drought.

It is noteworthy that India receives ~75% of its annual rainfall during the southwest monsoons, which is crucial for about 50% of the country's unirrigated cultivated area and for filling up the water reservoirs.

[10] 'How heavy is the world's debt burden', S&P Global Ratings, November 2022

[11] Since 1901, there have been only seven instances when southwest monsoon has been normal/above normal (i.e. above -4% of long period average, or LPA) for four or more consecutive years

How far from the $5 trillion goal?

With the fiscal year coming to an end, all eyes are again on the size of the Indian economy and how far it is from the target of $5 trillion target.

Multiple shocks have hit the economy since fiscal 2020, when the $5 trillion target for the size of the economy was set, from slowing domestic growth momentum, to the pandemic, geopolitical crises, and a global slowdown.

With the pandemic leading to an economic contraction of 5.8% in fiscal 2021, that target has been pushed back.

Indeed, as we saw earlier, the economy is nominal terms has caught up faster than in real terms, aided by high inflation, it has lagged in real terms.

What does this mean for the $5 trillion GDP target?

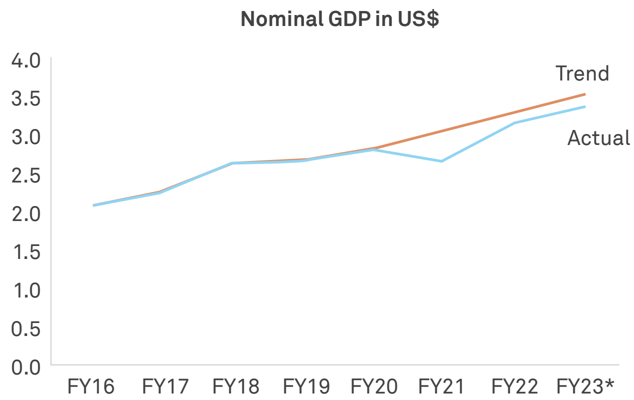
Had the pandemic shock not hit — and we had continued on the pre-Covid decadal trend path — the Indian economy would have closed this fiscal at $3.5 trillion.

This assumes that GDP in nominal rupee terms grew at the same pace on average over fiscals 2021 to 2023 as it did in the pre-Covid-19 period, and that the value of rupee against the US dollar also weakened at the pre-pandemic rate.

Interestingly, the economy will close this fiscal not much lower at $3.4 trillion (see figure below). We saw earlier how nominal GDP in rupee terms is 3.4% below the pre-Covid decadal trend. But in dollar terms, the gap from the trend has somewhat closed driven by rupee depreciation. Between fiscals 2021 and 2023, the rupee depreciated on average by 4.1%, which is somewhat lower than the 4.3% depreciation recorded in the pre-Covid decade.

The pandemic years, therefore, did not materially slow the economy from its $5 trillion target path as high inflation resulted in a high nominal GDP growth.

High inflation put the economy back on the $5 trillion path



Comparing the pre- and post-Covid track

Y-o-y average (%)	Pre-Covid period (FY11-FY20)	FY21-FY23
Nominal GDP	12.2	11.0*
Real GDP	6.6	3.4*
Rs/US$	4.3	4.3**
GDP deflator	4.7	7.2*
Consumer price Index (CPI)	6.5	6.1#
Wholesale price Index (WPI)	3.9	8.4#

*Second advance estimates, **April to February FY23, #April to January FY23
Source: NSO, RBI, CEIC, CRISIL

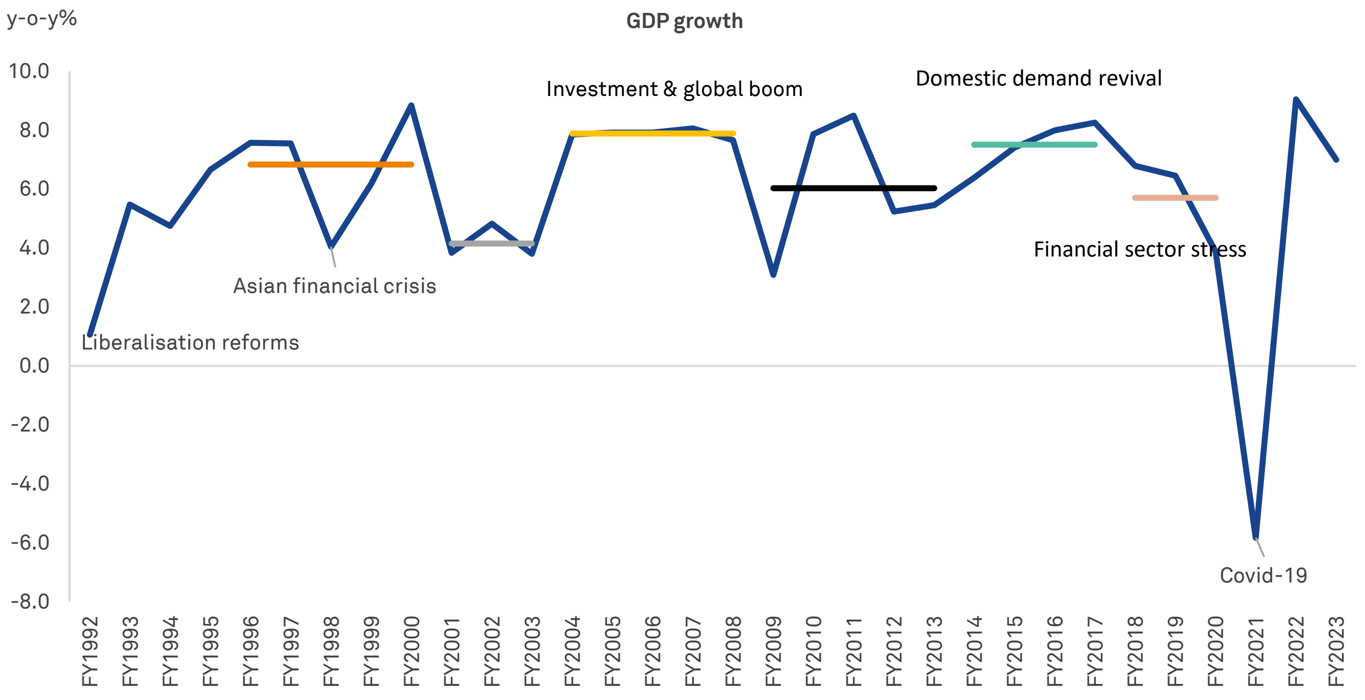
The real GDP growth is projected to slow to 6% next fiscal, before touching 7.1% in the medium term, while inflation is also expected to come down.

We look at a few different growth scenarios with varying depreciation rates for the rupee versus the US dollar, and what it could do to the $5 trillion target.

In our base case, assuming nominal GDP growth at about 11% on average, the target could be met by fiscal 2029 if the rupee follows its decadal depreciation rate. If the rupee depreciates at slower pace of 2%, the target could be met by fiscal 2028.

To reach that milestone faster, focus must be on pushing up the real growth rate over the next few years. A decisive and sustained lift in investment cycle would be critical for that. Lifting the productive capacity of the economy through sustained spending on infrastructure, removing supply side bottlenecks and facilitating a private-capex revival by improving ease of doing business would result in a more durable, non-inflationary growth path.

India's growth trends since liberalisation and how key events shaped them



Source: NSO, CEIC, CRISIL

A primer on growth accounting

In a basic sense, an economy's GDP — or output from production — depends on the resources available. Broadly, these are capital and labour. The third crucial element is productivity, or the efficiency with which capital and labour are combined. Higher productivity can lead to faster GDP growth, all else being equal.

This concept was quantified into a growth theory by Robert Solow, an American economist awarded the 1987 Nobel Prize for Economic Sciences for his important contributions to the theories of economic growth in his seminal paper of 1957 . Through a mathematical equation, he was able to break down GDP growth into contribution from capital, labour and a 'residual', which captures the overall productivity growth in the economy.

This concept is called 'growth accounting', through which we can explain growth dynamics and derive an economy's productivity growth.

In growth accounting, GDP is taken as the output from a 'production function', which is a combination of the factors of production (i.e., capital, labour) and total factor productivity (TFP), i.e., the overall efficiency with which the factors are combined:

$Y_t=A_t*F(K_t,L_t)$

where Y_t is output at time t, K_t is capital stock, L_t is labour, and A_t is TFP growth.

F(K,L) is the mathematical form, in which K and L are combined. The most widely used and intuitive form is the Cobb-Douglas production function:

$Y_t=A_t K_t^{\alpha} L_t^{1-\alpha}$

Where α is the elasticity of output with respect to capital. Simply put, it is the share of capital in total income generated in the economy. Correspondingly, (1-α) is the share of labour in total income.
This equation helps us derive the following relationship, which forms the basis of growth accounting:

$$G_Y=G_A+\alpha G_K+(1-\alpha)G_L$$

This implies that output growth (i.e., GDP growth) is the sum of TFP (i.e., overall productivity) growth, and weighted average of capital and labour growth. The weight is determined by α.

Given the data on GDP, capital and employment, we can deduce an economy's productivity growth using the above equation.

Growth accounting has evolved over time and a wide range of methodologies and mathematical equations have been developed to capture growth dynamics better. For instance, the L component is adjusted for 'quality of labour' by incorporating the education level of workers. In other cases, factors such as natural resources are also added in the production function.

Corporate revenue growth resilient despite headwinds

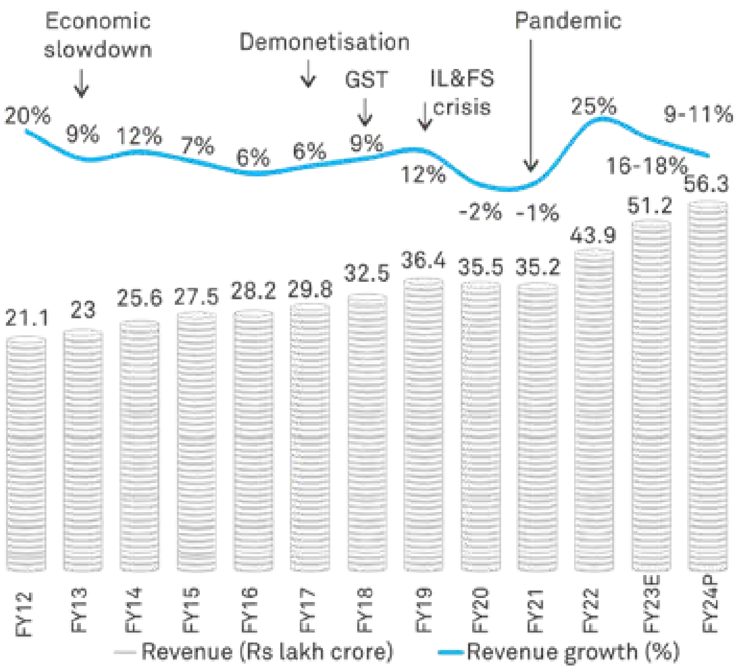
Corporate revenue is expected to grow in double digits next fiscal despite a global slowdown and interest rate hikes. It will be aided by a 10-12% on-year rise in non-commodity sectors, even as commodity prices remain benign.

The resilient performance will follow a 16-18% on-year growth in fiscal 2023, also led by the non-commodity segment, and a whopping 25% rise last fiscal, riding on a commodity super cycle. Indeed, the non-commodity segment is seen rising 18-20% on-year in fiscal 2023, even as the commodity segment records an anaemic 5-7% growth on a high base of fiscal 2022.

The share of commodities in overall revenue reached a decadal high of 21% last fiscal on account of the commodity super cycle, compared with ~17% on average between fiscals 2018 and 2021. That share, however, is seen trending back towards the pre-pandemic average next fiscal.

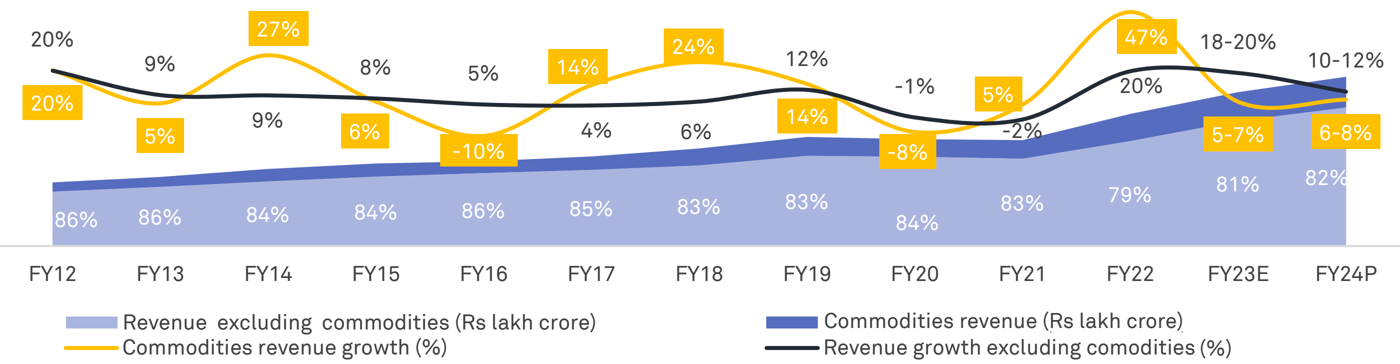
CRISIL MI&A Research's study of 748 listed companies (excluding those in the oil and gas, and banking, financial services and insurance, or BFSI, sectors) from fiscal 2011 onwards indicates as much.

Trend and projection of corporate revenue growth in India



Note: Figures of the 748 listed corporates exclude oil & gas, and BFSI. Numbers of ~385 companies estimated at the consolidated level and ~363 companies at the standalone level.
P — projected; E — estimated
Source: Company reports, Industry, CRISIL MI&A Research

As commodity prices cool, the share of commodities in revenue is heading back to pre-pandemic levels

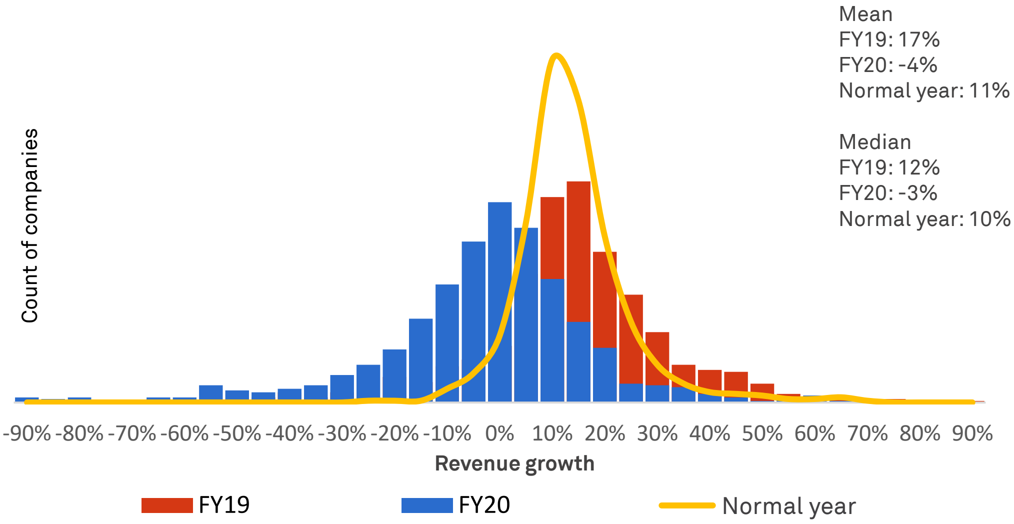


Note: Figures of the 748 listed corporates exclude oil & gas, and BFSI. Numbers of ~385 companies estimated at the consolidated level and ~363 companies at the standalone level. P — projected; E — estimated
Source: Company reports, Industry, CRISIL MI&A Research

Slowing economy and pandemic push industry revenue growth dispersion to the left of decadal average

In the following charts, we have plotted revenue growth dispersion for the same set of listed companies for specific years as well as the decadal average. The x-axis denotes on-year revenue growth segregated into 5% buckets, while the y-axis denotes the count of companies falling in those revenue growth buckets. The yellow curve shows the decadal distribution of average revenue growth across the sample set of companies, which turns out in the shape of a normal distribution curve.

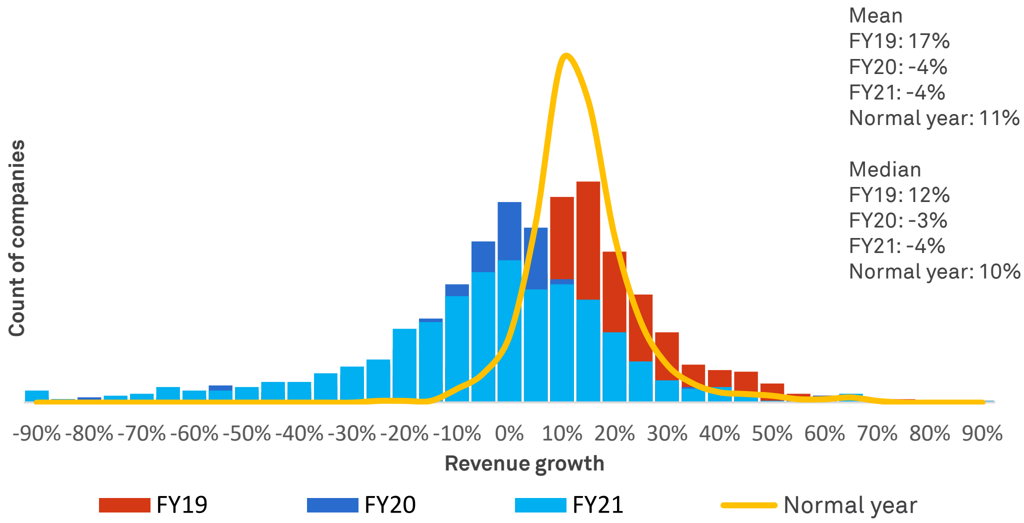
Revenue growth dispersion for fiscals 2019 and 2020



- In fiscal 2019, a year of healthy economic growth, median revenue growth was recorded at 12%, with revenue growth distribution in line with a normal distribution curve
- In fiscal 2020, a year of slowing economic growth amid the NBFC crisis, the distribution moved towards the left of the decadal average, recording a median revenue growth of -3%

Note: Figures of the 748 listed corporates exclude oil & gas, and BFSI. Numbers of ~385 companies estimated at the consolidated level and ~363 companies at the standalone level.
Source: Company reports, Industry, CRISIL MI&A Research

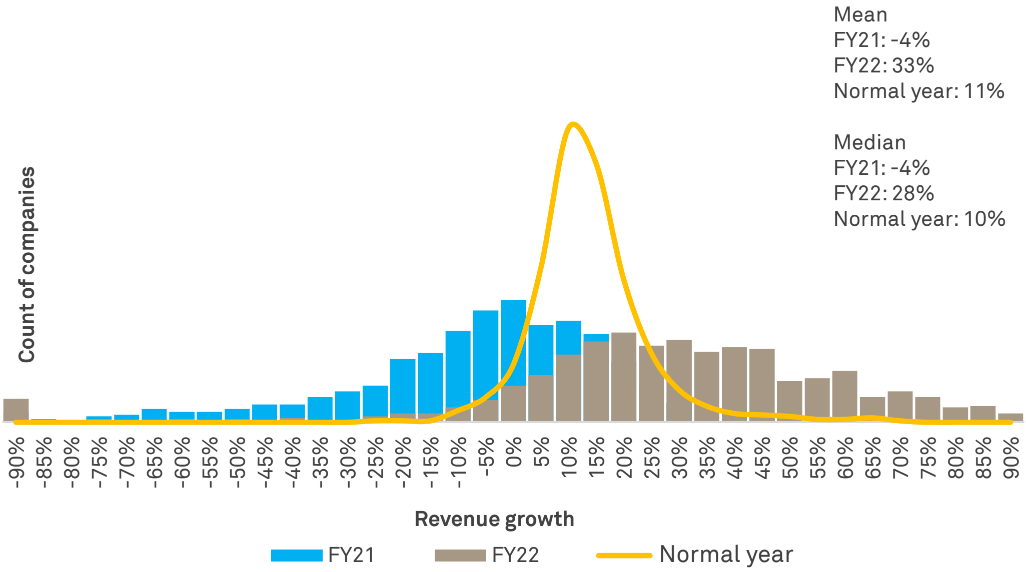
Revenue growth dispersion over fiscals 2019, 2020, and 2021



- In fiscal 2021, which was hit hard by the Covid-19 pandemic, the dispersion of revenue growth shifted further to the left, with the tail on the left fattening further, signifying higher prevalence of companies recording a decline in revenue

Note: Figures of the 748 listed corporates exclude oil & gas, and BFSI. Numbers of ~385 companies estimated at the consolidated level and ~363 companies at the standalone level.
Source: Company reports, Industry, CRISIL MI&A Research

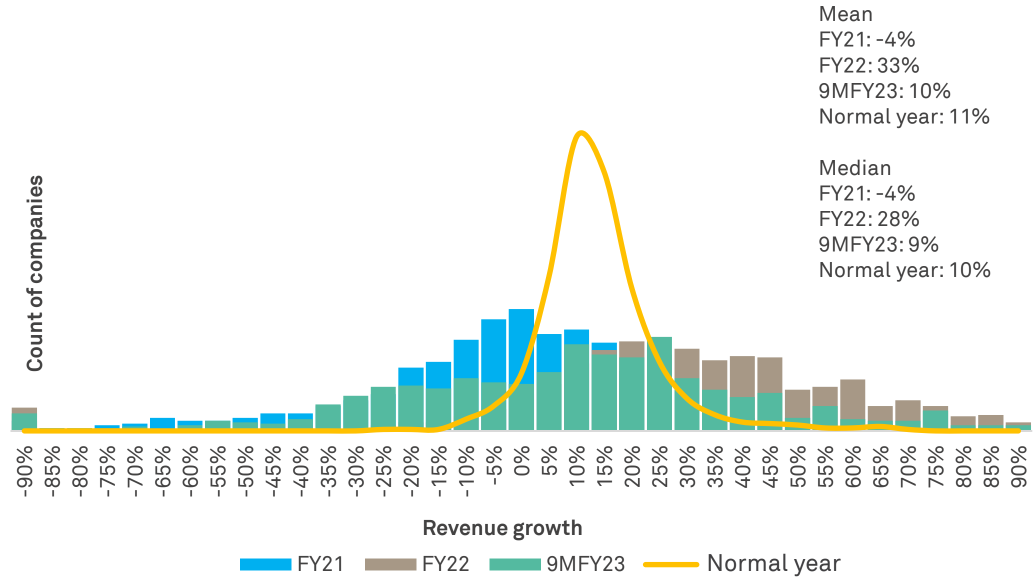
Revenue growth dispersion over fiscals 2021 and 2022



- In fiscal 2022, on a low base of the pandemic-hit fiscal 2021, the distribution of revenue growth of companies moved to the right of the decadal average distribution curve, with a median growth of 28%, and a fat tail now observed to the right of the decadal average curve, signifying considerable outperformance compared with the decadal median

Note: Figures of the 748 listed corporates exclude oil & gas, and BFSI. Numbers of ~385 companies estimated at the consolidated level and ~363 companies at the standalone level.
Source: Company reports, Industry, CRISIL MI&A Research

Revenue growth dispersion over fiscals 2021 and 2022 and first nine months of fiscal 2023



- Adding the dispersion of revenue for the first nine months of fiscal 2023 to the previous chart, the median revenue growth was recorded at 9%, with a wider spread of distribution signifying a return to normalcy, although not fully, for revenue growth across the sample and movement towards the long period average normal distribution curve
- In fiscal 2024, CRISIL MI&A Research expects revenue growth to trend back to the normal decadal average, given normalising of base revenue growth and a regular commodity cycle

Note: Figures of the 748 listed corporates exclude oil & gas, and BFSI. Numbers of ~385 companies estimated at the consolidated level and ~363 companies at the standalone level.
Source: Company reports, Industry, CRISIL MI&A Research

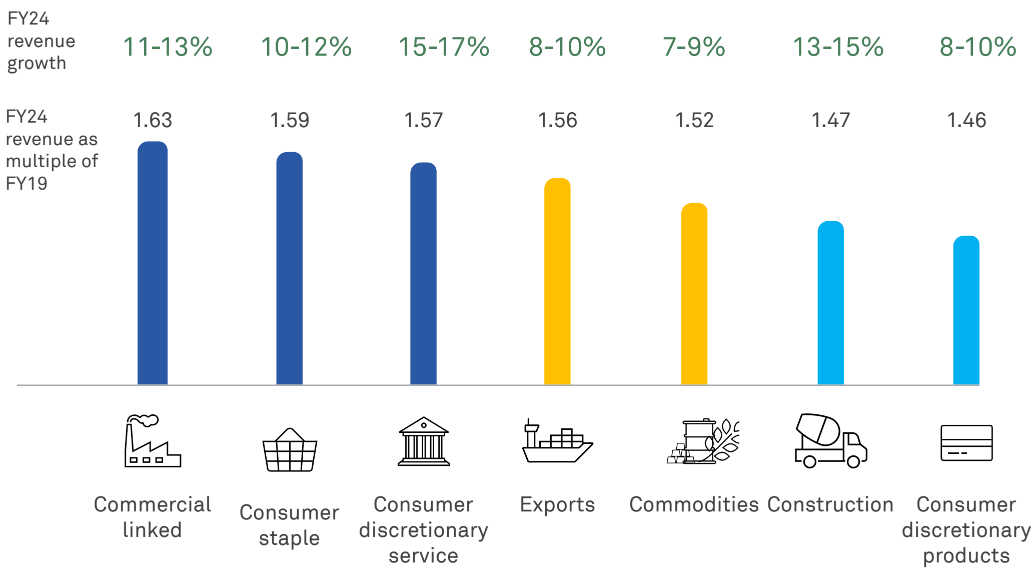
Uneven recovery seen across key verticals of India Inc

Note: Figures of the 748 listed corporates exclude oil & gas, and BFSI. Numbers of ~385 companies estimated at the consolidated level and ~363 companies at the standalone level. Dark blue colour indicates better than industry performance, amber represents near industry average performance, and light blue indicates less than industry performance. Industry performance is multiplier of overall industry revenue in FY22 over FY19
Source: Company reports, Industry, CRISIL MI&A Research

- In fiscal 2022, the pace of recovery from the pandemic varied, with growth led by the commodities and consumer staple verticals, which printed 35% and 30% higher, respectively, compared with the pre-pandemic, fiscal 2019 level
- The rise in commodity revenue was due to the commodity upcycle. Revenue of consumer staple sectors was driven by inelastic demand during the pandemic
- Discretionary products were the slowest to recover, whereas consumer staples did well during the pandemic

How revenue growth is likely to pan out across sectors in fiscal 2024

Consumer discretionary services, construction, and commercial-linked sectors to drive revenue



- Consumer discretionary services have recorded a healthy recovery from the pandemic, led by pent-up demand, and will be a major growth driver in fiscal 2024
- In close pursuit will be commercial-linked sectors, driven by healthy demand from manufacturing and other economic activities, and the construction sector, driven by the 28% rise in capex outlay by the central government for fiscal 2024

Note: Figures of the 748 listed corporates exclude oil & gas, and BFSI. Numbers of ~385 companies estimated at the consolidated level and ~363 companies at the standalone level. Dark blue colour indicates better than industry performance, amber represents near industry average performance, and light blue indicates less than industry performance. Industry performance is multiplier of overall industry revenue in FY24 over FY19
Source: Company reports, Industry, CRISIL MI&A Research

About two-thirds of India Inc's sectoral revenue in fiscal 2024 is expected to be more than 50% above the fiscal 2019 level, signifying a healthy recovery from the pandemic. In comparison, in fiscal 2023, only about 41% of sectoral revenue would be more than 50% above the fiscal 2019 mark.

Sectors at the forefront of recovery from the pandemic

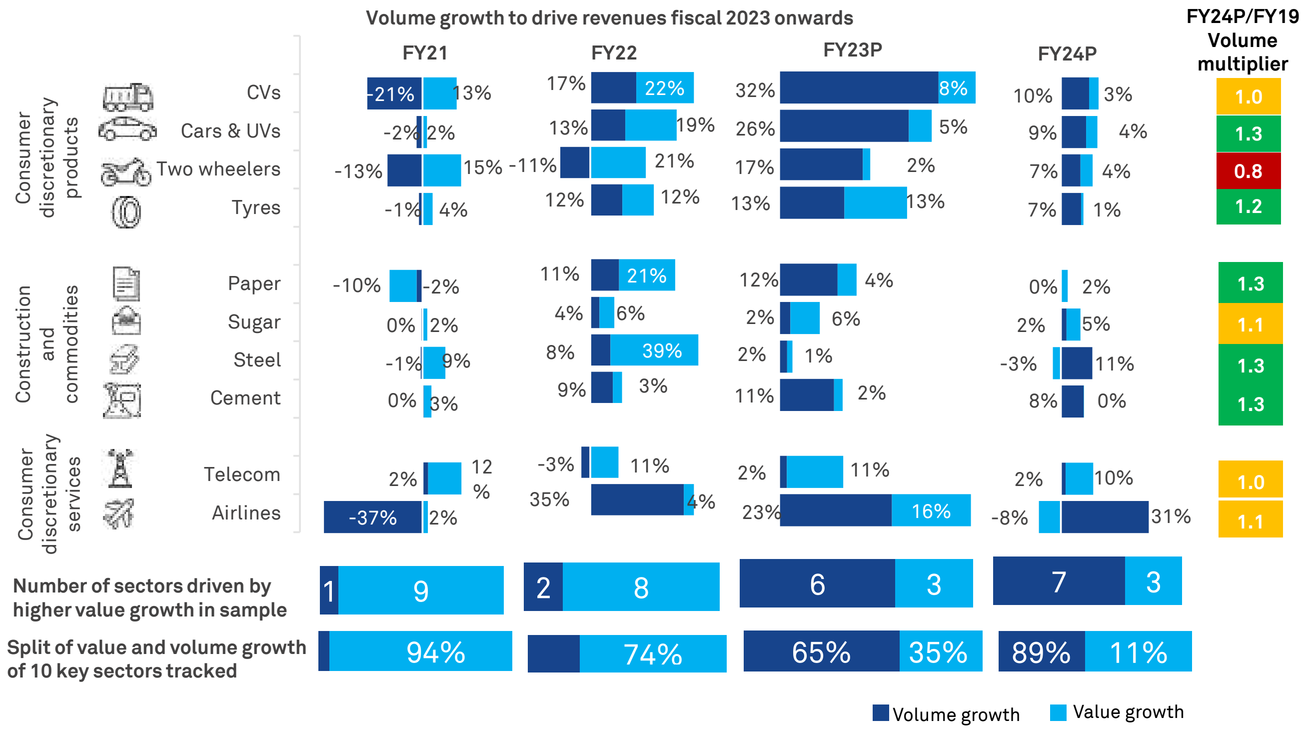
	Greater than 150% increase in revenue over fiscal 2019 levels	Between 115-150% increase in revenue over fiscal 2019 levels	Less than 115% increase in revenue over fiscal 2019 levels
Fiscal 2023	Pesticides (exports) (2.05x)	Tyres (1.48x)	Home textiles (1.06x)
	Power - Generation (1.76x)	Hospitals (1.48x)	RMG domestic (1.04x)
	Gems and jewellery (1.73x)	Pesticides (1.46x)	Petrochemicals (1.03x)
	Cars and UVs (1.7x)	Pharmaceuticals (1.44x)	RMG exports (1x)
	Non-ferrous metals (1.63x)	Tractors (1.41x)	Cotton yarn exports (0.77x)
Fiscal 2024	Pesticides (exports) (2.35x)	Tractors (1.52x)	Petrochemicals (1.12x)
	Power - Distribution (2.09x)	Commercial vehicles (1.49x)	Gems and jewellery (1.11x)
	Power - Generation (1.93x)	Cement (1.48x)	Power equipment (1.1x)
	Gems and jewellery (1.82x)	Packaging (1.47x)	RMG exports (1x)
	Cars and UVs (1.81x)	Consumer durables (1.44x)	Cotton yarn exports (0.66x)

Commercial-linked | Consumer staple | Consumer discretionary services | Exports | Commodities | Construction | Consumer discretionary products

Note: Numbers in brackets represent industry revenue of the fiscal on LHS as multiple of FY19
Source: Company reports, Industry, CRISIL MI&A Research

Value and volume contribution to growth in key sectors

CRISIL MI&A Research has looked at how 10 key sectors have performed over fiscals 2021 and 2022 and are likely to perform over fiscals 2023 and 2024 by analysing the volume and value contributions in growth over each of the fiscals. The findings suggest a shift is underway.



Note: The analysis has been done on ~119 companies, divided into sectors that accounted for 24% of the sample from fiscal 2012 onwards
P — projected; E — estimated
Source: Company reports, CRISIL MI&A Research

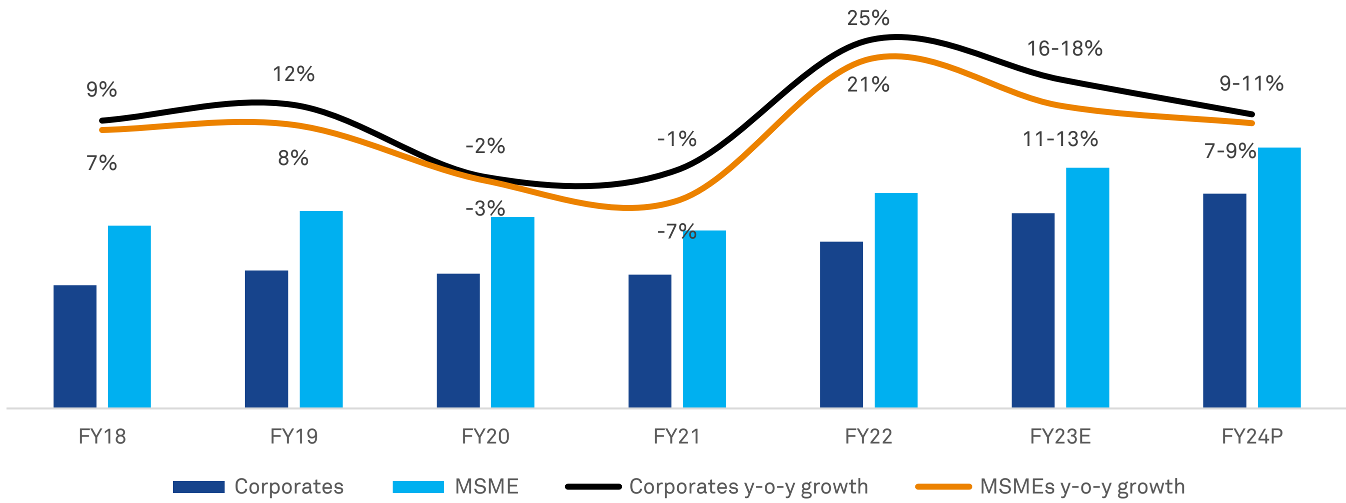
In fiscal 2021, nine out of 10 sectors were driven by value growth, with value accounting for 94% of the incremental revenue, amid the pandemic-induced lockdown crimping volume across sectors and the commodity upcycle pushing up prices.

The domination of value-led growth continued in fiscal 2022, with eight of the 10 sectors driven by value, accounting for 74% of the incremental revenue.

In fiscal 2023, however, a cooling of the commodity cycle, coupled with pent-up demand, has led to a switch in fortunes, with six of the 10 sectors driven by volume expansion than value expansion. Indeed, value has accounted for only ~35% of the incremental revenue.

In fiscal 2024, volume growth is projected to drive seven of the 10 sectors, with value accounting for 11% and volume growth the balance. Indeed, barring two-wheelers, all 10 of these sectors would be at or above pre-Covid volumes.

Non-MSME sector to continue outperformance in fiscal 2024



Note: Corporates represents a sample of 748 companies and ~26,000+ MSMEs have been considered for the analysis. E — estimated, P — projected
Source: Company reports, CRISIL MI&A Research

In fiscal 2021, when corporate revenue declined 1%, MSMEs witnessed a steeper decline of 6-8%.

In fiscal 2022, while corporate India grew 25% on-year, MSMEs recovered at a slower pace of 21%. MSME revenue finally surpassed the pre-Covid level in fiscal 2022, thanks to healthy exports, higher commodity prices, and increased healthcare demand due to the pandemic.

Slower growth for SMEs in fiscals 2021 and 2022 than corporates led SMEs to lose market share to their larger counterparts. They were affected more by supply chain and structural issues during the pandemic.

In fiscals 2023 and 2024, however, industry growth is expected to moderate to 11-13% and 7-9%, respectively. MSME growth in fiscals 2023 and 2024 is expected to be lower than that of corporates, leading to a further loss in market share of SMEs.

MSME sectors worth Rs 13 lakh crore, or over a quarter of industry, posted maximum market share loss due to pandemic

Loss in SME market share between FY20 and FY22 / Share of SME in the industry in FY22	<40%	40-60%	>60%
>3%	Pesticides, refractories, chemicals, packaged foods	Construction – Irrigation Construction – Roads, ceramics, tea	Edible oil, hospitals, cashew processing, gems and jewellery, media - movies and entertainment, plywood and laminates, wood and wood products, seafood, poultry
1-3%	Maize processing, electronics, media – advertising, travel agents and tour operators, air freight and courier services, bicycles		Plastics and plastic products, coaching classes, steel re-rollers, milk and dairy products, readymade garments, cotton spinning, leather, coir and coir products, printing and packaging, textile furnishing
<1%	Pharmaceuticals – Bulk drugs Pharmaceuticals – Formulation, sugar, IT-enabled services, heavy engineering, glass, electrical equipment, auto components, light engineering, plastic pipes and fitting	Security services, bio-technology, ERW steel pipes, dyes and pigments	Medical equipment, rice milling, wheat milling, dal milling, transport operators, brass, industrial paper, ship breaking, farm equipment
(0-5)%			Tobacco processors, pig iron

Structural | Supply chain

Note: Colour coding for sectors which have SME share loss of more than 3% between FY20 and FY22

- Supply chain issues and structural changes led to SMEs losing higher market share
- For instance, SME hospitals lost market share as they did not have permission for Covid treatment during the major part of the first wave
- People's focus on hygiene led to market share loss for sectors such as packaged foods
- Pig iron and tobacco processors gained market share. In pig iron, only SME players could capitalise on revival in infrastructure demand as the output of large-size plants typically goes towards captive consumption of steel plants
- Sectors that were dependent on import of raw materials, such as pesticides, saw a sharper loss in market share in the case of SMEs, as their larger counterparts were able to tackle the supply chain volatility better

Rise in urban incomes to drive consumption of premium products

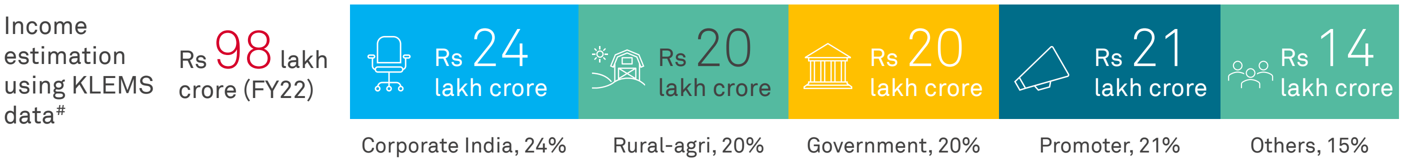
Healthy growth in corporate and public sector salaries will lift urban incomes in fiscal 2024, while growth in rural incomes will be subdued.

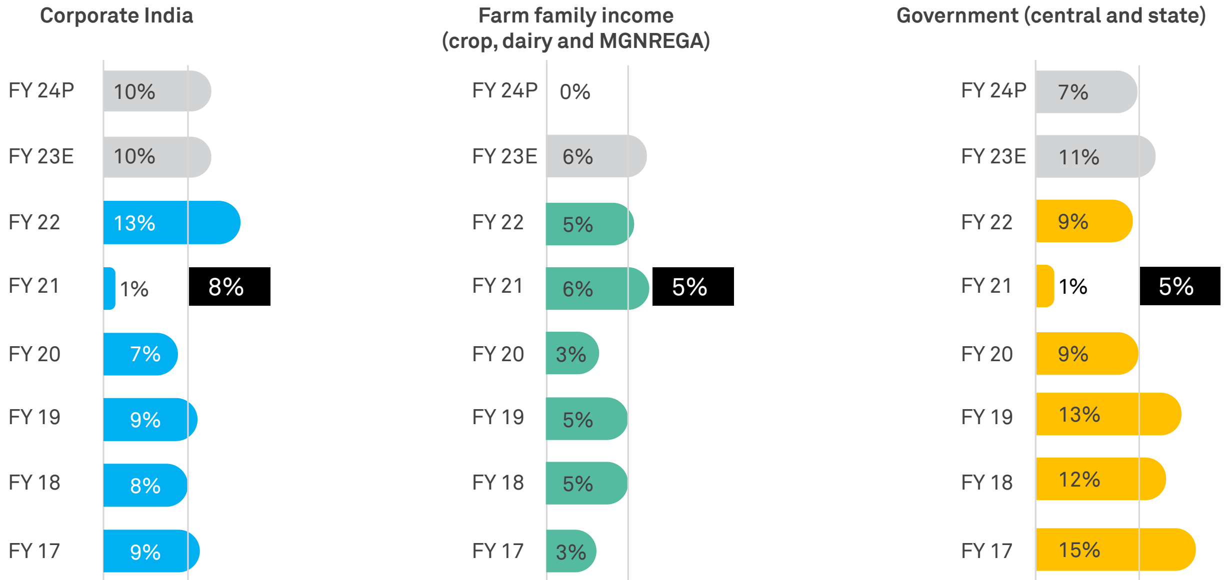
Salaries in the corporate sector appear set for a double-digit hike for the third consecutive year, aided by healthy revenue growth and margins surpassing the decadal average. The Great Resignation, or Big Quit, amid the Covid-19 pandemic led to corporates handing out higher-than-average increments to retain employees in fiscals 2022 and 2023.

Government salaries, too, are expected to rise 7% in fiscal 2024, following an 11% increase in fiscal 2023.

Farm family incomes (CRISIL tracks 50-55% of farm family income from cultivation, dairy and MGNREGA, with the rest coming from wages, remittances and others) are, however, expected to remain stagnant due to lower farm-commodity prices and an expected 33% decline in MGNREGA allocations.

In fiscal 2023, healthy commodity prices have aided a 6% rise in rural incomes. However, the pressure on rural consumption is expected to continue as flat wages and high inflation (seen at 6% in fiscal 2024) crimp spending power.





P — projected; E — estimated

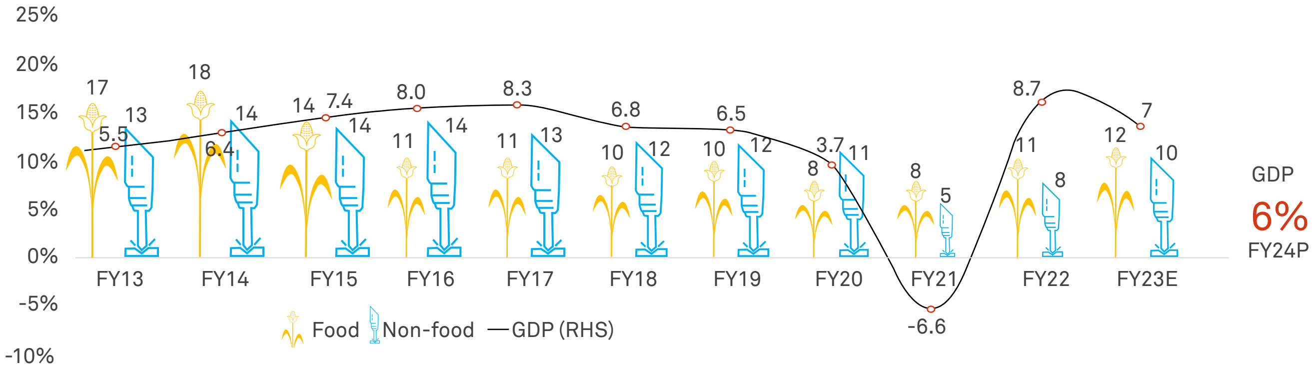
Note: Top 748 companies are used to estimate pay-out trends for FY23 by using actuals for 9 months of FY23; government data represents numbers of central government, defence and 25 state governments, including pension pay-outs; #refers to KLEMS report 2019-20; income growth has been determined through a bottom-up approach by combining staff expenses of 748 corporate firms for corporate India, different Farm family income indicated above, captures 50-55% of the income of a farm family coming from cultivation of crops, dairy and MGNREGA. The rest of the income is from wages, remittances to name a few. and salaries and pensions of central government, state government, defence employees , railway and postal employees considered for determining government income.

Source: KLEMS database, RBI; NAFIS survey 2016-17, NABARD; pay and allowances report 2019-20; state documents from Comptroller and Auditor General of India; Union Budget documents 2022-33; industry, CRISIL MI&A Research

Growth of non-food consumption to surpass that of food in second half of fiscal 2024

During an economic slowdown or moderation, consumers become cautious and prioritise expenditure on essentials over discretionary goods. This is borne out by our analysis, which shows consumption of food items has been resilient during economic slowdowns.

Food consumption has been largely steady during periods of slowdown



The three-year rolling CAGR of private final consumption expenditure (PFCE) on the food and non-food segments has been plotted against GDP growth in the chart above.

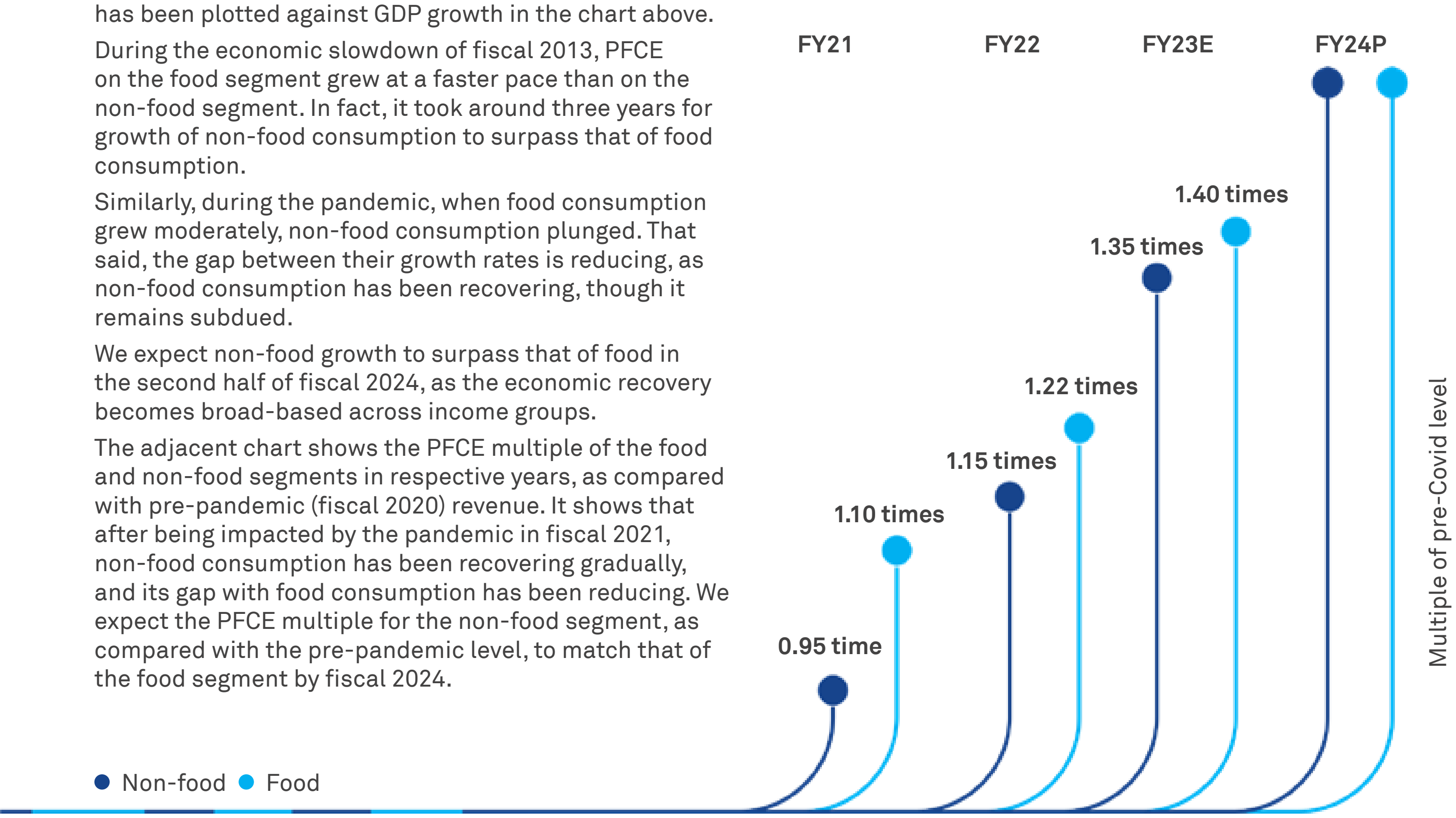
During the economic slowdown of fiscal 2013, PFCE on the food segment grew at a faster pace than on the non-food segment. In fact, it took around three years for growth of non-food consumption to surpass that of food consumption.

Similarly, during the pandemic, when food consumption grew moderately, non-food consumption plunged. That said, the gap between their growth rates is reducing, as non-food consumption has been recovering, though it remains subdued.

We expect non-food growth to surpass that of food in the second half of fiscal 2024, as the economic recovery becomes broad-based across income groups.

The adjacent chart shows the PFCE multiple of the food and non-food segments in respective years, as compared with pre-pandemic (fiscal 2020) revenue. It shows that after being impacted by the pandemic in fiscal 2021, non-food consumption has been recovering gradually, and its gap with food consumption has been reducing. We expect the PFCE multiple for the non-food segment, as compared with the pre-pandemic level, to match that of the food segment by fiscal 2024.

Non-food consumption recovering, set to be on par with food consumption in fiscal 2024



Note:
1) Data in the top chart is 3-year rolling CAGR of PFCE on the food and non-food segments
2) * On-year growth
3) Data in the bottom chart is the level of pre-pandemic (fiscal 2020) revenue for the food and non-food segments. Bars in sky blue represent the food segment and in blue represent the non-food segment
4) P — projected; E— estimated
Source: Company reports, industry, CRISIL MI&A Research

Premium products to continue outperformance across sectors in fiscal 2024

While discretionary products have faced more pressure than staples such as food, premium products have outperformed across categories in the discretionary products segment. This underlines the lopsided recovery of the Indian economy.

Low-income groups were impacted by pandemic-induced lockdowns and the resultant hit on incomes, followed by a sustained inflationary wave. Meanwhile, high-income groups recorded resilient incomes and savings during fiscals 2021 and 2022, when the lockdowns put a break on travel and spending on social occasions.

The uneven recovery is visible across consumption sectors, including consumer discretionary products (such as automobiles and two-wheelers), consumer durables, and consumer discretionary services (such as hotels and airlines).

Cars and UVs	FY20-22	FY23	FY24P
Above Rs 10 lakh	146%	97%	High
Below Rs 10 lakh	-9%	30%	Moderate

Higher waiting period for premium vehicles compared with lower-priced ones

Two-wheelers	FY20-22	FY23	FY24P
Above Rs 90,000	-12%	44%	Moderate
Below Rs 90,000	-24%	16%	Moderate

Increasing model launches in >Rs 90,000 segment; rising EV penetration with EVs concentrated in >Rs 90,000 segment

Chart represents sales volumes of PVs and 2Ws; FY22 growth is over FY20 and FY23 growth is for 9M
Source: SIAM, CRISIL MI&A Research

High Moderate

	Air conditioners	Small household appliances	Premium food	Regular food
FY20-22	14%	14%	20%	-1%
FY23	36%	11%	16%	21%
FY24P	Moderate	Moderate	Moderate	Moderate
	Shift from window ACs to split/inverter ACs driving premiumisation	High penetration as well as increase in prices of fans due to BEE rating revision to keep growth moderate	Higher consumption in the urban market, which has high price elasticity. Companies in RTE/RTC and instant food driving growth	Higher consumption in price sensitive rural markets; low pack sizes to drive sales

Chart represents revenue growth of a sample set of companies; FY22 growth is over FY20 and FY23 growth is for 9M
Source: Company reports, CRISIL MI&A Research

Moderate

5-star hotels	FY20-22	FY23	FY24P
RevPAR	-29%	134%	High
Occupancy	-51%	72%	Flat

Airlines	FY20-22	FY23	FY24P
Passenger traffic	-42%	73%	High
Blended fare	8%	29%	Decline

Chart represents revenue growth of a sample set of companies; FY22 growth is over FY20 and FY23 is for 9M
Source: Company reports, AAI, CRISIL MI&A Research

High Flat Decline

India's exports to grow 2-4% in fiscal 2024 despite global slowdown

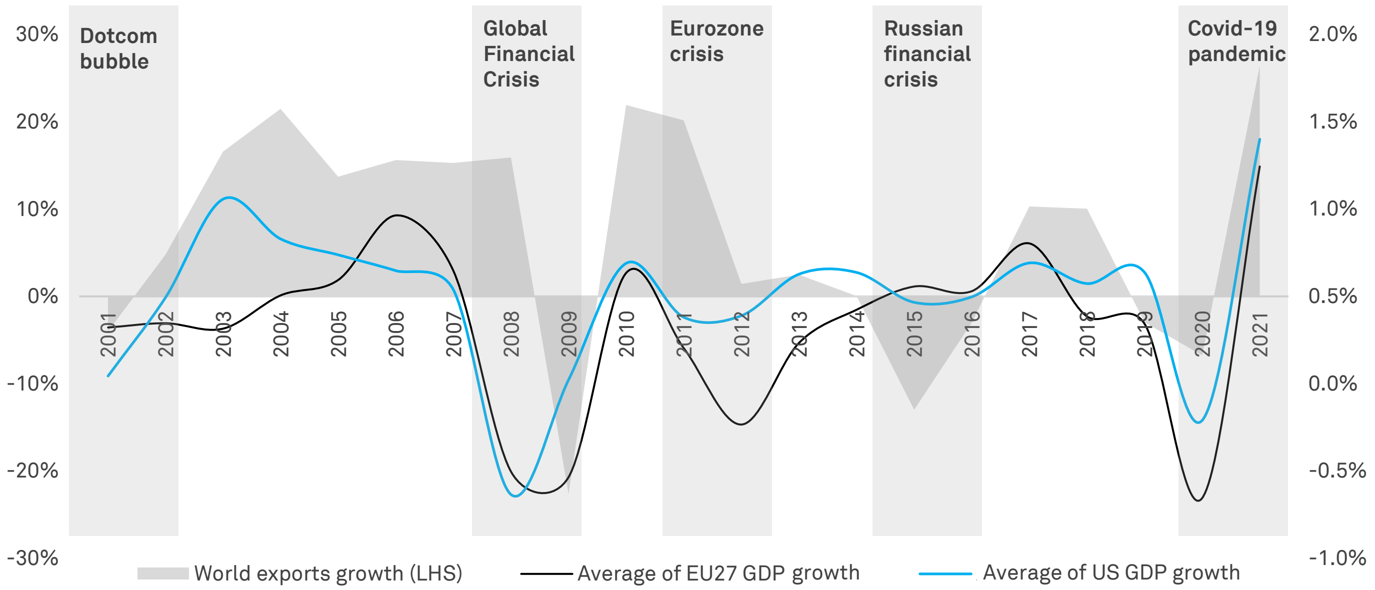
US and EU27 economic growth driving global trade

The world has witnessed five economic crises— the dotcom bubble, Global Financial Crisis, Eurozone crisis, Russian financial crisis, and Covid-19 pandemic — over the past two decades, all having a negative bearing on global trade.

An analysis of these downturns indicates growth in the GDP of the US and the EU — nearly 42% of global GDP — has a substantial influence on global trade, despite these economies together accounting for just a third of global trade (excluding respective exports of the US and EU27 in overall exports). With the imports of Association of Southeast Asian Nations (ASEAN) countries linked to re-exports to the US and the EU, the growth trajectories of these two economies have a multiplier effect on world trade.

Overall, with slower growth expected in GDP of both the US and EU27 in 2023, exports from India (~2% of global trade) will be impacted in fiscal 2024, after an estimated growth of 5-7% in fiscal 2023. India's structural policy push may provide some respite, enabling growth to be in the range of 2-4% in fiscal 2024.

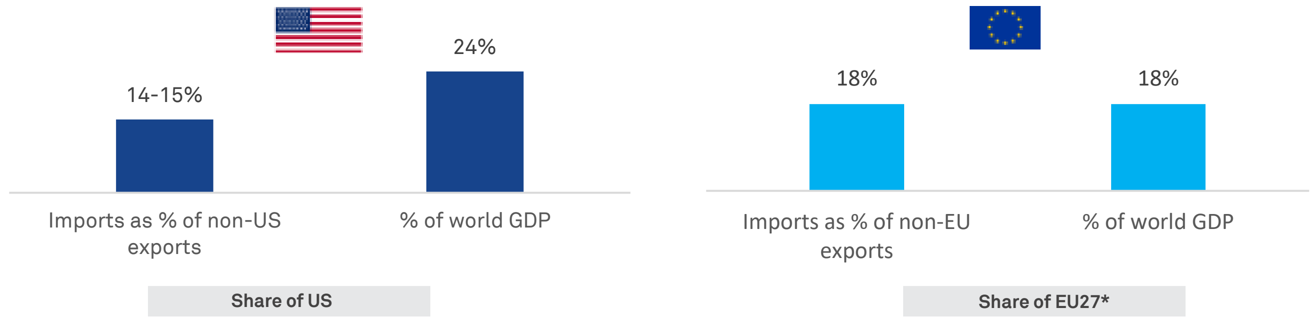
Relationship between US and EU GDP growth and world trade remains strong



Source: Trademap, IMF, CRISIL MI&A Research

The fact that the EU has a higher share of global trade than the US despite the US having a higher share of world GDP shows that the EU is more trade intensive than the US.

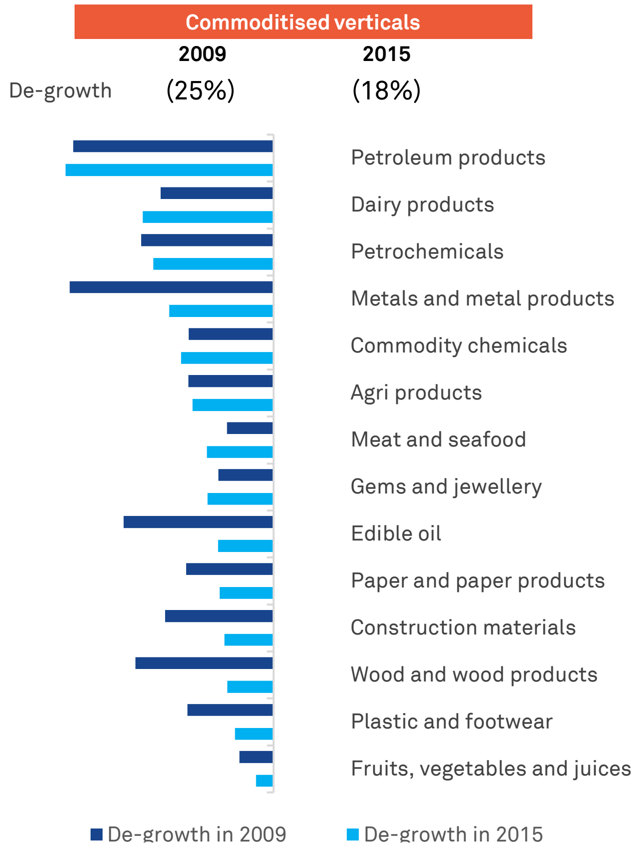
Share of US and EU in global GDP and global trade during different periods

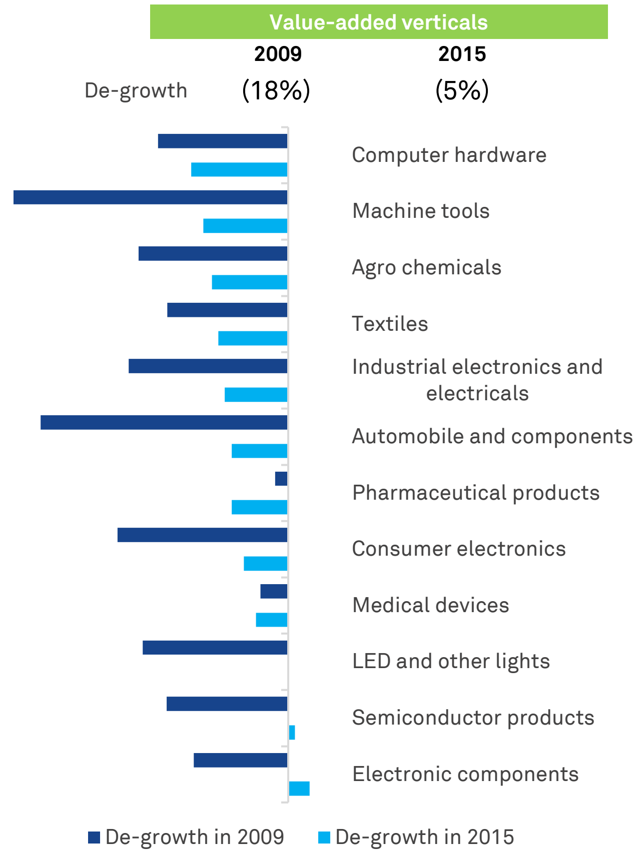


Note: *Share of imports calculated based on net EU27 imports, excluding intra-region trade
Source: Trademap, IMF, CRISIL MI&A Research

Commodities more sensitive to downturns

Value-added verticals more resilient than commoditised ones





Source: IMF, DGFT, CRISIL MI&A Research

During the financial crises of 2009 and 2015, global trade fell, but the trends varied for different verticals.

When the verticals are classified into two buckets, namely commoditised and value-added, it becomes apparent that the former is more sensitive to economic downturns due to its strong linkage to volatile commodity prices, as opposed to the complex value-added verticals.

Further, verticals linked to petroleum products and metals are more impacted than the essential categories of agriculture, meat, and fruits and vegetables.

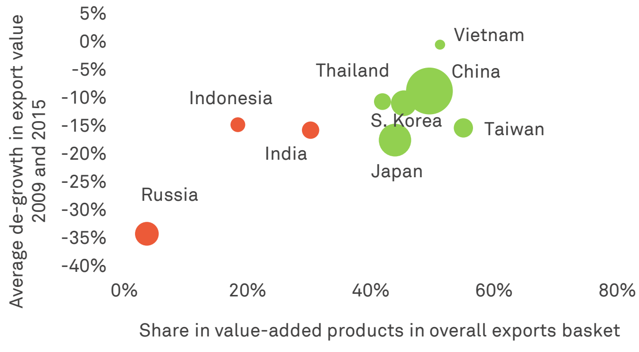
Value-added products declined the lowest amid the crises, particularly in healthcare segments such as pharmaceuticals and medical devices. Also, the crises had minimal impact on new-age sectors such as semiconductors, consumer electronics, and light-emitting diode (LED) lights.

Economies with higher commodity exposure see sharper dip during downturns

A country's performance, especially during a crisis, is determined by its product mix. The higher the share of commoditised products in the overall basket, the greater will be the underperformance compared with countries with a higher share of value-added products.

For instance, Indonesia, India and Russia, which had a high share of commoditised exports in total exports in 2015, at 40-70%, saw a greater drop than the average decline in global exports. However, Vietnam and Taiwan, which had a higher share of electronics, at 25-35%, recorded a lower decline than the overall fall in exports.

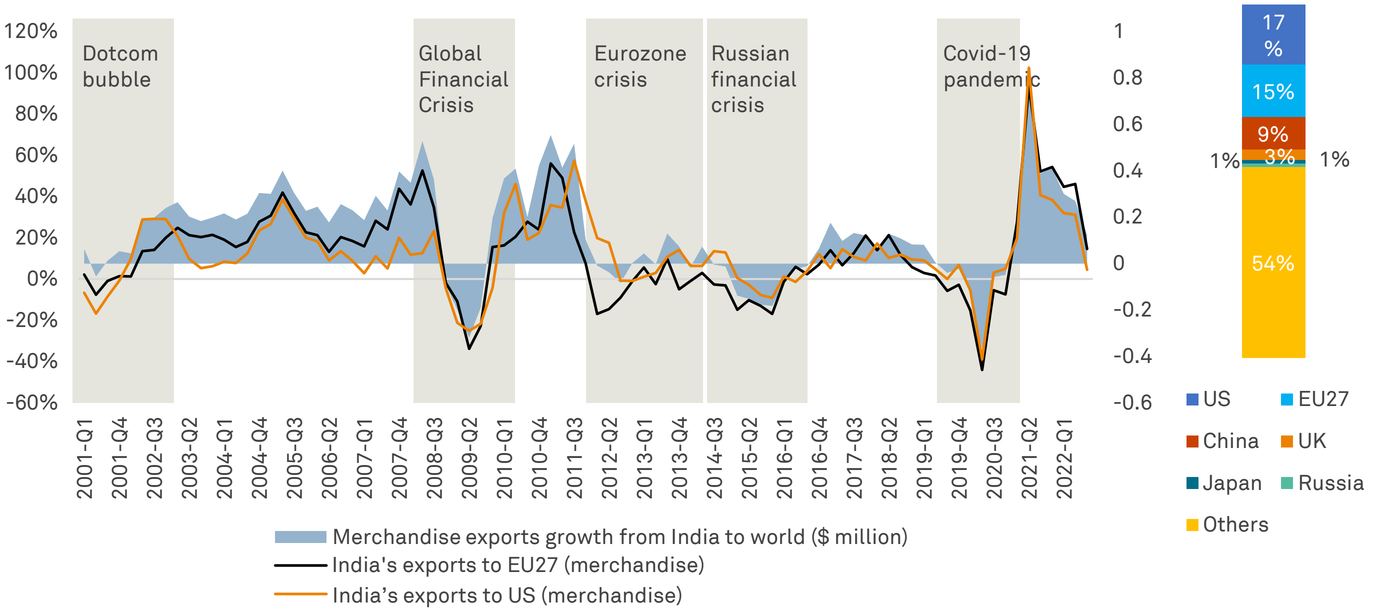
Growth of key export economies during downturns



Note: All data points in the bubble chart are from Trademap, except for India as the same is taken from DGFT or IMF; size of bubble represents share in overall trade in 2019; green colour represents higher share of value-added products, and red colour represents higher share of commoditised products
Source: IMF, DGFT, CRISIL MI&A Research

US and EU drive India's exports

India's merchandise exports mirror EU and US

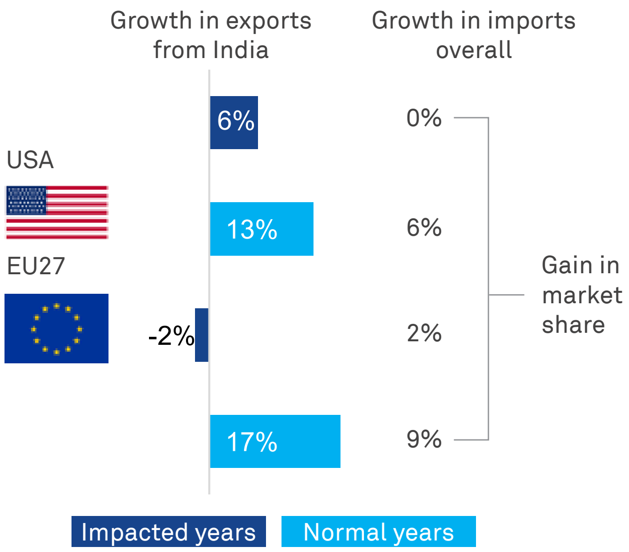


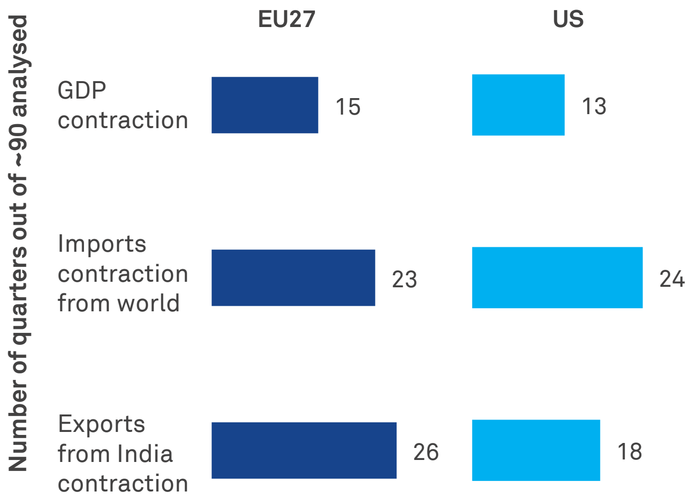
Source: IMF, CRISIL MI&A Research

Until 2010, India's exports were influenced by Europe more than by the US. However, over the past decade, both the economies, together accounting for one-third of India's merchandise exports, have equally influenced growth of India's exports.

Further, an analysis of data for ~90 quarters of exports to the US and EU27 suggests India has a tendency to gain share in the US market during both economic downturns and upturns. On the other hand, the country tends to gain share in the European market mainly during upturns. Furthermore, India is more sensitive towards EU trade on account of relatively higher share of commoditised products, at up to 40% even in the downturn years, as against slightly lower in the case of the US.

Export growth of India vs import growth of US and EU27

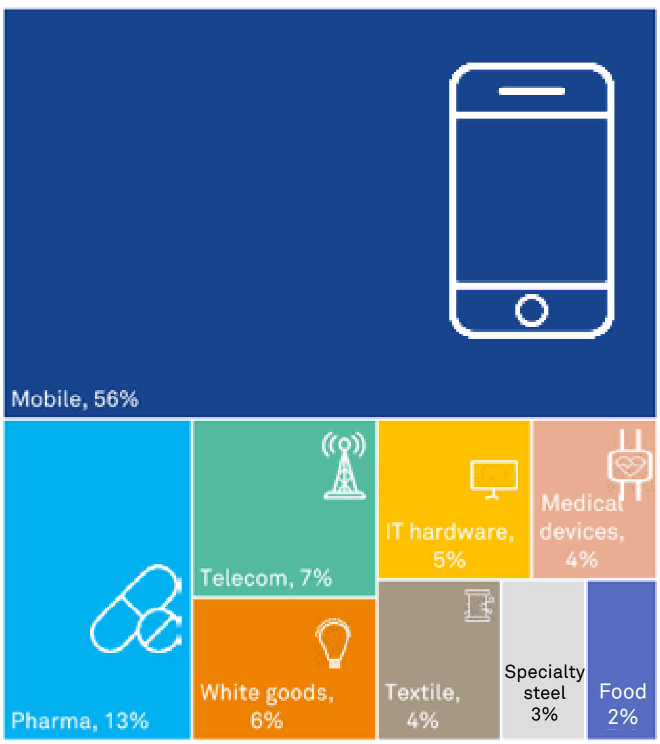




Source: IMF, CRISIL MI&A Research

Incremental growth to come only from PLI-driven exports in fiscal 2024 amid overall slowdown in large economies

More than half the export potential through PLI comes from mobile phones and electronic components



Source: PLI portal, ministry website, CRISIL MI&A Research

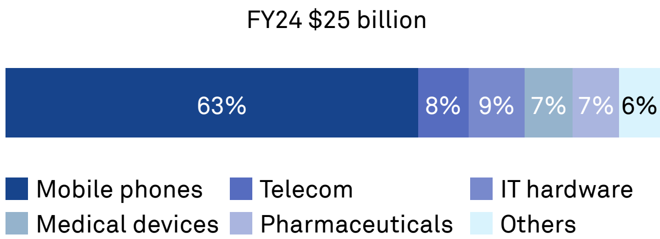
In fiscal 2024, exports of nearly Rs 2 lakh crore ($25 billion) are likely to be supported by commissioning of PLI-linked capacity.

It is expected to account for almost 8% of India's pre-pandemic exports and drive 5% of its exports next fiscal. The impact, though, is likely to be partially negated by a decline in non-PLI exports following slowdown in GDP of the US and EU.

An analysis of this and last fiscal reveals that PLI has provided support for nearly Rs 1.9 lakh crore of exports during the initial stages of capacity commissioning.

In case of mobile phones, where India has been a net exporter for the past several years, the average export-to-import ratio has improved substantially and is likely to improve further due to a push from PLI.

Mobile phones, telecom, IT hardware to aid PLI-driven exports in fiscal 2024



Note: Others include textiles, specialty steel, white goods, and food processing
Source: PLI portal, ministry websites, CRISIL MI&A Research

Overall impact in fiscal 2023 lower than in previous downturns for India

Growth in fiscal 2024 to be driven by PLI

India's top verticals exported

2009	Vertical	2019	PLI scheme announced	India's exports to world growth rate FY10	India's exports to word growth rate FY16	India's exports to world growth rate FY23
14%	Petroleum products	13%		3%	(46%)	46%
15%	Gems and jewellery	12%		3%	(5%)	(1%)
6%	Pharmaceutical products	9%	✶	2%	7%	3%
5%	Automobile and components	8%	✶	(2%)	(5%)	6%
10%	Textiles	8%	✶	9%	(2%)	(22%)
9%	Metals & metal products	8%	✶	(15%)	(25%)	(28%)
2%	Meat & sea food	3%	✶	26%	(15%)	4%
2%	Agri products	3%	✶	(30%)	(21%)	10%
2%	Plastic & footwear	2%		(3%)	(3%)	1%
1%	Petrochemicals	2%		7%	(18%)	(30%)
Overall growth in exports to the world				**(4%)**	**(15%)**	**5-7%**

Source: DGFT, CRISIL MI&A Research

India's exports declined 4% and 15% on-year in fiscals 2010 and 2016, respectively. Most of the top 10 export verticals recorded a decline in fiscal 2016.

The PLI scheme bodes well for key verticals where India lost market share because production capacities did not move in line with international demand.

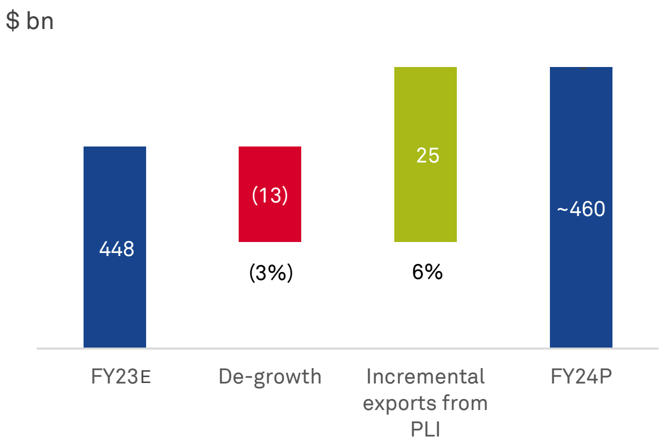
PLI has been launched for six of India's top 10 export verticals. This is likely to propel incremental exports.

Further, verticals such as electronics, which currently are not in the top 10, should get good support from the PLI scheme.

In fiscal 2024, PLI-driven exports will be the lone growth driver, helping improve overall export growth to 2-4%. But for PLI, there would have been a contraction in exports due to muted GDP growth of key markets such as the US and EU.

Indeed, PLI-driven exports are seen growing ~5% in fiscal 2024 compared with ~2% between fiscals 2021 and 2023.

Outlook on India's exports



Note: E — estimated; P — projected
Source: DGFT, CRISIL MI&A Research

Value-added exports and PLI to support incremental growth in exports to the US

Trend in India's exports to US

	Automobile and comp.	Petroleum products	Pharma products	Electronic comp.	Computer hardware	Textiles	Consumer electronics	Metals and products	Plastic and related	Medical devices	Growth in India's exports to US
% share in overall	17%	8%	7%	5%	4%	4%	3%	3%	3%	3%	
Overlap with India's top 10	✓	✓	✓			✓		✓	✓		
Growth in India's exports to US on-year: FY10	17%	153%	25%	31%	(10%)	0%	(33%)	(51%)	(12%)	(12%)	(8%)
FY16	1%	(46%)	22%	16%	(4%)	5%	(11%)	(24%)	13%	(4%)	(5%)
FY23	6%	12%	4%	164%	24%	4%	13%	6%	(3%)	11%	3-5%
FY24P											3-5%

Source: DGFT, CRISIL MI&A Research

The top 10 verticals in the US contribute to over 50% of its imports, with automobile and petroleum products accounting for almost 25% of total imports. Six of these verticals are among India's larger export verticals.

- During the past economic downturns, most commoditised verticals recorded a sharp decline
- In fiscal 2023, value-added verticals such as electronic components and computer hardware have contributed to 33% of incremental exports to the US. This is expected to drive growth of 3-5% in overall exports to the US in fiscal 2023. The PLI scheme has provided a fillip to exports of these segments, particularly electronic components
- In fiscal 2024, with US GDP growth anticipated to be relatively slower, the overall growth momentum is likely to be impacted severely. However, with the share of value-added products in exports to the US at 35-40% compared with 30% in overall exports, and further support coming from PLI-linked exports, we expect growth in merchandise exports to the US to be in the range of 3-5% on-year. In line with overall exports, the growth would have been negative had it not been supported by PLI

Geopolitical developments aid exports of key commodities to EU

Trend in India's exports to EU27

	Automobile and comp.	Petroleum products	Pharma products	Metals and products	Textiles	Electronic comp.	Plastic and related	Consumer electronics	Medical devices	Computer hardware	Growth in India's exports to EU27
% share in overall	15%	10%	7%	6%	3%	3%	3%	2%	2%	2%	
Overlap with India's top 10	✓	✓	✓	✓	✓		✓				
Growth in India's exports to EU27 on-year: FY10	0%	47%	(16%)	(54%)	(4%)	(26%)	(8%)	(18%)	13%	(3%)	(9%)
FY16	5%	(44%)	3%	(24%)	(7%)	(34%)	(12%)	(18%)	(3%)	2%	(11%)
FY23	(1%)	55%	14%	(18%)	(3%)	n.m.	8%	(46%)	10%	11%	10-12%
FY24P											1-3%

Note: n.m. - not meaningful
Source: DGFT, CRISIL MI&A Research

Europe's top 10 verticals account for almost 55% of the region's imports. Six of these verticals are among India's top 10 export verticals. The number of Indian export verticals that recorded de-growth was higher in the case of EU27 than the US. Recently, exports of petroleum products to EU27 have increased due to the geopolitical crisis, which has made EU27 dependent on oil imported through the sea route. Petroleum-linked products have accounted for 70% of incremental exports to the EU in fiscal 2023.

The share of value-added products stands at nearly 35-40% in case of EU compared with around 30% for other key nations, which puts India in a favourable position during a downturn. Furthermore, continued exports of petroleum products amid geopolitical uncertainties, as well as strong growth in exports of electronic components, medical devices and computer hardware given the PLI-driven policy push, will support incremental growth.

That said, GDP growth in the EU is anticipated to be 0.5% in 2023 compared with 2.5% in 2022, because of which exports to the EU may see a muted growth of 1-3% in fiscal 2024, that too driven only by PLI. The growth will be slower than that of exports to the US due to relatively sharper slowdown in the GDP growth.

Plus One sourcing at initial stages in India, but investments on rise

China lost market share in most verticals to the US post pandemic

Note: Vertical-wise import break-up is from Trademap; change of market share in the US is as per UN Comtrade; change of market share in EU27 is as per Trademap
Source: Trademap, UN Comtrade, EU27

In the past five fiscals, India received cumulative FDI of about $256 billion, which was 1.6 times that received in the previous five fiscals. As against this, the FDI inflows to China have declined during the same block years. What's more, India's incremental FDI made up for nearly half of the loss in China's FDI.

For India, new-age verticals such as consumer electronics and computer hardware saw 3.3 and 4.5 times higher FDI, respectively. Meanwhile, traditional sectors such as petroleum products and machine tools saw lower FDI, suggesting India is expanding its manufacturing base of high-growth value-add verticals.

The PLI scheme supports nine of the top 10 verticals imported by the EU27 and the US. Furthermore, compared with China, India increased its market share in seven key verticals in the US market in 2021 versus 2019, while maintaining its market share in consumer electronics and computer hardware. However, India's performance in the EU27 market has not been as impressive.

The PLI scheme's continued push across major sectors is likely to enhance India's position as a trade partner with the US and EU, resulting in market share gains over the medium term.

Commodities may not correct sharply in fiscal 2024 as risks abound

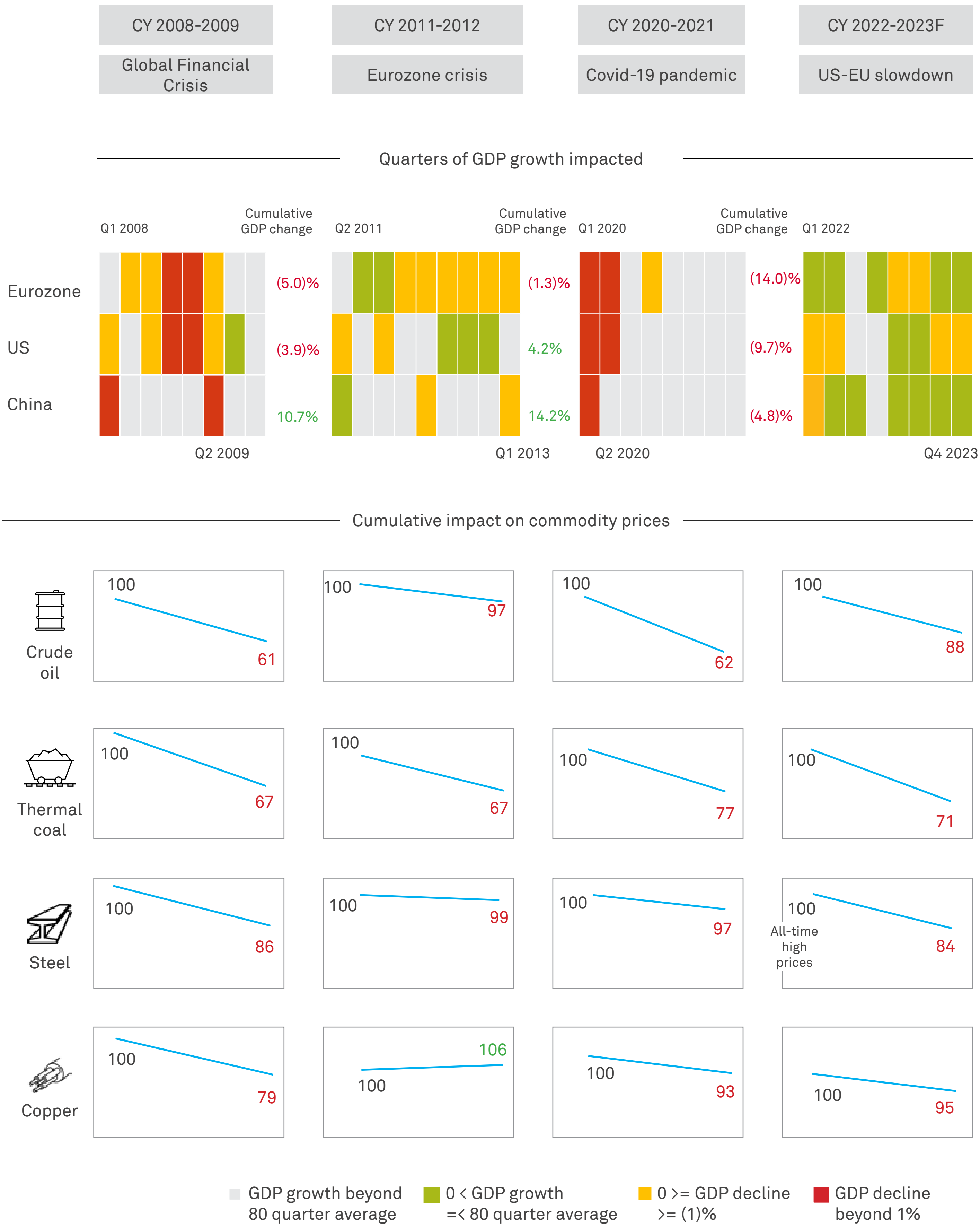
Commodity prices and macroeconomic growth indicators have an implicit relationship well-established during multiple downturns. While brighter macroeconomic conditions act as a precursor to higher demand, sustained periods of elevated commodity prices can induce inflation and mark the advent of economic slowdown, and eventually a recession.

An evaluation of key periods of global downturns over the past two decades shows the depth of the slowdown — highlighted by the cumulative contraction in the GDP of major global economies — has a higher impact on commodity prices. The breadth of the slowdown, with lower depth, has a lower impact on prices.

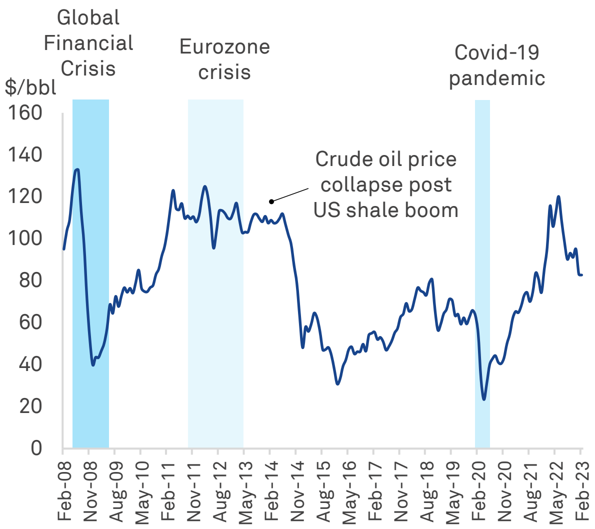
The first period of assessment was the Global Financial Crisis of 2008-09, which was marked by almost six quarters of slowdown, with at least two quarters of GDP decline across key economies. The European Union (EU27) witnessed a GDP decline of almost 5%, while the US economy contracted by almost 4% over the period. There was a marked impact of this recession on energy commodities, with crude oil prices declining almost 39% and non-coking coal prices declining 33% during the period, implying a strong impact on prices amid weak sentiment. Infrastructure linked commodities, such as steel and copper, also witnessed their sharpest decline of the last two decades during this period. A similar trend was observed during the pandemic in 2020, when global economies witnessed a decline of only two quarters, though the contraction was in double digits, signifying a deep slowdown.

On the other hand, periods of shallow slowdowns with slower GDP contraction have seen a milder impact on commodity prices. The years 2011-12, which saw sovereign debt crisis in many European economies, was a milder, more localised event.

Despite the evident correlation between macroeconomic growth and commodity prices, there are multiple other parameters, such as strength of currency, commodity intensity, speculative trading, and supply-side related factors, which influence the course of commodity prices; however, the relationship with GDP movement remains the strongest.


CY 2008-2009
Global Financial Crisis
CY 2011-2012
Eurozone crisis
CY 2020-2021
Covid-19 pandemic
CY 2022-2023F
US-EU slowdown
Quarters of GDP growth impacted
Q1 2008
Cumulative GDP change
Q2 2011
Cumulative GDP change
Q1 2020
Cumulative GDP change
Q1 2022
Eurozone
US
China
(5.0)%
(3.9)%
10.7%
(1.3)%
4.2%
14.2%
(14.0)%
(9.7)%
(4.8)%
Q2 2009
Q1 2013
Q2 2020
Q4 2023
Cumulative impact on commodity prices
Crude oil
100
61
100
97
100
62
100
88
Thermal coal
100
67
100
67
100
77
100
71
Steel
100
86
100
99
100
97
100
All-time high prices
84
Copper
100
79
100
106
100
93
100
95
GDP growth beyond 80 quarter average
0 < GDP growth =< 80 quarter average
0 >= GDP decline >= (1)%
GDP decline beyond 1%

Most commodity prices to correct but remain above pre-Covid-19 averages

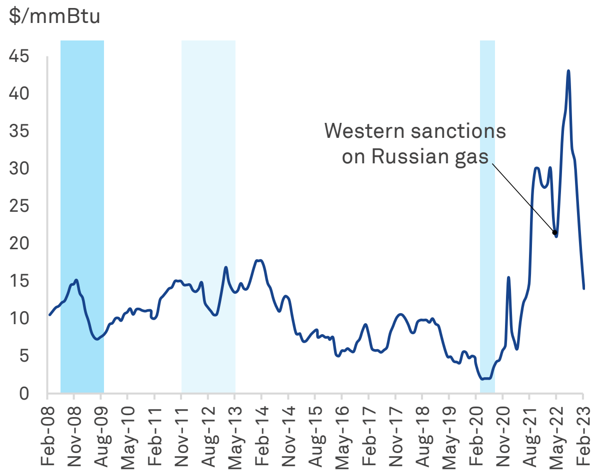


CY22:
43%
H1 CY23:
(21-23)%
H2 CY23P:
(8-10)%
CY23P:
(15-17)%

Crude oil: Price to correct to $82-87 per barrel on average in 2023; OPEC supply cuts key to pricing

The Russia-Ukraine region, which accounts for 10% of the total annual crude oil production, pushed energy commodities to decadal highs, with oil breaching $120 per barrel only after 2008.

Prices are expected to correct around 15-17% on-year in 2023. A slowdown in major global economies and realignment of global supply chains are expected to weigh down on price. Chinese recovery remains uncertain.

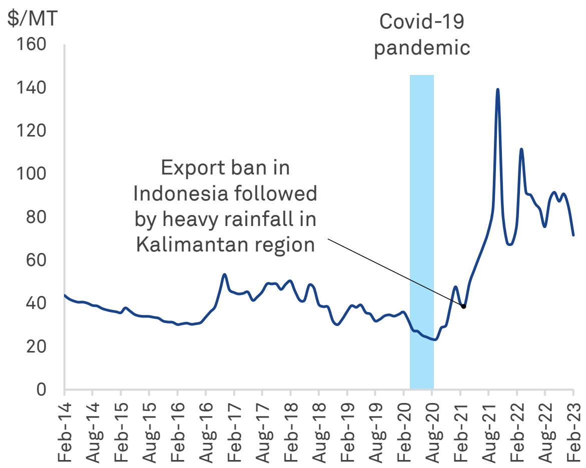


CY22:
80%
H1 CY23:
(36-38)%
H2 CY23P:
(48-50)%
CY23P:
(43-45)%

Spot LNG: After reaching decadal high in 2022, LNG prices to remain elevated in 2023 amid geopolitical risks

Russia accounted for ~20% of the global natural gas production and fulfilled ~40% of the total EU gas demand. The onset of the crisis pushed spot LNG prices to $50 per mmBtu in 2022.

However, favourable weather conditions and healthy inventory have led to a collapse in prices by more than half in January 2023 and are expected to decline 43-45% on-year in 2023 (1.3 times the pre-Covid level).

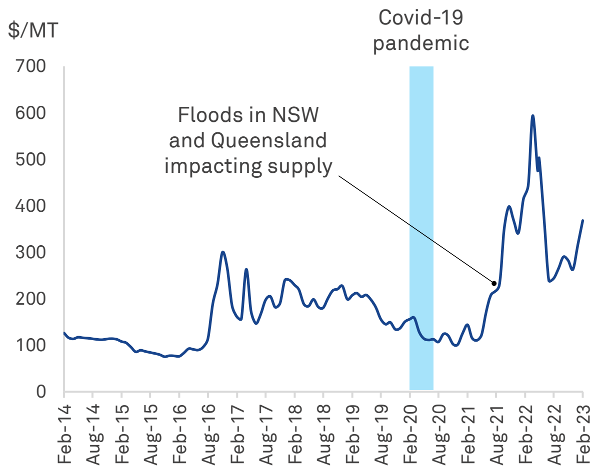


CY22:
177%
H1 CY23P:
(17-19)%
H2 CY23P:
(49-52)%
CY23P:
(32-34)%

Non-coking coal: Prices to decline in 2023; availability of Russian coal a key monitorable

Thermal coal prices surged in 2021, driven by extreme weather conditions and worker shortages in key mining areas. Gas shortage in the EU led to a spike in European demand for thermal coal in 2021 and 2022, leading to a price rise of ~180% on-year.

With the improvement in supplies and a less-harsh winter, prices are expected to decline 32-34% this calendar year.



CY22:
63%

H1 CY23P:
(30-32)%

H2 CY23P:
3-5%

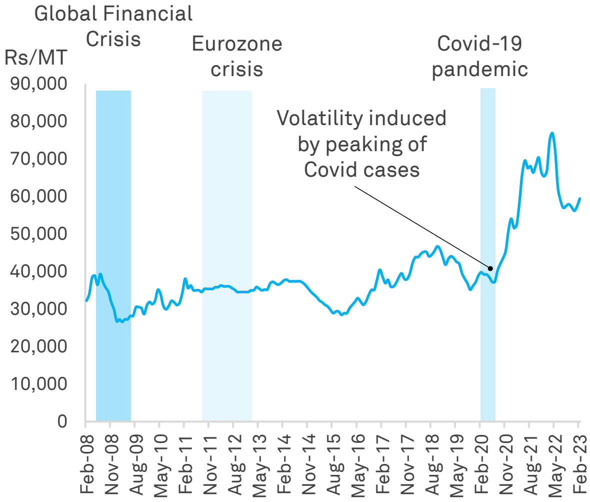
CY23P:
(20-24)%

Coking coal: Prices to decline in 2023; weather conditions in Australia key factor in ensuring supply

Coking coal prices surged in 2022, due to supply constraints, along with geopolitical issues between Australia and China

While a resolution to the geopolitical issues is expected to ease prices 20-24% on-year in 2023, the possibility of weather-related outages in Australia is expected to keep prices at around 1.6 times pre-Covid-19 levels

Economic growth, Chinese recovery to limit correction in manufacturing commodities



FY22:
52%

H1 FY23:
(3)%

H2 FY23P:
(13-16)%

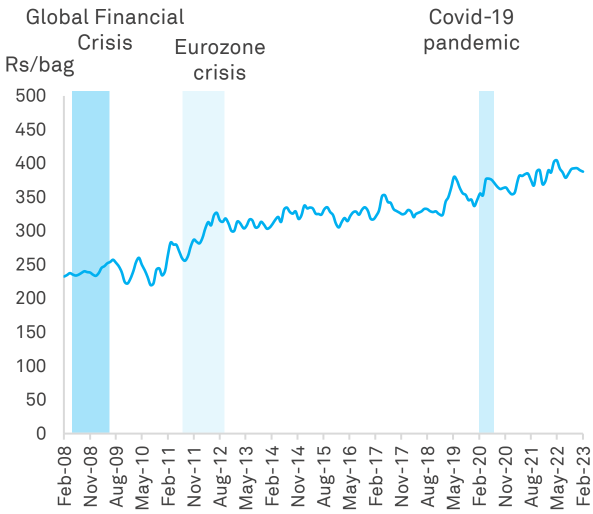
FY23P:
(7-9)%

FY24P:
(0-2)%

Steel: After reaching decadal highs in fiscal 2022, steel prices to correct marginally in fiscal 2024

Global steel prices increased by more than 50% in fiscal 2022, driven by surging prices of coking coal, a key raw material.

Flat steel prices are set to remain elevated in fiscal 2024 as well on the back of elevated input costs. Domestic prices are expected to rise again amid a new wave of supply disruptions in Australia. Despite consecutive years of correction, prices are expected to remain elevated, almost 1.3x the fiscal 2019 prices.



FY22:
4%

H1 FY23:
3%

H2 FY23P:
3-5%

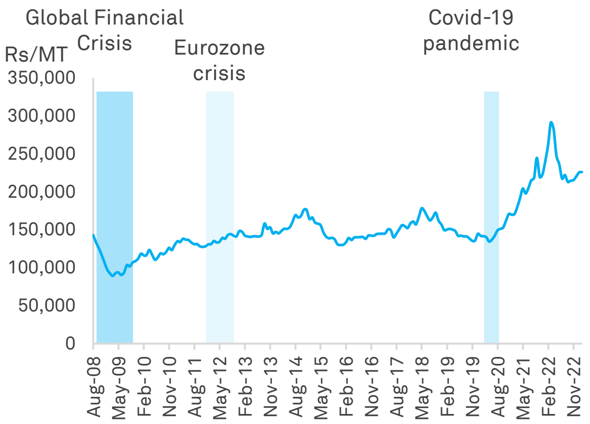
FY23P:
2-4%

FY24P:
0-1%

Cement: After correction in fiscal 2023, cement prices expected to stabilise as raw material prices decline on-year in fiscal 2024

Cement prices increased ~4% last fiscal, with soaring input – petcoke and coal – costs, which increased 150-170%.

However, driven by elevated levels of raw material prices as well as stable demand, cement prices are expected to remain rangebound in fiscal 2024, at almost 1.2x the pre-pandemic levels.



FY22:
52%

H1 FY23:
15%

H2 FY23P:
(10-12)%

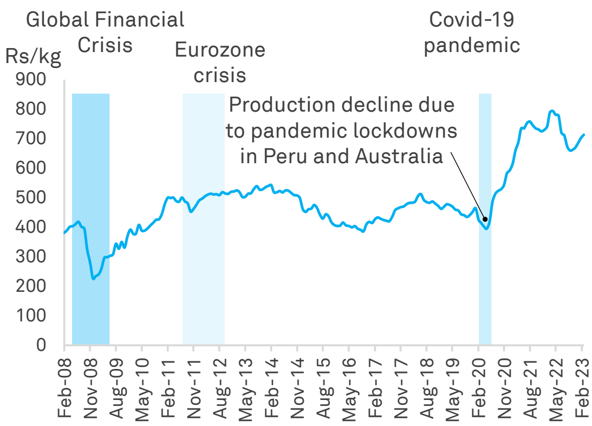
FY23P:
1-2%

FY24P:
6-8%

Aluminium: Supply concerns to keep prices elevated vis-à-vis decadal average in fiscal 2024

Aluminium prices are strongly impacted by coal prices due to large power requirement. Prices increased almost 52% last fiscal, following coal prices and strong demand.

In fiscal 2024, prices are expected to increase moderately due to healthy demand from power and automobile segments. However, stable supply from China is expected to limit the price hike. Prices should remain almost 20% higher than fiscal 2019 levels.



FY22:
42%

H1 FY23:
(5)%

H2 FY23P:
(7-9)%

FY23P:
(2-4)%

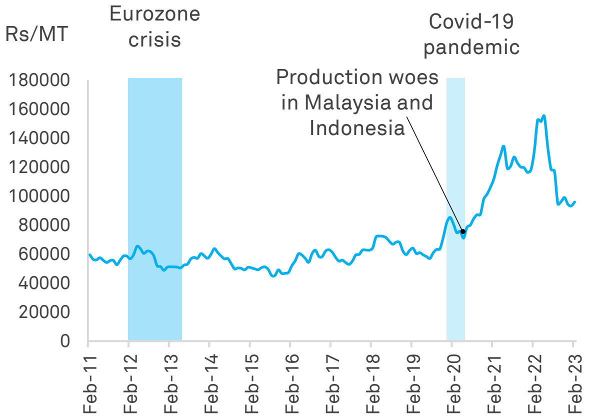
FY24P:
6-8%

Copper: Healthy downstream demand to support price hike in fiscal 2024 despite expected improvement in supply

Copper prices started surging from late-2020, primarily driven by supply-side constraints from mines in South America.

Prices are expected to increase moderately in fiscal 2024, due to healthy demand, led by increasing EV penetration and renewable energy investments globally. Continued tightness in supplies is expected to keep prices at almost 1.56 times the pre-Covid-19 levels.

Focus on energy transition to support elevated prices for commodities used in new-age applications



FY22:
37%

H1 FY23:
2%

H2 FY23P:
(22-24)%

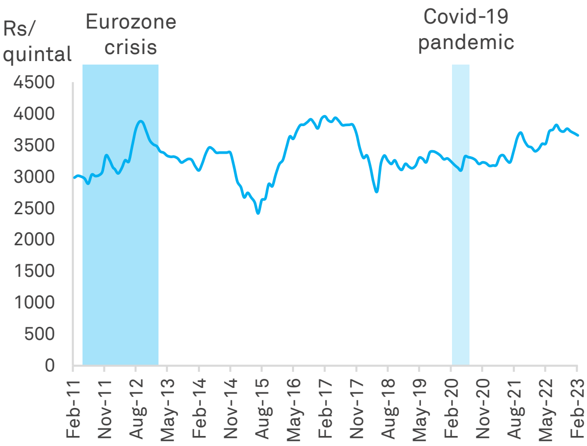
FY23P:
(9-11)%

FY24P:
(13-15)%

Edible oil: After reaching decadal highs, palm oil prices to decline in fiscal 2024 due to easing supply

Prices of edible oil (primarily palm oil) increased sharply in 2021 due to export issues in Malaysia and Indonesia — two major exporters of the commodity.

In fiscal 2024, higher sunflower-oil stocks in Ukraine and Russia should ease the pressure and bring down prices by 13-15%, though prices will still be at 1.5 times the fiscal 2019 levels.



FY22:
5%

H1 FY23:
7%

H2 FY23P:
3-5%

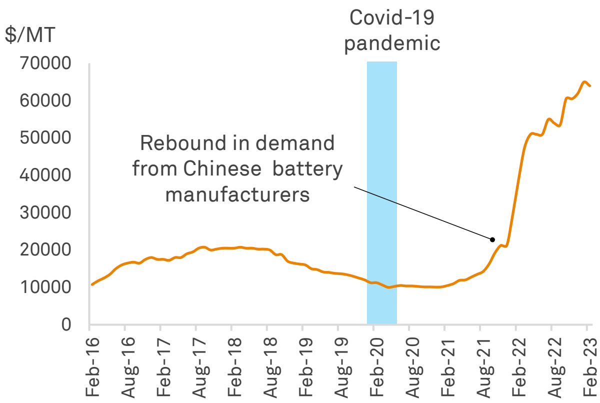
FY23P:
4-6%

FY24P:
0-2%

Sugar: Diversion of sugarcane towards ethanol production to keep sugar prices elevated in the medium term

Sugar prices have remained relatively stable over the past few years, supported by stable demand and higher crop yields.

In fiscal 2024, sugar prices should increase marginally as domestic offtake is expected to rise with industries operating at full capacity, though a slowdown in exports, moderation in global sugar prices, and heathy domestic inventory are expected to cap growth. Thus, prices are expected to remain 10-20% higher than the fiscal 2019 levels.



CY22:
253%

H1 CY23P:
38-40%

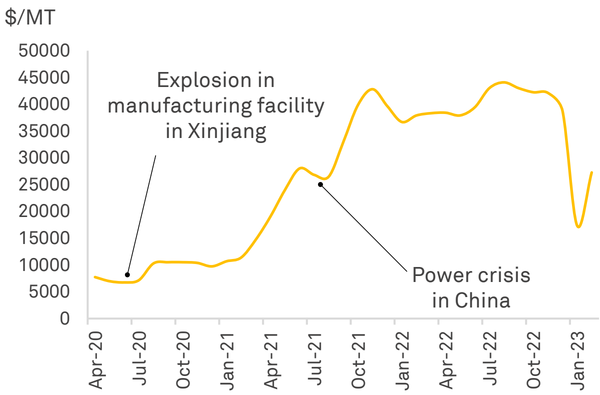
H2 CY23P:
(0-2)%

CY23P:
16-18%

Lithium hydroxide: Prices to correct from historical highs in 2023

Lithium hydroxide (CIF Asia) prices rose ~2.5x in second half of 2022. The steep rise is majorly because of surging demand for electric vehicles and inelastic supply of lithium.

However, new lithium discoveries globally are expected to boost production and cap the rise in prices. Despite this, prices are expected to rise 3.2x the pre-pandemic levels in fiscal 2024.



FY22E:
189%

H1 FY23E:
16-18%

H2 FY23P:
(0-5)%

FY23P:
12-16%

FY24P:
(5-10)%

PV-grade silicon: Prices to decline in fiscal 2023 with higher capacity utilisation, especially in China

PV-grade silicon prices surged, more than doubling, last fiscal due to supply constraints from China. Environmental laws and pandemic lockdowns led to low operating rates, further aggravated by a fire, impacting 5-7% of global supply.

Prices have already started correcting in the fourth quarter of fiscal 2023 due to higher production and are expected to continue the trend in fiscal 2024, correcting almost 10% on-year.

Commodity supercycle: Supply-chain and concentration risks to keep prices elevated

Assessment period		Short-term price impact (% on-year)				Medium-term threats	
	Commodity	FY22	FY23P	FY24P	FY24 (x 2019)	Supply-chain risks	Concentration risks
Energy	Crude oil	79%	21-23%	(13-15)%	1.3x 2019	High	Moderate
	Non-coking coal	149%	3-5%	(26-28)%	1.6x 2019	High	Moderate
	Natural gas	302%	28-30%	(42-45)%	3x 2019	High	Moderate
Manufacturing	Steel	52%	(6-8)%	(3-5)%	1.3x 2019	High	High
	Copper	42%	(2-4)%	1-3%	1.5x 2019	High	High
	Aluminium	45%	0-2%	2-4%	1.5x 2019	Average	Moderate
	Coking coal	178%	4-6%	(8-12)%	1.6x 2019	High	High
	Cement	4%	2-4%	0-2%	1.2x 2019	Average	Average
Agri	Sugar	5%	4-6%	0-2%	1.2x 2019	Moderate	Moderate
	Wheat	7%	10-12%	0-2%	1.2x 2019	Moderate	Moderate
	Edible oil	37%	(9-11)%	(13-15)%	1.5x 2019	Moderate	High
New age	PV-grade silicon	189%	12-16%	(5-10)%		High	High
	Lithium hydroxide	109%	165-170%	3-5%	3.2x 2019	High	High

● High ● Moderate ● Average

Supply-chain risks: Risk on commodity prices on account of transportation medium issues

Concentration risks: Risk on commodity prices on account of demand or supply markets concentrated

Prices across commodity classes – energy, manufacturing, agriculture, and new-age metals – have witnessed sharp growth over the past couple of years. Last fiscal, a rebound in economic activity after the lifting of Covid-19-related lockdown was the key demand driver, thus supporting prices, while supply-chain disruptions and geopolitical risks led to an unprecedented increase in prices in a short span. While structural demand, driven by macroeconomic factors, remains one of the prime parameters impacting commodity prices, supply-side risks have emerged as the key drivers for the commodity price volatility over the past few years. The most prominent risks relate to supply chain and concentration.

Supply-chain risks: Supply-chain risks to commodity prices are related to the movement/ transportation of a commodity from the source of production to the consumption centre.

Risks arising from disruptions in supply chain have been witnessed time and again over the past decades, specifically in crude oil and natural gas.

For instance, natural gas (spot LNG) prices surged almost four times following the decision by the EU to reduce reliance on Russian gas supplies. The EU's substitution of Russian pipeline gas was impeded by the lack of LNG import/regasification capacity in north-west Europe and significantly higher cost of the alternative US-sourced LNG, which throttled demand.

The scenario was no different for coking coal, where geopolitical tensions between Australia and China led to a shift in procurement strategies, impacting prices.

Concentration risks: While some commodities have supply risks associated, owing to lower magnitude of production vis-à-vis demand, there are commodities that have ample cumulative supply, but concentration within certain select geographies.

This risk has historically been pronounced in mined commodities – including metals – which are based on their natural occurrence in a particular area.

While evident in price volatility in copper, which is concentrated in a few South American countries, concentration risk has been under the spotlight for commodities utilised in new-age applications such as PV-grade silicon and lithium hydroxide. Argentina, Chile, and Bolivia – the lithium triangle — account for almost 75% of the reserves, while refining and consumption are concentrated in China.

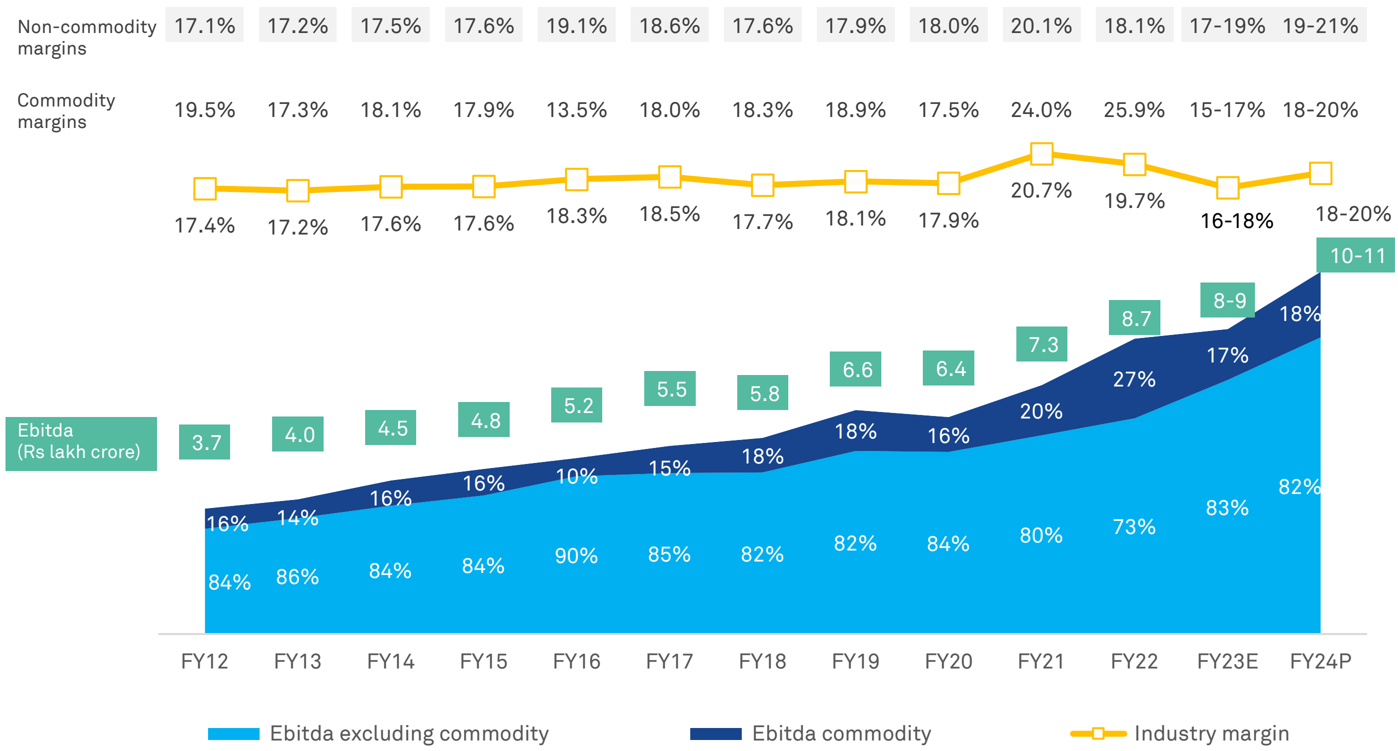
These factors multiply the risks of a substantial shortfall of lithium against growing demand, considering the significant lead times from exploration to setting up a full-scale mining plant for lithium.

Considering these factors, it is highly unlikely the prices of major commodities will revert to pre-Covid levels anytime soon. In fiscal 2024, while prices are expected to decline from the crests seen last year, they are expected to remain significantly above the levels witnessed in fiscal 2019, arguably a peak in economic prosperity globally. With commodity prices expected to range between 1.2x and 3x the fiscal 2019 levels, it would be safe to assume that the commodity supercycle, which started in fiscal 2022, is here to stay.

Margin to recover 120-170 bps in fiscal 2024 from a near-decadal low in fiscal 2023

The operating margin — or earnings before interest, tax, depreciation and amortisation (Ebitda) margin — of our sample set of 748 listed companies is expected to improve by 120-170 bps in fiscal 2024.

The improvement will be aided by three factors — benign commodity prices, full effect of the price hikes in fiscal 2023 playing out, and volume-driven expansion projected in fiscal 2024.



Note: Figures of the 748 listed corporates exclude oil & gas, and BFSI. Numbers of ~385 companies estimated at the consolidated level and ~363 companies at the standalone level. P — projected; E — estimated
Source: Company reports, industry, CRISIL MI&A Research

Operating margin was at an all-time high of 20.7% in fiscal 2021, boosted by a drop in the cost of goods sold on account of lower commodity costs. Indeed, raw material costs declined to decadal lows. Power and fuel costs, selling expenses, and other expenses also declined on account of drop in the price of crude, slashed marketing spends, and cost optimisation efforts of companies during the pandemic.

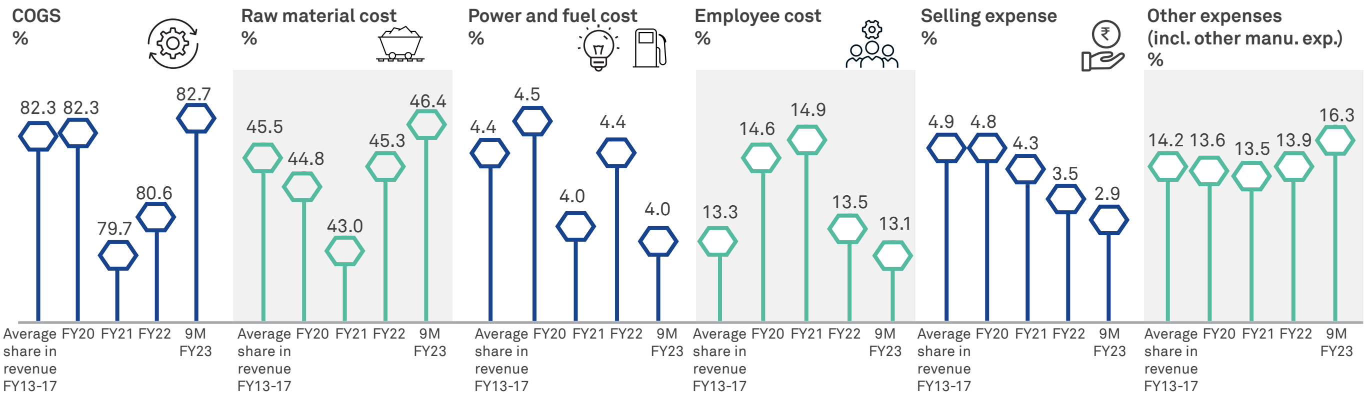
However, the commodity supercycle that ensued thereafter lifted margins of commodity players in our sample set to a decadal high of 25.9% last fiscal, and the share of these margins to 27%. Margins of these players anyway move in line with the commodity cycle and tend to be volatile.

At the other end, for non-commodity players, whose margins are largely rangebound, higher commodity prices led to a decline in margins that year.

In fiscal 2023, with the commodity cycle cooling, we estimate a 180-220 bps decline in margins, with the commodity segment accounting for 80% of decline. Margins of non-commodity players will decline marginally too, with lagged effects in the commodity price hikes and delayed pass-through to end prices.

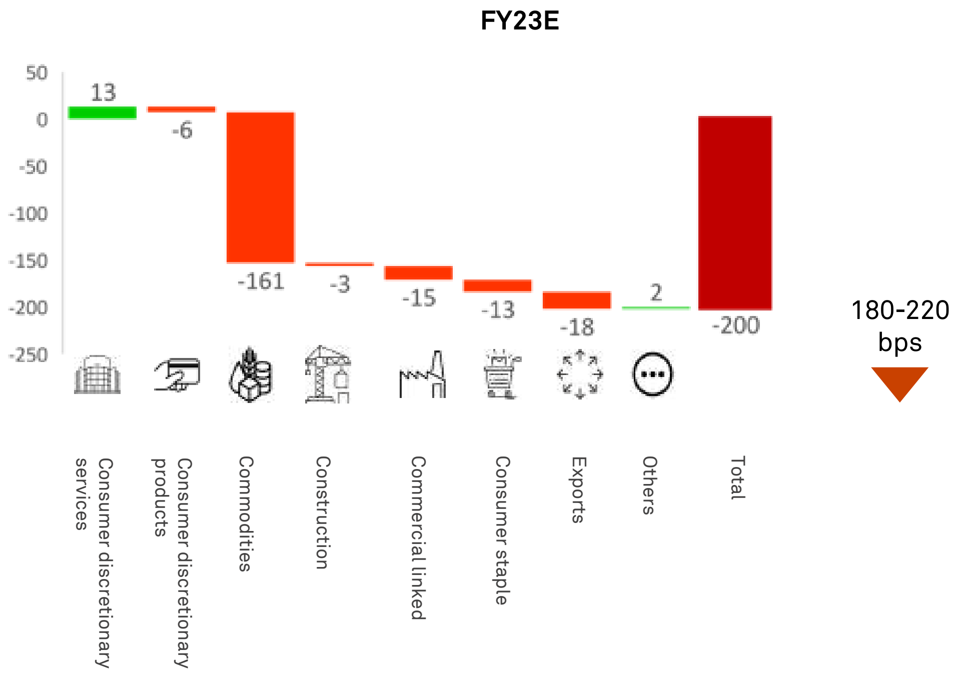
In fiscal 2024, with commodity prices declining further, the margins of both these segments are expected to settle at pre-Covid levels.

Decline in raw material costs led to a decadal low share of COGS as a percentage of revenue in fiscal 2021	Raw material cost hit a decadal low in fiscal 2021 due to sharp decline in commodity costs	Drop in crude aided decline in power and fuel cost	Employee cost as a percentage of revenue is headed back towards the decadal average after peaking in fiscal 2021. The pandemic-marred year had seen employee cost rise 1% despite a drop of 1% in revenue	Decline in marketing costs, which commenced in fiscal 2021, has persisted	Fiscal 2021 had seen costs such as travel slashed and lease rentals drop. Lease rentals are inching up as travel recovers



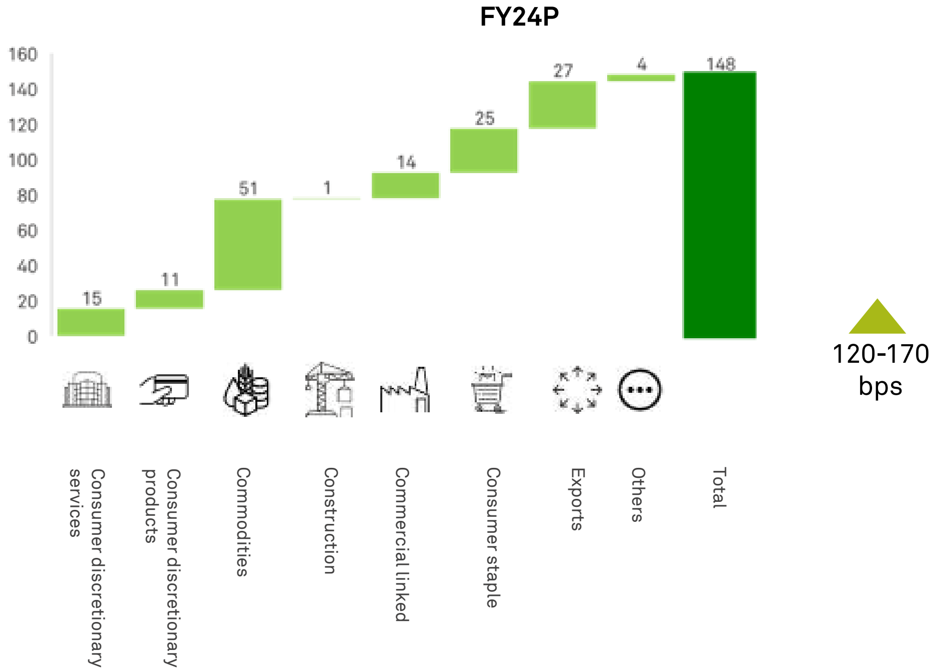
Note: Figures of the 748 listed corporates exclude oil & gas, and BFSI. Numbers of ~385 companies estimated at the consolidated level and ~363 companies at the standalone level.
Source: Company reports, industry, CRISIL MI&A Research

Improvement in Ebitda margin to be broad-based across sectors in fiscal 2024



- In fiscal 2023, the commodity segment would account for 80% of margin decline on account of the cooling commodity cycle
- Margins of non-commodity players are set to decline marginally across the board as the COGS rises to decadal highs in line with delayed impact of commodity price hikes and delayed pass through of prices to end-users
- Consumer discretionary services would record a slight improvement in margins on account of a volume expansion-led improvement in revenue on pent-up demand

Note: Bars represent contribution of each vertical in the expansion (represented in green) or contraction (represented in red) in margins; E — estimated
Source: Company reports, CRISIL MI&A Research



- In fiscal 2024, margin expansion is projected to be broad-based, with all sectors recording improvement in margins, as cooling commodity prices push COGS lower and there is volume-driven expansion in revenues across the board

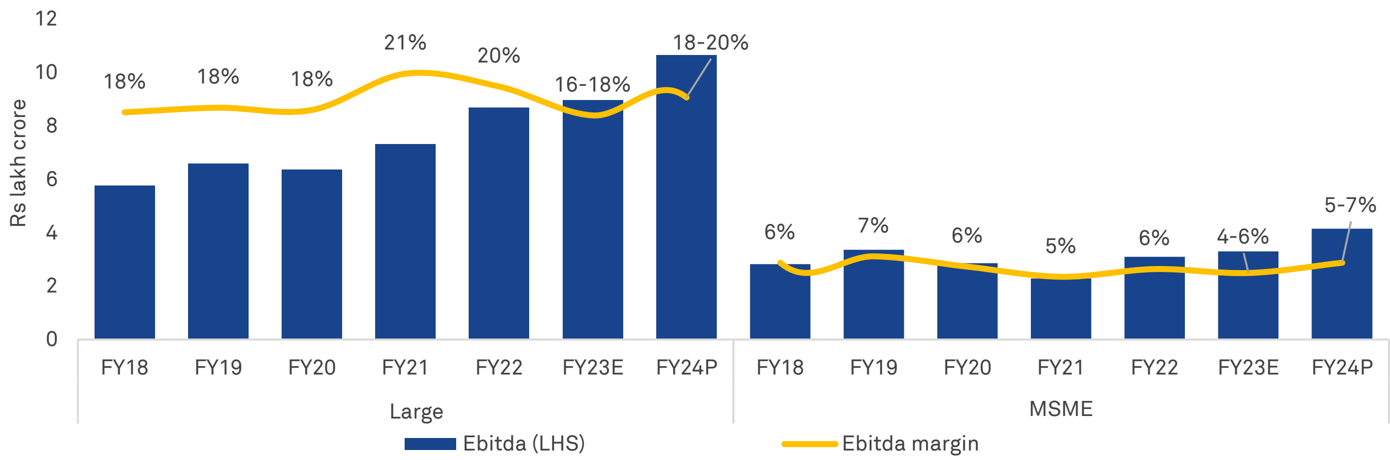
Note: Bars represent contribution of each vertical in the expansion (represented in green) or contraction (represented in red) in margins; P — projected
Source: Company reports, CRISIL MI&A Research

MSME margins hit hardest by pandemic and commodity-cost inflation

Margins of MSMEs witnessed an 80 bps decline in fiscal 2021 due to the absence of commodity players and sharper hit to revenue.

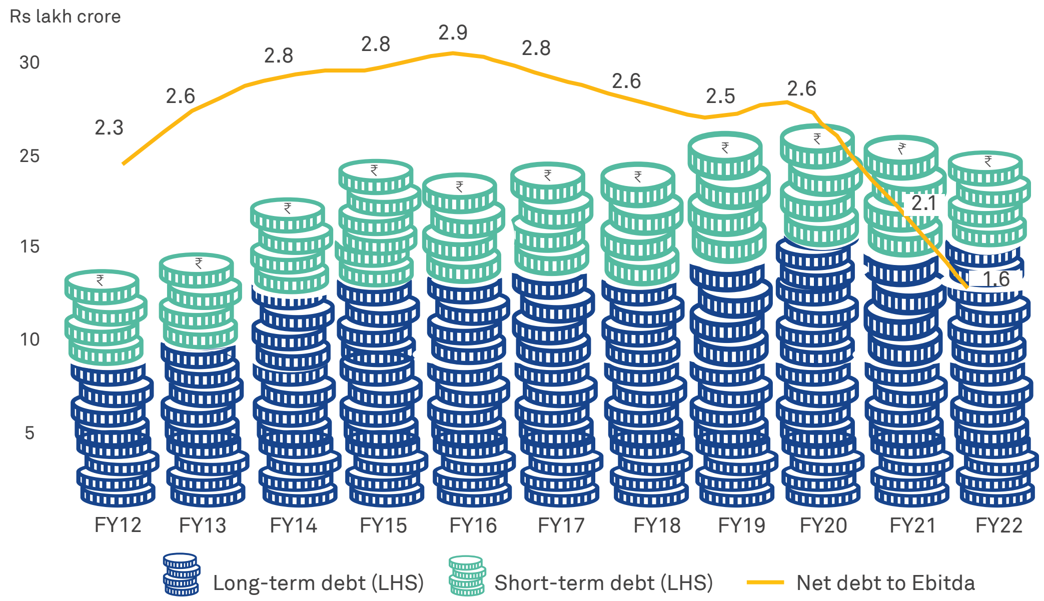
Non-MSMEs, on the other hand, recorded a 280 bps increase on account of a sharp improvement in commodity-sector margins and crimping of costs.

While non-SME margins are set to surpass pre-Covid levels in fiscal 2024, as many as 43% of MSMEs by value will not see margins surpass pre-Covid levels even in fiscal 2023.



Note: Large corporates represent a sample of 748 companies and ~26,000+ MSMEs have been considered for the analysis. E — estimated
Source: Company reports, CRISIL MI&A Research

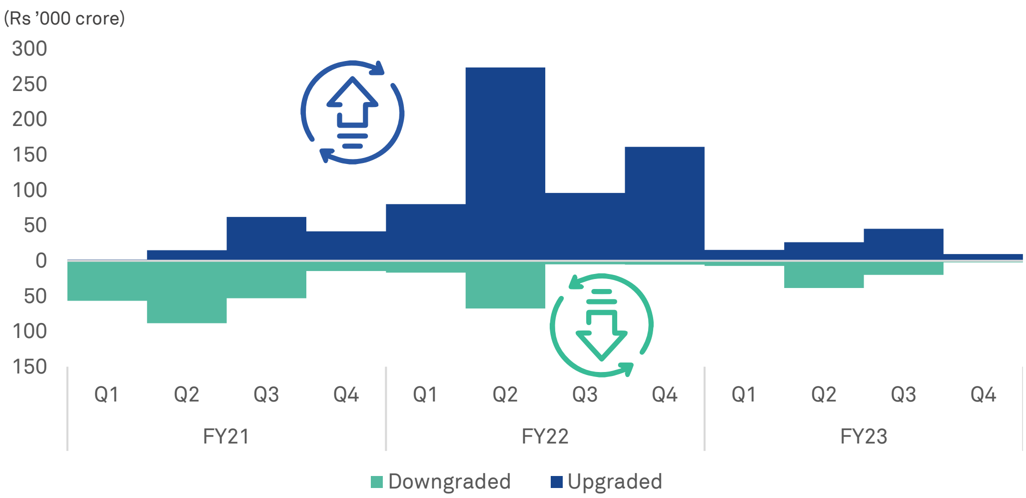
Better profitability helped large corporates improve financial risk profile



Note: Net debt to Ebitda analysed based on the performance of 748 companies (barring BFSI, and oil & gas)
Source: Quantix, industry, CRISIL MI&A Research

- Better profitability has helped India Inc improve its financial risk profile
- About one-third of companies recorded a reduction in net debt/ Ebitda last fiscal. While the overall debt reduced only 7% from fiscal 2020 peaks, net debt/Ebitda reduced due to improving profitability as Ebitda jumped 36% over the period

Improved financial risk profile helped improve credit profiles of India Inc



FY21				FY22				FY23				
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4*	
28.6	6.8	1.9	1.3	1.2	1.2	1.1	1	1.5	2.5	1.4	1.2	**Upgrades to downgrades by debt**
0	0.5	0.6	1.5	3.3	3.5	3.4	2.1	2.3	2.8	1.6	1	**Upgrades to downgrades by numbers**

Note : All rating agencies considered; excludes rating cases of 'issuer not co-operating' and outstanding 'suspended' ratings
* Data for Q4 FY23 is only available till January 31, 2023
Source: Quantix, industry, CRISIL MI&A Research

- Improved financial risk profiles have also improved the credit profiles of India Inc, with the upgrade to downgrade ratio remaining above 1 across the previous 15 quarters. Deleveraged balance sheets augur well for the capex cycle

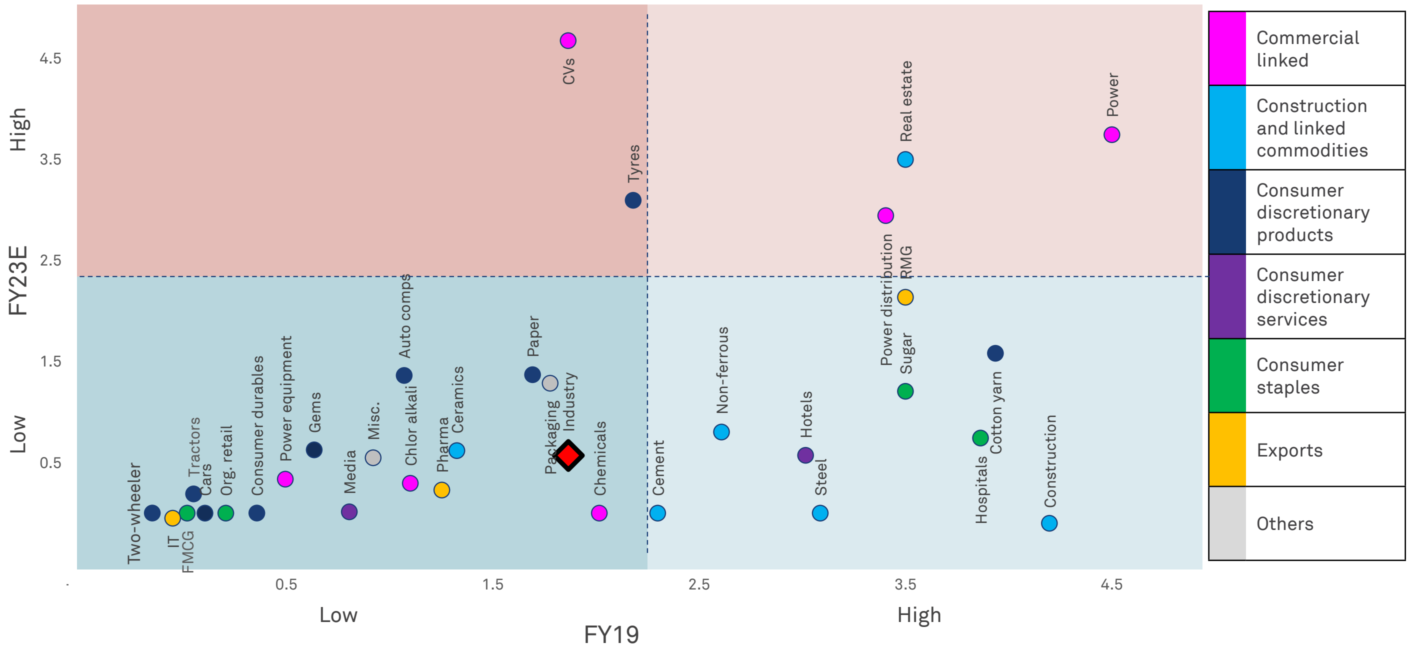
As many as 27 of 37 sectors, accounting for 92% of debt, have seen an improvement in net debt/Ebitda between fiscals 2019 and 2023

At a sectoral level, 27 of 37 sectors have seen an improvement in net debt to Ebitda between fiscals 2019 and 2023. These 27 sectors account for 92% of debt.

The net debt/Ebitda of sectors in fiscal 2019 has been plotted on the X-axis, while the expected net debt/Ebitda for sectors for fiscal 2023 is plotted on the Y-axis. The chart has been split into four quadrants, with the first quadrant (Low-Low) signifying companies which had a low net debt/Ebitda in fiscal 2019 and continue to have their net debt/Ebitda at similar levels in fiscal 2023. Companies from the automobile, IT, pharma, consumer durables, and media sectors are placed in this quadrant.

The second quadrant (High-Low) has the commodity sectors, which have witnessed an improvement in net debt to Ebitda on account of improved profitability brought about by the commodity upcycle. Companies in these sectors had high net debt/Ebitda in fiscal 2019 but have seen an improvement in fiscal 2023, which indicates better debt ratios in the interim. Major sectors in the quadrant are cement, steel, and non-ferrous.

Net debt to Ebitda



Note: Figures of the 748 listed corporates exclude oil & gas, and BFSI. Numbers of ~385 companies estimated at the consolidated level and ~363 companies at the standalone level. E — estimated
Net debt/Ebitda above 2 is considered to be high in our analysis
Source: Company reports, industry, CRISIL MI&A Research

The third quadrant (Low-High) represents companies that have seen a deterioration in net debt to Ebitda. Given capex related to electric vehicles (EVs) and impacted sales over the pandemic years, the commercial vehicle segment falls into this quadrant.

The fourth quadrant is for sectors that had high net debt/Ebitda and have not seen any improvement in the ratio. It has sectors such as construction, tyres, power generation, and real estate.

The bulk of the sectors clustered into the first two quadrants (accounting for ~80% of revenue and ~47% of debt of the 748 listed corporates as of fiscal 2022) bodes well for India Inc and the upcoming capex cycle.

The long wait for private sector investment cycle

Policy push, new-age opportunities to lead capex; legacy assets-led capex recovery will be staggered

While capex by industries is the smaller part of the total investments pie in terms of value, the more private companies spend, the better is the overall investment sentiment.

Total industrial investments, however, present a picture of concentration. In fiscal 2019, nearly 80% of these were by just 5,000 companies. To drill down further, just 400 companies accounted for half of the capex.

Between fiscals 2018 and 2022, capex grew ~7% on average.

In absolute terms, overall capex averaged Rs 3.75 lakh crore between fiscals 2018 and 2022. We see this number rising to ~Rs 5.75 lakh crore on average between fiscals 2023 and 2027, marking a ~1.5x increase on an annual basis.

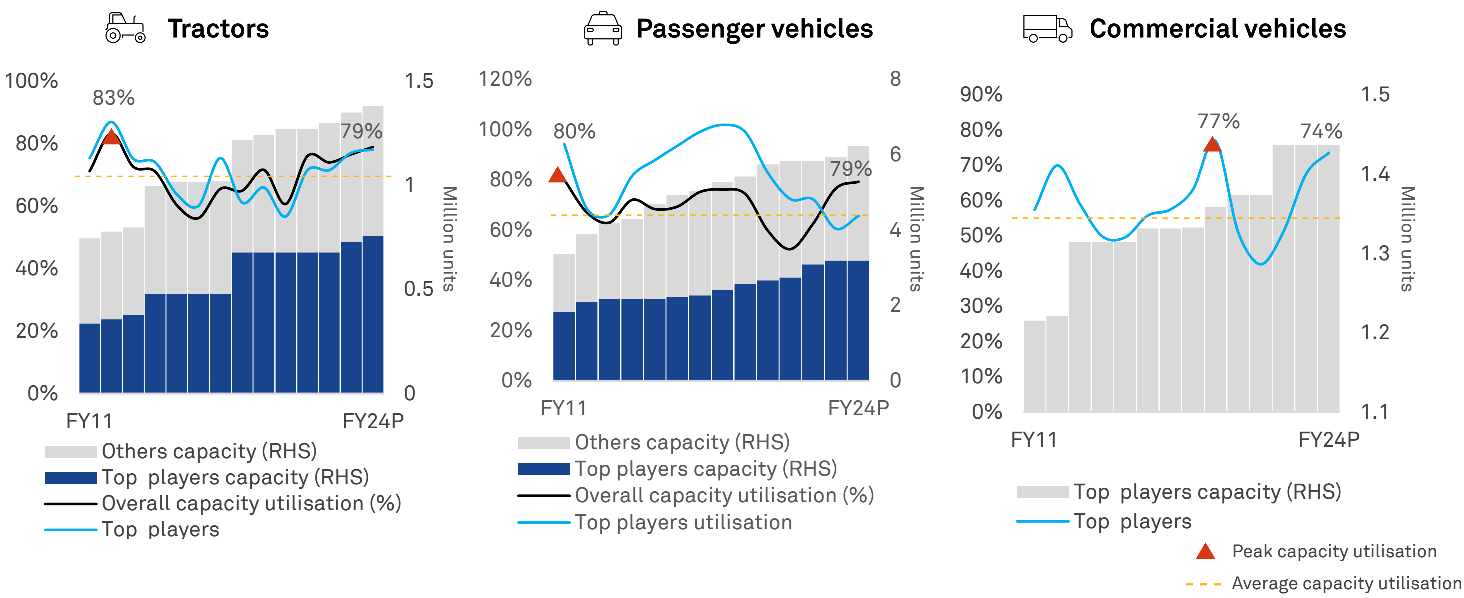
If investments through the PLI scheme and into new-age sectors are excluded, the growth in capex drops nearly 18%. Last fiscal, capex growth was pegged at 25%.

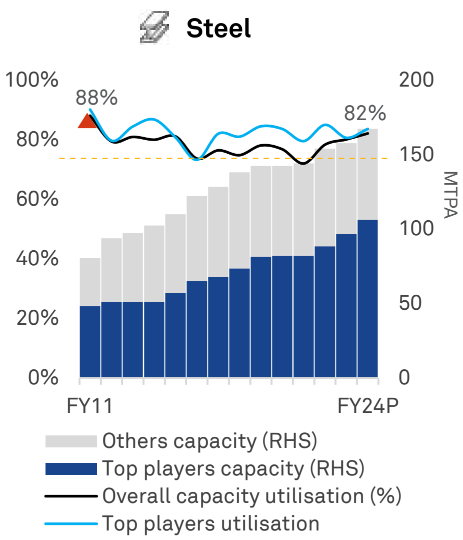
A look into the financials of ~350 industrial companies that account for ~40% of the capex indicates a sustained 23% rise in capex in the first half of fiscal 2023, compared with over 30% increase in the first half of last fiscal. We expect overall capex for fiscal 2023 to rise 16-18%.

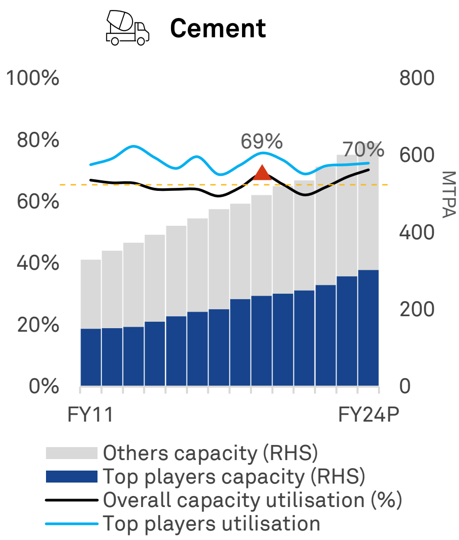
PLI and new-age sector capex accounted for 1% of capex spends last fiscal, from where the share is set to rise to 10% in fiscal 2023.

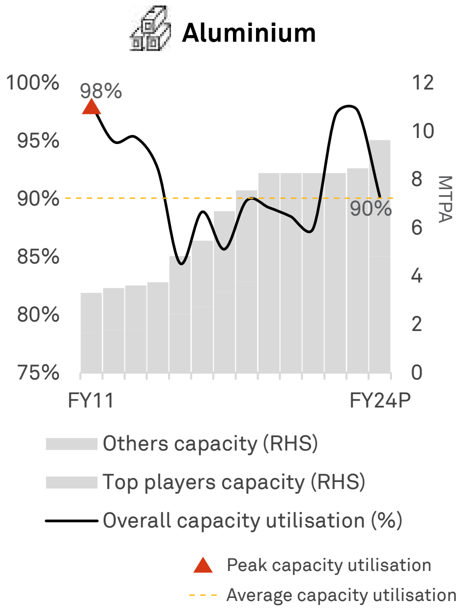
Overall, PLI and new-age sector capex could account for nearly 17% of the capex between fiscals 2023 and 2027.

Most legacy assets breached the decadal average and were a notch below the all-time high in terms of capacity utilisation



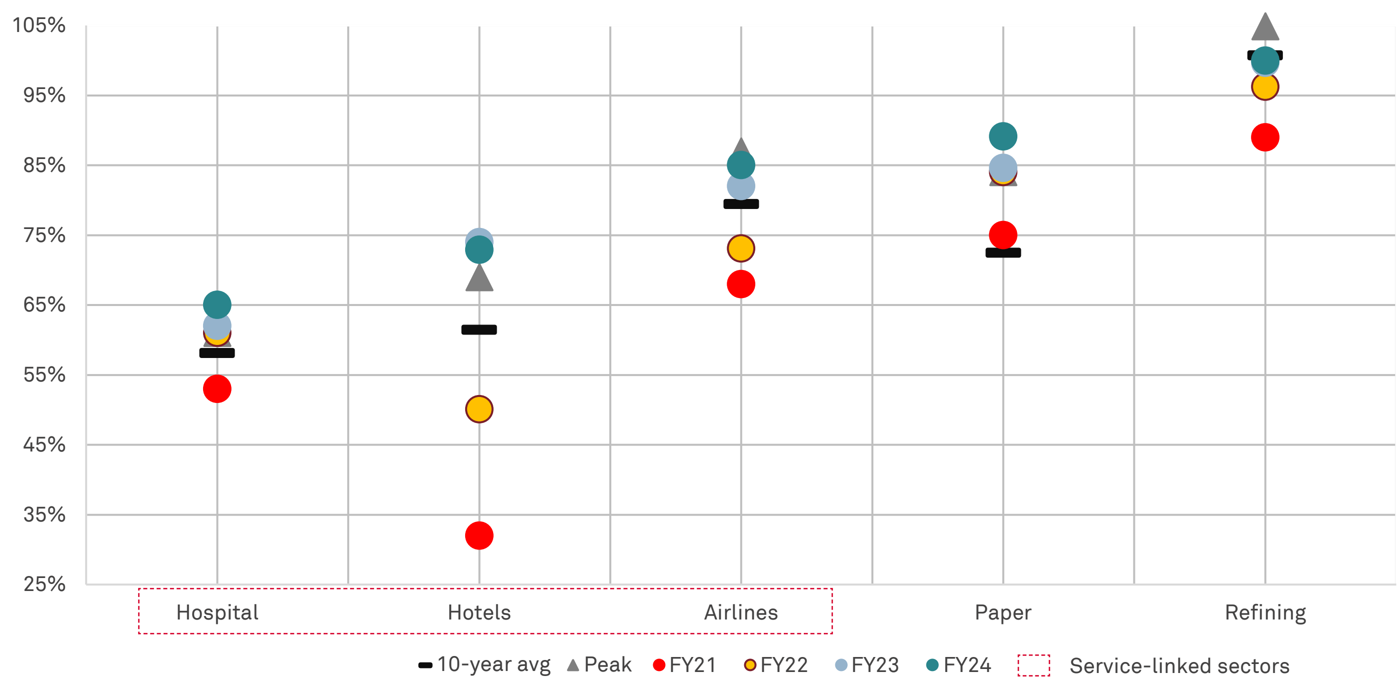






These legacy sectors account for nearly 30% of capex on average every fiscal.

Even service-linked sectors now have asset turnover breaching all-time highs



Note : Utilisation levels of two premium hotels considered for the hotel industry
Source: Quantix, CRISIL MI&A Research

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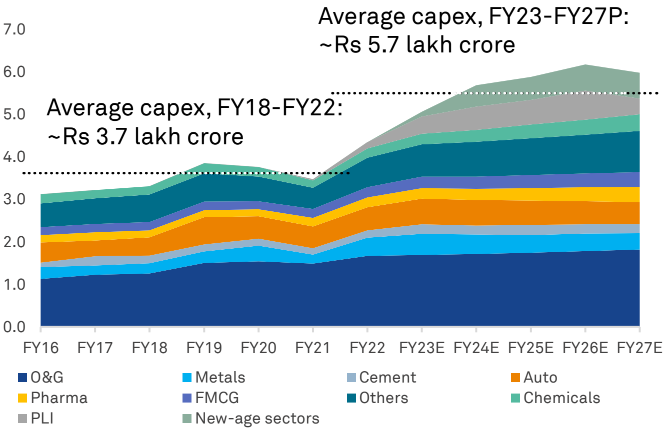
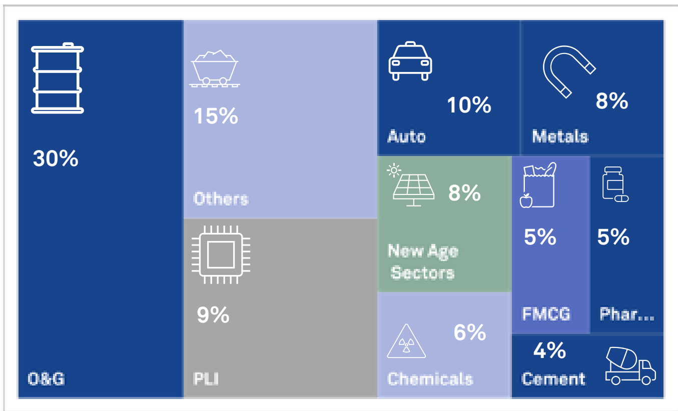
Legacy assets show selective pick-up in capex. New age and PLI to account for 50% of incremental capex

PLI and new-age capex drives growth, excluding which capex would be flat



Note: New-age sectors include green hydrogen, semiconductors, wearables and solar modules (excluding PLI); others include textile, consumer durables, mining and paper
Source: Quantix, CRISIL MI&A Research

PLI and new age to account for 17% of total capex over the next 5 fiscals

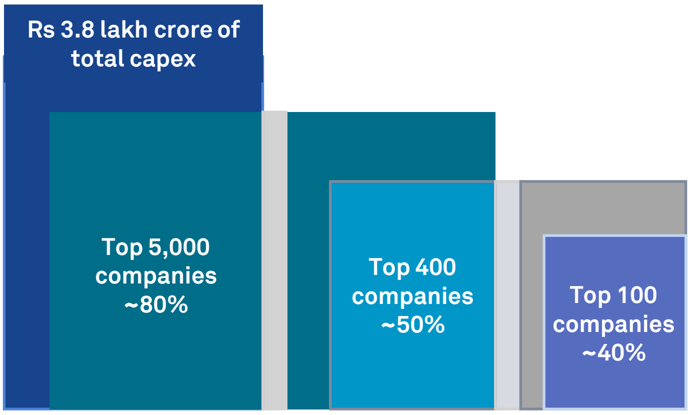


- Excluding PLI and new-age sectors, capex in fiscal 2023 is estimated to grow 8-10%
- Sectors such as steel and cement, where large companies had higher utilisation a year ago, are seeing healthy capacity additions accounting for 14% of the total investment in fiscal 2023
- Steel capacities planned in India to account for over 15% of the global additions over next 3 years
- The auto sector is seeing investments from larger companies, while the rest are planning to add capacity in newer areas such as electric vehicles under PLI

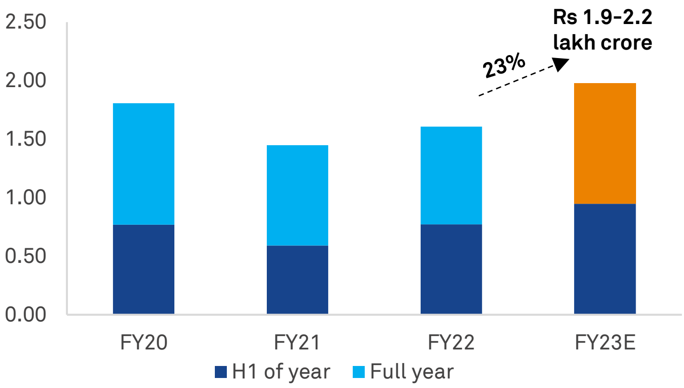
In the first half of fiscal 2023, a 23% rise in capex over 30% growth last fiscal underscores the imminence of the capex cycle

- Out of the 350 companies that have published their first-half financials, only 170 have shown an increase in capex. Oil and metals capex accounts for over half of these spends
- Only half of the auto and components companies from ~49 in our sample set are going for capex. And nearly 60% of that capex is driven by just three auto makers
- On the other hand, of the 20 listed metals companies, all except one have capex spends. Metal companies accounted for ~20% of capex in the first half of fiscal 2023
- Similarly, seven out of the eight cement companies have shown a rise in capex, and these are mainly large players
- In oil and gas, of the 10 listed companies, at least seven spent over Rs 500 crore in the first half of fiscal 2023
- A check of company announcements indicates only 250 out of the top 400 industrial companies by revenue have announced capex plans. Half of this capex, amounting to ~Rs 6.5 lakh crore, will be spent before fiscal 2025
- Spending by these ~350 companies in the first half, and estimates for the full year totted up should lead to the overall industrial capex reaching Rs 5-5.5 lakh crore across the 13 sectors tracked by CRISIL. A look at past trends indicates growth of 16-18% for fiscal 2023 and 12-15% for fiscal 2024.

Top 400 companies account for ~50% of the overall capex

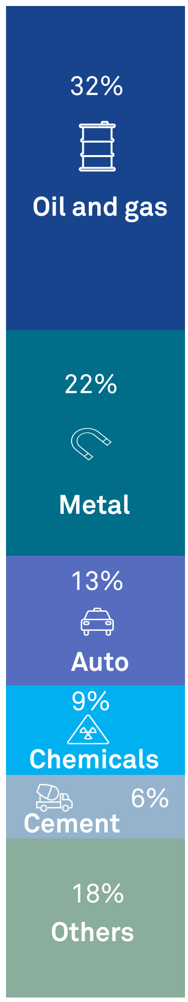


Assessment of ~350 companies indicates healthy capex growth in fiscal 2023

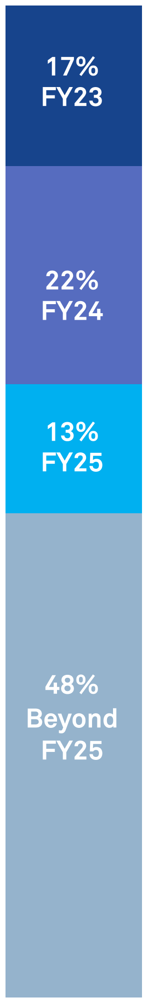


Note: Others include pharma, FMCG, electronics, paper, mining, consumer durables and capital goods
Source: Quantix, CRISIL MI&A Research

Two sectors accounted for over half of capex in first half of fiscal 2023



~50% of announced spends by ~250 companies until fiscal 2025



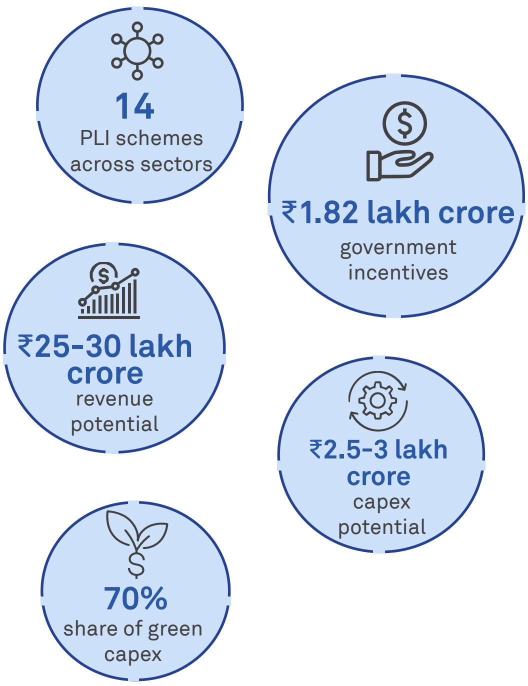
PLI-led private capital expenditure to peak in fiscal 2026

Incentives for complex sectors under the PLI scheme, which was introduced in April 2020 to provide capital expenditure-linked incentives to 14 key sectors, are expected to peak in fiscal 2026 due to delays in scheme implementation.

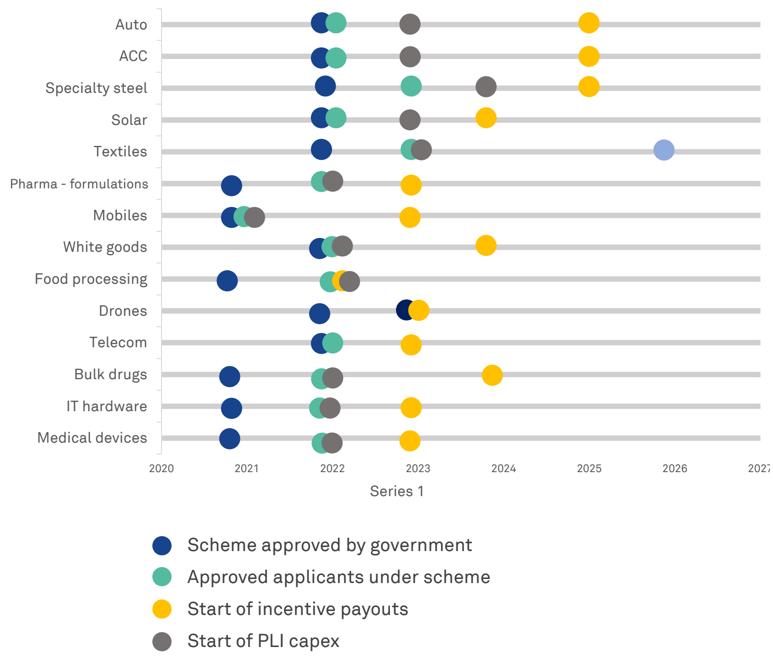
Besides, stringent disbursement criteria remain a key monitorable for nearly 50% of the sectors benefitting from the incentives.

PLI progress at a glance

Marginal drop in capex from initial estimates, round two for a few sectors may add to existing numbers



Of 14 schemes, nearly 8 got government approval only in 2022, thereby delaying capital expenditure; incentive payouts for 4 schemes to begin only in fiscal 2025

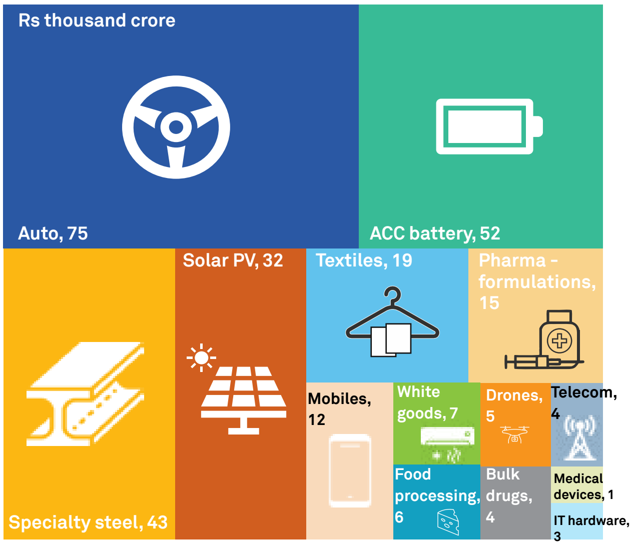


Source: PLI documents, CRISIL MI&A Research

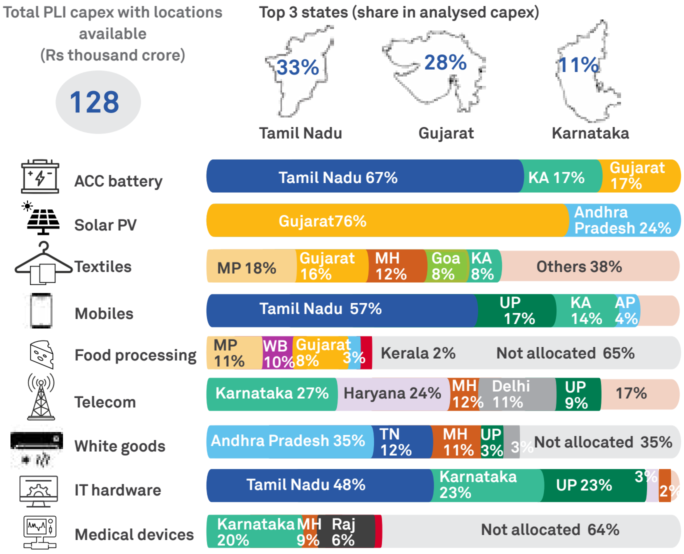
PLI has been focusing on integrating existing manufacturing value chains to reduce import dependence and improving competitiveness to support exports as well. The scheme would dole out incentives of Rs 1.82 lakh crore for generating revenue close to Rs 30 lakh crore and capital spends of Rs 2.5-3 lakh crore. The numbers could go up as round two for a few sectors nears completion.

However, the effort required for formulating the scheme for complex sectors such as advanced chemistry cell (ACC) batteries and solar modules led to 8 out of 14 sectors getting government approval for implementation of the scheme only in 2022. Therefore, the scheme may see capital spends closer to what government visualised but at a staggered pace.

Rs 276,000 crore capex: Top 3 sectors account for over 60% of spend



Locations for close to 50% investments decided; Tamil Nadu, Gujarat and Karnataka lead



Note: Auto, specialty steel and medical devices have largely unallocated investment locations
KA – Karnataka, MP – Madhya Pradesh, MH – Maharashtra, UP – Uttar Pradesh, AP – Andhra Pradesh, WB – West Bengal, TN – Tamil Nadu, Raj – Rajasthan
Source: PLI documents, CRISIL MI&A Research

Although the scheme promotes capital expenditure across 14 sectors, the bulk of the capex will be concentrated in just three sectors. Of the top five sectors that account for 80% of the spends, three are linked to green investments.

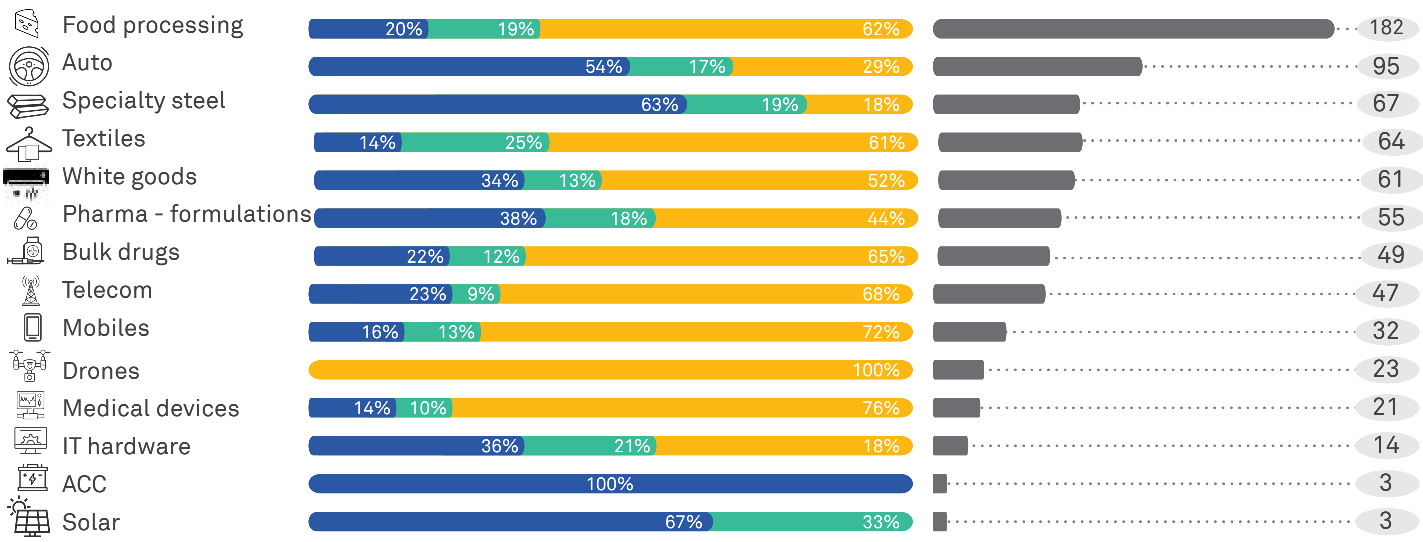
Further, five sectors are yet to begin their capital spends within PLI and locations for many sectors are not yet fully known.

CRISIL's assessment indicates that locations have been finalised for close to 50% of the capital spends, with three states accounting for nearly 70% of the total spend. Land allocations at a discount, faster clearances, and other benefits have enabled these states to be better placed than the rest.

In total, 716 applicants have been approved across sectors and their mix is well-balanced between large, medium and small players.

A deeper look shows integrated capacities have had higher participation from larger players.

Participation rates are well-diversified across players, with 716 applicants getting government nod

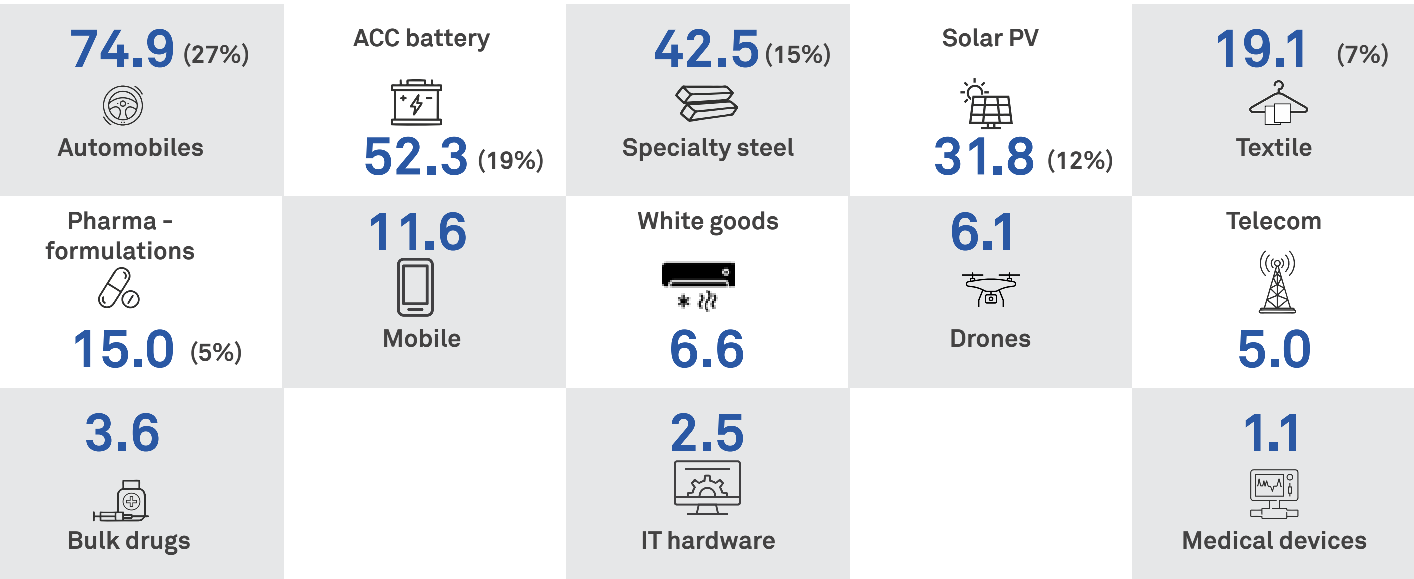


Note: Large companies: >Rs 5,000 crore revenue, Medium: Rs 500-5,000 crore, Small: <Rs 500 crore revenue
Split is given in terms of number of companies
Source: Cabinet, Ministries, PIB, CRISIL MI&A Research

With specialty steel and solar modules seeing delayed execution, overall spends are expected to peak in fiscal 2026

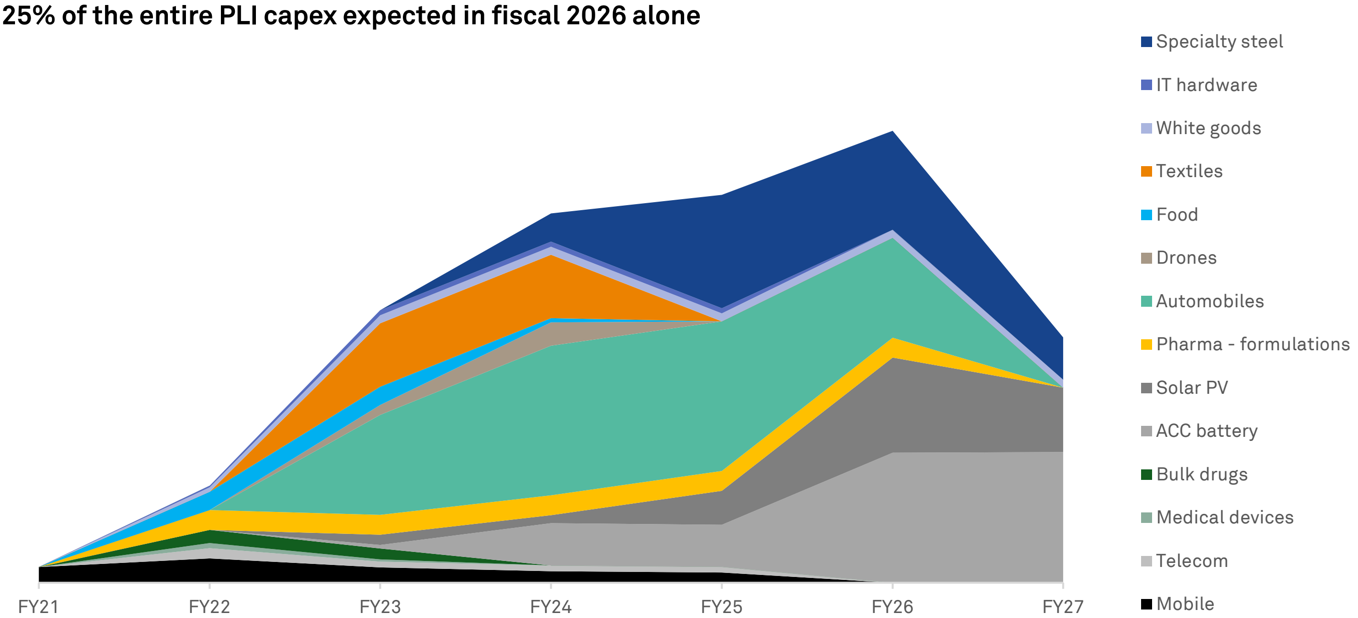
The sector-wise distribution of capital spends indicates that only 20% of the capex has been spent over the past three years. In fiscal 2024, an amount equal to the spends of the last three years would be spent. However, delays in approvals for complex sectors such as ACC battery, solar modules, and specialty steel would lead to capex spends peaking only in fiscal 2026.

Top 5 sectors account for 80% of PLI capex



Source: PLI documents, CRISIL MI&A Research

25% of the entire PLI capex expected in fiscal 2026 alone

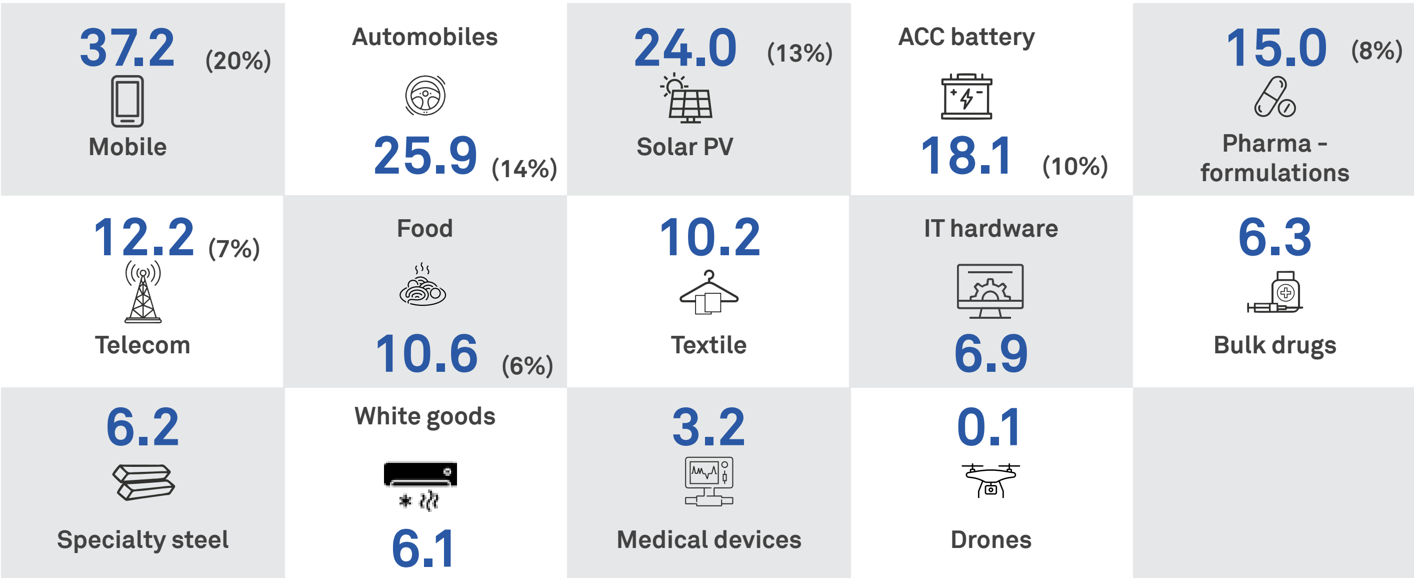


Cumulative PLI capex: Rs 2.76 lakh crore

2.3	14.6	40.9	55.4	58.2	67.8	36.8	(in '000 crore)

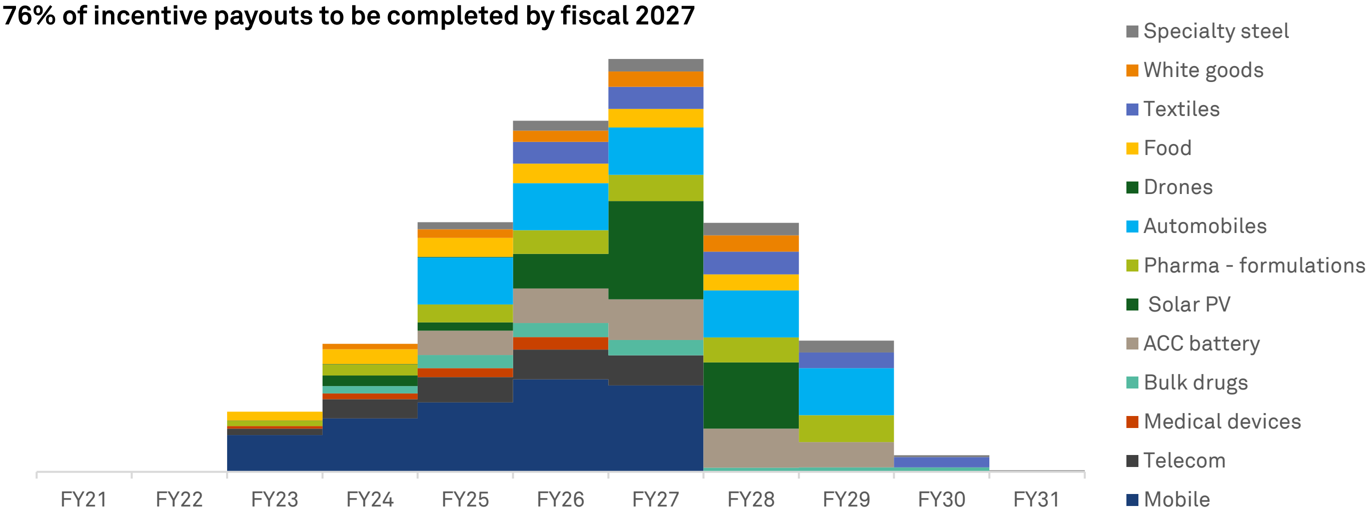
Source: PLI documents, CRISIL MI&A Research

Incentive payouts to peak only in fiscal 2027



Source: PLI documents, CRISIL MI&A Research

76% of incentive payouts to be completed by fiscal 2027



Cumulative PLI incentive: Rs 1.82 lakh crore

0.0	7.0	15.2	29.4	41.3	45.4	27.4	14.4	1.8	0.2	(in '000 crore)

Source: PLI documents, CRISIL MI&A Research

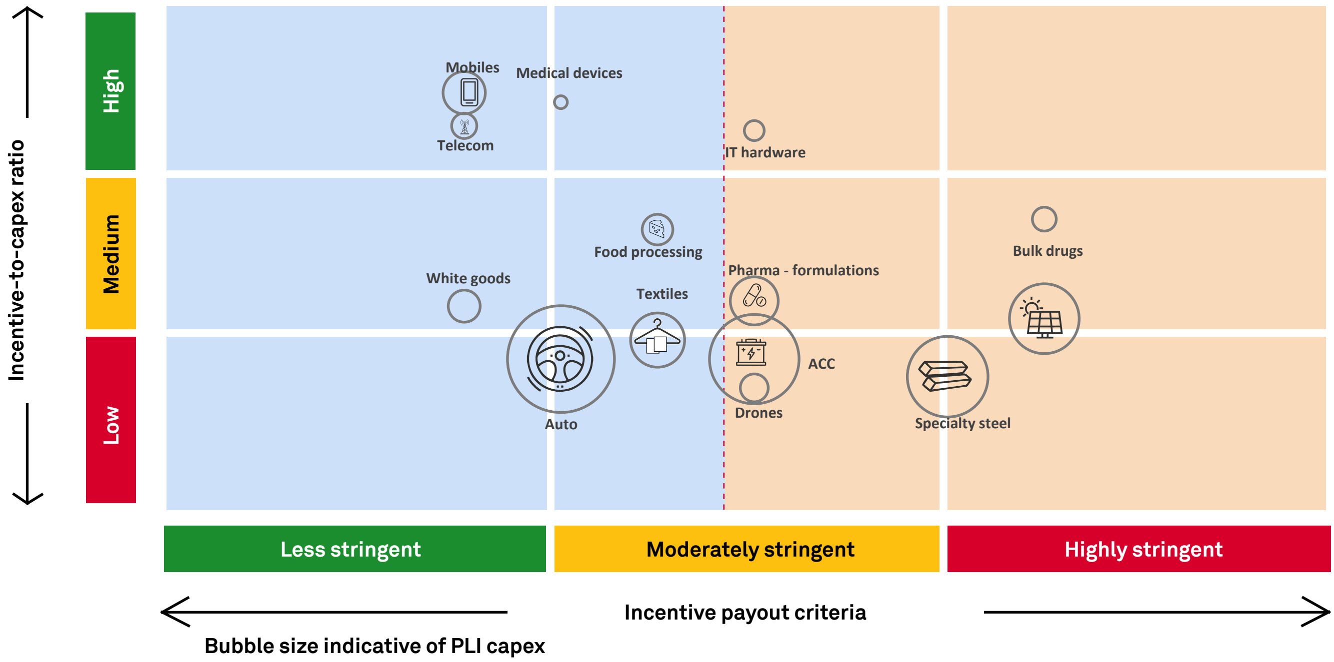
Post implementation of the scheme, the process for claiming incentive payouts has been pretty complex. Clarifications are required on inclusions and exclusions for quarterly disbursements by stakeholders and many stakeholders are holding discussions to address such concerns.

Sectors with a higher incentive-to-sales ratio and relatively straightforward rules for payouts such as mobile handsets may see the most payouts by fiscal 2028. However, at least eight sectors would see incentive payouts stretch until fiscal 2030.

Further, incentive criteria have evolved over time. An assessment conducted by CRISIL MI&A Research indicates that in at least eight sectors where ecosystems are being established, meeting technical parameters will be crucial and a key monitorable to ensure incentive payouts are on time and without penalties.

An evaluation shows that qualification criteria for at least 56% of incentive payouts across six sectors are relatively complex and stringent. This will hence remain a key monitorable for the scheme.

56% of incentive payouts linked to stringent incentive criteria



Source: PLI documents, CRISIL MI&A Research

Complex incentive payout criteria impact at least eight sectors

Level of integration

Certain sectors have incentive payouts according to the degree of integration, while others may fail to fully succeed in the absence of a high level of integration

Highly applicable for: Solar PV, IT hardware

Extent of domestic value addition

Stringent domestic value-addition requirements for incentive payments may be difficult to achieve given the nascent stage of many of these sectors in India

Highly applicable for: Drones, ACC battery, solar PV

Volatility in commodity prices

Incentive payout in specialty steel PLI scheme is linked to steel prices, thereby exposing the applicants to price fluctuation risk

Highly applicable for: Specialty steel

Technical development

Technical specifications are linked to incentive payments in certain schemes

Highly applicable for: Solar PV, ACC battery, auto

Investment criteria

Strict investment requirements, such as setting up greenfield projects, which might be difficult to achieve for certain applicants

Highly applicable for: Bulk drugs, solar PV, textiles

Source: PLI documents, CRISIL MI&A Research

The moot question is: does PLI enhance India's competitiveness globally?

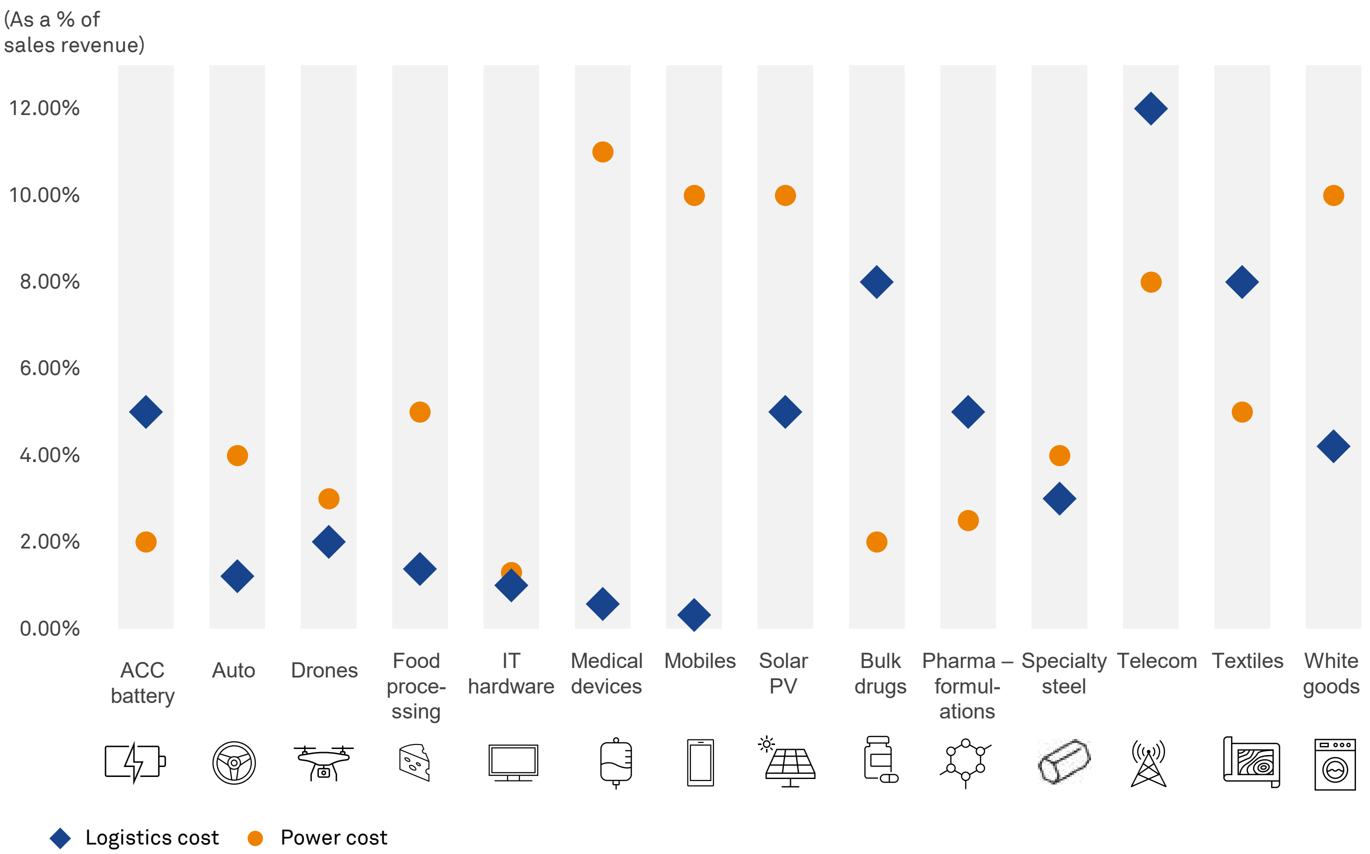
A dipstick survey across a few sectors indicates that PLI will aid ecosystems to get established, though certain areas may remain work in progress.

Power and logistics intensity for many of the sectors under PLI remains high - especially for ACC batteries, solar modules, speciality steel and textiles. The scenario is similar for logistics costs. These linked infra segments are in a transition phase and may not be fully competitive compared with those in the ASEAN region.

Further, given the nascent stage of these sectors in terms of scale, India may be ranked substantially lower. For instance, the largest integrated solar module plant announced under PLI is 4 GW, whereas players in China would have multiple plants of 10 GW or above.

The scenario is similar when one compares the size of ACC battery plants of key global players with Indian players.

Most PLI sectors subject to high power and logistics cost where India lacks competitiveness



	China	Taiwan	India	South Korea
Power cost (in $ cents)	8-9	9-12	10-13	8-9
IMD World Competitiveness Rank	17	7	37	27

Another round of scale-based incentives is crucial. Further, while 70% of PLI capex is green, a number of other emerging sectors such as electrolysers, grid storage batteries and several capital equipment may in due course get PLI equivalent support. India should therefore target multiple rounds of the scheme in the coming years.

Centre remains the bulwark of infrastructure buildout

Between fiscals 2018 and 2022, investments in infrastructure in India increased at a CAGR of 7% to Rs 11 lakh crore.

Governments did the heavy lifting, among other things, to pump-prime the economy recovering from the Covid-19 pandemic. The central government accounted for 49% of the pie and states for 29%, with the private sector accounting for the balance.

Industrial investments, on the other hand, were driven by the private sector, and logged a 7% CAGR between fiscals 2018 and 2022, albeit on a much lower base compared with infrastructure.

In absolute terms, ~Rs 16 lakh crore was invested across the infrastructure and industrial segments in fiscal 2022.

Between fiscals 2023 and 2027, infrastructure capex is seen logging a CAGR of 11%, rising 67% compared with the fiscal 2018-2022 period, led again by government spend.

Infrastructure to lead capex growth; industrial capex to pick up pace

Sector	FY18-FY22 CAGR	FY22E Rs lakh crore	FY23E	FY24P	FY23E-27P/ FY18-22	Source of funds (FY23E) Centre	State	Private
Infrastructure (A)	7%	11.1-11.3	18-22%	12-15%	1.7x	49%	29%	22%
Roads	14%	3.3-3.5	13-15%	12-15%	1.7x	62%	27%	11%
Power	2%	2.2-2.3	30-32%	13-16%	1.8x	25%	31%	44%
Railways	17%	1.9-2.0	33-36%	12-14%	1.9x	84%	16%	
Urban infrastructure	21%	1.6-1.7	15-17%	20-25%	2.5x	41%	55%	4%
Other infrastructure	-5%	2.0-2.1	3-5%	8-10%	1.1x	18%	47%	34%
Industrial (B)	7%	4.3-4.4	16-18%	12-15%	1.5x	34%		66%
Total investments (A+B)	7%	15.5-15.7	18-20%	12-16%	1.7x	45%	21%	34%

Note: E — estimated, P — projected; other infrastructure includes ports, airports, irrigation, telecom towers and network, warehousing, and O&G pipeline
Source: CRISIL MI&A Research

The strong government thrust can be gauged from the fact that allocation to six key schemes launched since 2015 amounts to Rs 3.6 lakh crore. Of this, 88% has been spent so far, accounting for ~4% of the total infrastructure spend.

Allocation to key infrastructure schemes

Scheme	Swachh Bharat Mission (Urban)	Swachh Bharat Mission (Rural)	Smart Cities Mission	Pradhan Mantri Krishi Sinchayi Yojana (PMKSY)	Atal Mission for Rejuvenation and Urban Transformation (AMRUT)	Jal Jeevan Mission
Year of launch	2015	2015	2015	2015	2015	2019
Allocation in Rs bn	176	839	411	359	453	1371
Achievement	**82%**	**81%**	**88%**	**96%**	**96%**	**89%**

Source: Budget documents, CRISIL MI&A Research

The focus has lately shifted to large, aggregating schemes such as National Infrastructure Pipeline (NIP), National Monetisation Pipeline (NMP), and the National Logistics Policy (NLP), which have increased government spending substantially in infrastructure segments such as roads and railways.

More importantly, structural changes such as identification and structuring of all upcoming and under-construction infrastructure projects under NIP, setting up of dedicated infrastructure finance institution National Bank for Financing Infrastructure and Development (NaBFID), setting up of PM Gati Shakti for coordination between various infrastructure ministries, identification of projects under NMP, mandating monthly payouts by central and state governments for infrastructure projects, and increased reliance on its own funds for capex spends will all support the healthy rise in infrastructure in the near to medium term.

Correlation of infrastructure spends with GDP growth implies infrastructure spends at peak.

Investments in infrastructure, which averaged ~Rs 1.8 lakh crore annually over fiscals 2003-2007, jumped 5x to Rs 9 lakh crore, on average, over fiscals 2018-2022.

This massive jump was on account of the healthy GDP multiplier of capex. As per a study by the National Institute of Public Finance and Policy, every rupee spent on capex leads to a cumulative multiplier effect of Rs 4.8 in the economy, while for revenue expenditure, every rupee of outlay leads to a cumulative multiplier of Rs 0.96.

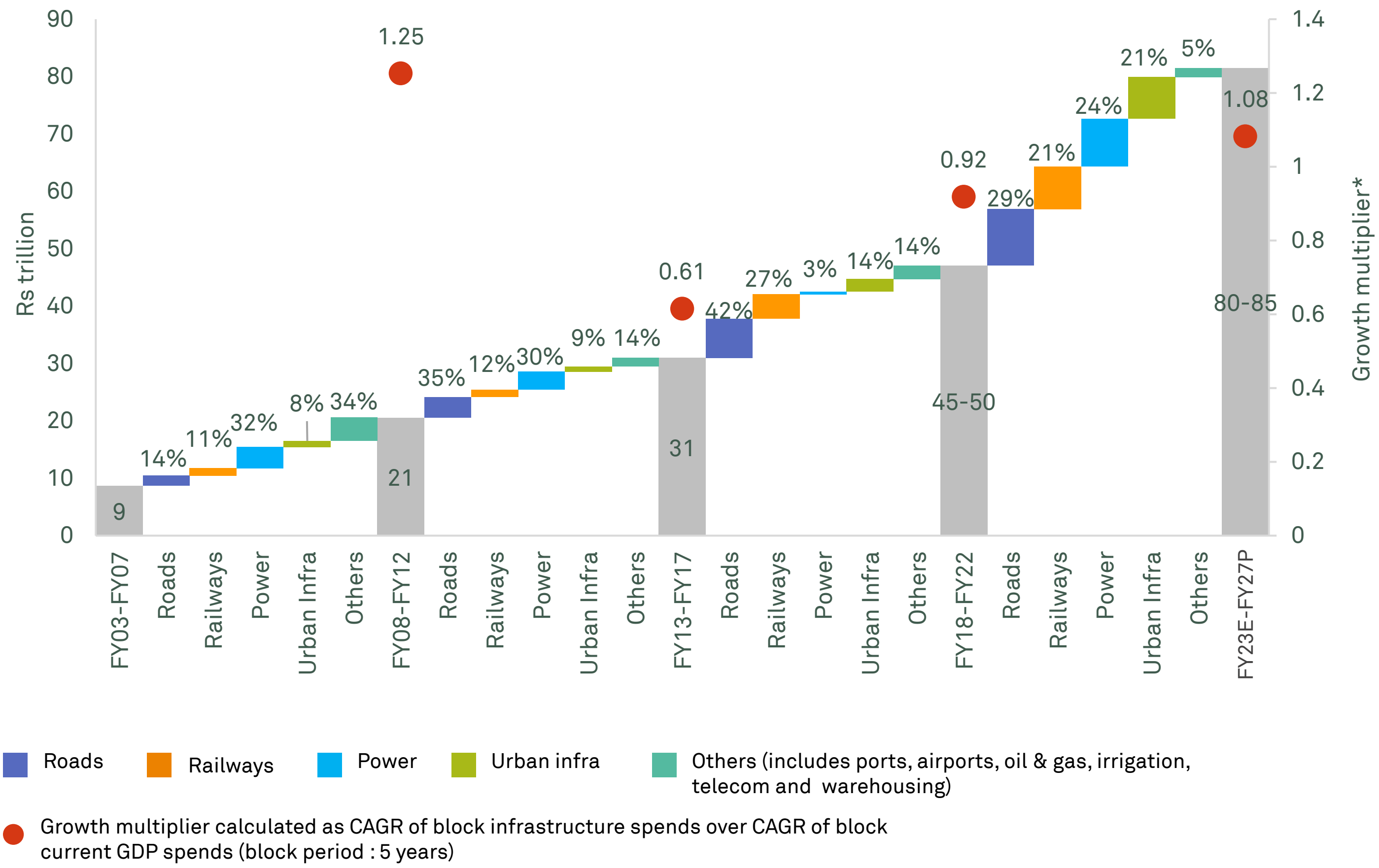
Considering the budgeted outlay for capex by the central government for nine core infrastructure ministries for fiscal 2024 is 14% higher than the revised estimates for fiscal 2023, the multiplier effect is expected to be substantial.

Further, a look at 5-year blocks shows that infrastructure investments grew faster than the nominal GDP over fiscals 2008-2012, setting the stage for healthy GDP growth over fiscals 2013-2017. Factoring the course correction for infrastructure taken in recent years, together with NIP, infrastructure investments are expected to record healthy GDP growth over fiscals 2023-2027.

The government's focus is evident from the Rs 9.5 lakh crore allocation for infrastructure in the budget for next fiscal, which is a multiplier of ~1.8 over fiscal 2019 level. Boosted by central allocations, roads and railways have been doing the heavy lifting for the infrastructure sector.

Going ahead, roads, railways, power, and urban infrastructure are going to contribute at almost equally substantial levels in incremental capex of overall infrastructure. In keeping with the targets set out in COP26, power investments, driven by renewables, would also aid investments.

Infrastructure spends to nearly double in next 5 years



Source : MoSPI, Niti Ayog, CRISIL MI&A Research

Infrastructure investments lined up set to achieve 75% of original targets

The NIP, envisaged in fiscal 2019, is a Rs 111 lakh crore behemoth of infrastructure projects, encompassing close to 5,800 projects. Of this target, CRISIL MI&A Research estimates that 44%, or ~Rs 50 lakh crore, would have been spent till the end of this fiscal, with railways leading with 61% completion, followed by roads at 55%, on account of healthy capex outlay by the central government.

That said, sectors with healthy state participation, such as irrigation and urban infrastructure, lag the 44% completion achieved by NIP overall.

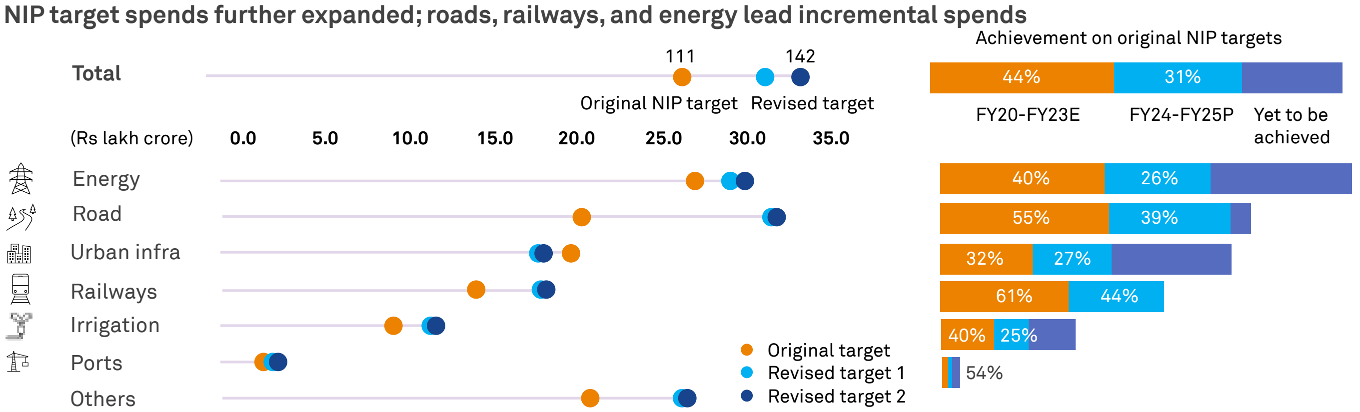
CRISIL MI&A Research projects a nearly 75% achievement of the NIP by the end of the original duration, that is fiscal 2025.

The railways will be the outperformer and is projected to surpass the investments laid out in the NIP, aided by spends on new avenues such as high-speed rails, the dedicated freight corridor, station redevelopment, coupled with traditional investments such as doubling and electrification with rolling stock. The introduction of Vande Bharat trains, new locomotives and wagons has given it further thrust.

The roads sector will follow closely with nearly 95% achievement, boosted by development of greenfield access-controlled expressways. Sectors such as irrigation and urban infrastructure, which were poor performers till fiscal 2023, will continue to lag in fiscal 2025 as well.

The NIP has evolved so that any new infrastructure project is tagged under it. With this, the NIP has close to 9,000 projects amounting to Rs 142 lakh crore under its ambit. The additional spending has been concentrated in the roads sector, which is seeing an almost 50% jump over the original targets laid out in the NIP, followed by railways, with a 30% increase.

NIP target spends further expanded; roads, railways, and energy lead incremental spends



Note : Other sectors include airports, telecommunication, rural infra, social infra, industrial infra and digital communication
Source : CRISIL MI&A Research, IIG

With nearly Rs 82 lakh crore set to be spent between fiscals 2023 and 2027, funding will remain an important variable for infrastructure investments at the central, state, and private player levels. Hence, for infrastructure investments to materialise, asset monetisation is crucial.

Asset monetisation execution patchy on annual basis; overall achievement may aid capitalisation

Sector	FY22 monetisation (Rs billion)	Achievement	FY23 YTD monetisation (Rs billion)	Achievement	Overall target (Rs billion)	YTD achievement in overall NMP targets
Roads	230	77%	143	43%	1602	23%
Railways	8	4%	18	3%	1525	2%
Power	95	125%	20	16%	850	14%
Mining	580	17.26x	170	2.81x	287	2.64x
Total	970	110%	381	23%	6000	23%

Source: NMP documents, CRISIL MI&A Research

The progress of the NMP has seen stark variations across sectors on account of varying levels of past monetisation success in the infrastructure sub-sectors. Sectors such as airports and roads have seen successful monetisation in the past, buoying investor confidence on account of well-established monetisation models such as infrastructure investment trusts, toll-operate-transfer in roads and operation, management, and development agreement in airports.

Of the monetisation target set out for fiscal 2022, 110% was achieved, boosted by healthy receipts from the mining sector. While the mining sector has been at the vanguard again this fiscal, other sectors such as roads have faltered.

Despite having a well-established track record of monetisation in roads, the sector met only 43% of targets year-to-date. Overall monetisation for fiscal 2023 is at one-fourth of the target set out. Over the duration of the NIP, with fiscal 2023 acting as the mid-point, only less than one-fourth of the targets set have been met.

This indicates that despite optimistic estimates set out in the NMP, some sectors have witnessed limited investor confidence on account of poor prior monetisation experience. Rising interest rates have also crimped capital availability and reduced the attractiveness of yield-generating infrastructure assets.

Having said that, the roads and renewables sectors offer massive monetisation potential as these together account for ~44% of infrastructure capex.

Roads and renewables sectors present massive monetisation potential for the leading private players

	Share in Infra capex	Share of private players	Top 10 private players share	Order book of top 10 players (Rs tn)	Monetisation potential of top 10 players (Rs tn)	Order book to monetisation potential
Roads	15%	59%	28%	2.68	0.46	5.79
Renewable energy	9%	83%	57%	2.40	2.52	0.95

Note: Share of private players estimated on the basis of awarding data for the latest three fiscals. The data for roads is only for the national highways segment. It includes HAM projects where 40% of the awarded project cost is paid by the NHAI through annuities during project construction.
Source: CRISIL Roads Database, CRISIL Renewables Database

The climate transition plot thickens

One of the top polluters in the world in terms of total emissions, India has set itself ambitious energy transition targets.

But with transition come risks.

Here, we focus on three significant ones on the horizon, and their implications.

We see the green transition occurring in three stages — first, capitalising on existing technologies, second, focussing on cost reduction of evolving technologies to sharply reduce emissions, and third, deep decarbonisation for achieving carbon neutrality.

India might remain in the first stage till 2030, though investments in newer technologies are gathering pace.

So far, investments are focussed mainly on two sectors: renewable energy and transportation. They are predominantly for developing alternative fuels, electric vehicles, and new technologies such as green hydrogen.

We estimate these investments account for ~9% of total infrastructure investments and a minuscule proportion of industrial investments, as of fiscal 2023. That could rise to 15% by fiscal 2027.

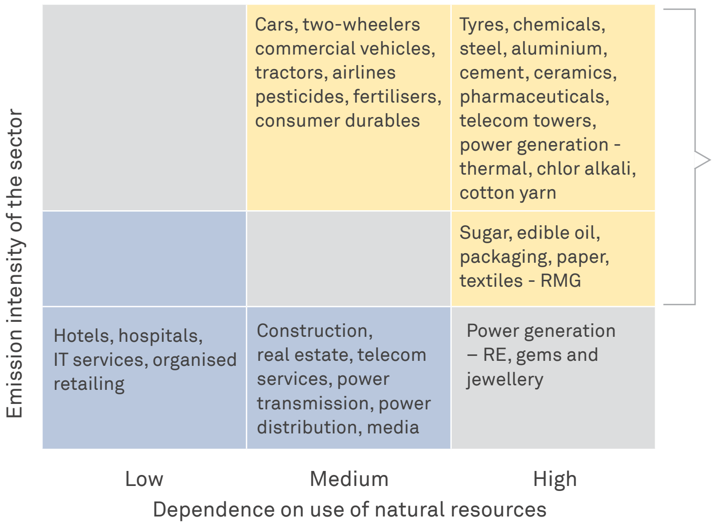
40% of revenue of companies in 40 sectors is climate-transition sensitive

Climate-linked sensitivity refers to the likely impact of green transition on revenues of sectors for a variety of reasons. It could be because existing products are being replaced by greener ones, or sectors have high exposure to/dependence on natural resources, or have high emission production processes that may impact costs (say, due to higher costs of regulatory compliance), and hence, competitiveness in specific markets.

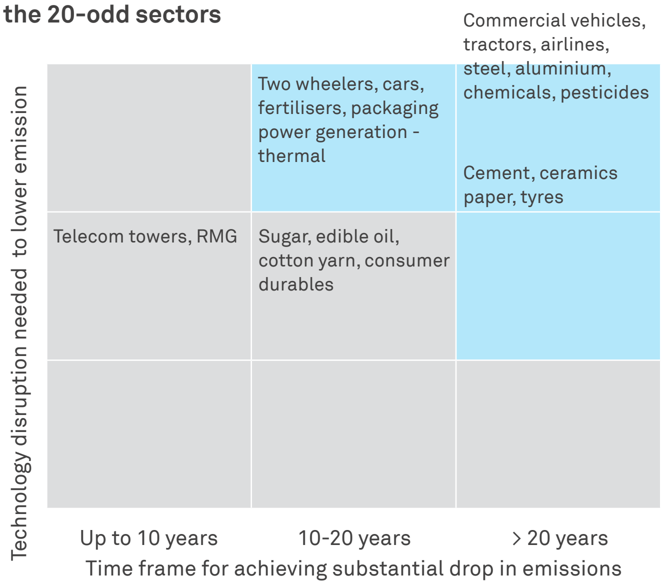
Our assessment of 40 sectors, comprising 780 companies, indicates 40% of their revenues have high emission intensity and dependence on natural resources.

Further evaluation indicates that ~75% of these sensitive sectors need high technology disruption and a long tail period to drive their transition, implying higher costs to be incurred over a longer period (see chart below).

21 out of 40 key sectors could see cost increases or revenue disruptions



Meaningful transition a long-drawn process for most of the 20-odd sectors



Source: CRISIL MI&A Research

Structural shifts in commodity prices

The next risk we see relates to commodity prices. While changes in commodity prices are overwhelmingly attributed to supply shocks and geopolitics these days, another quieter shift is taking place. The chart below shows which commodities are likely to be affected and how, by the green transition, over the long term.

Investments in new-age applications, hard-to-abate sectors may impact commodity prices structurally

Assessment period		Long-term threats and impact		
	Commodity	**Green-flation risk**	**Climate risk**	**Overall impact**
Energy	Crude oil	Negligible	High	High
	Non-coking coal	Negligible	High	High
	Natural gas	Low	Moderate	Medium
Manufacturing	Steel	Average	Moderate	High
	Copper	High	Moderate	High
	Aluminium	Moderate	High	Medium
	Coking coal	Average	High	Medium
	Cement	Average	High	Medium
Agri	Sugar	High	High	Medium
	Wheat	Average	High	Medium
	Edible oil	Average	High	Medium
New	PV-grade silicon	Moderate	Moderate	Medium
	Lithium hydroxide	High	Moderate	Medium

● High ● Moderate ● Average ● Low ● Negligible

Crude oil and coal are expected to face reverse green-flation risks, with falling demand resulting in a long-term, sharp correction in prices.

We also see their use being limited by higher carbon taxes as we progress on the path of energy transition.

Commodities such as aluminium and copper have use cases for higher applications in energy transition products. As a result, green-flation risks remains high. Paradoxically, they pose risks to climate due to their individual emissions intensity and high share in total industrial emissions.

Similarly, PV-grade silicon and lithium hydroxide are highly power intensive sectors involving complex mining activity. Intense application results in sharp green-flation risks for these commodities amid a relatively less evolved supply ecosystem.

Green-flation risks: Risk to commodity prices on account of % of material being used for producing green materials

Climate risks: Risk to commodity prices on account of higher emission, and hence decarbonisation investment needs

Source: CRISIL MI&A Research

Export competitiveness

A third, significant risk is emerging in the export markets. The European Union (EU) and the United States (US) — India's key merchandise partners — are looking at addressing carbon leakages. EU27 have come up with concrete rules to handle carbon transfers through a Carbon Border Adjustment Mechanism (CBAM).

Details of the CBAM and its implications for Indian exporters are explained in the infographics below:

Export competitiveness under the radar as countries are looking hard at carbon leakages

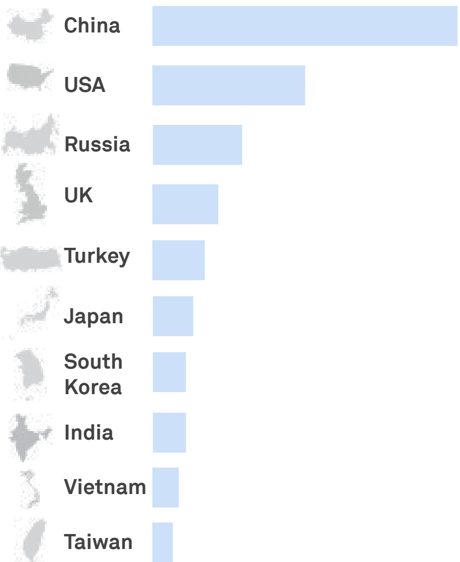
	EU27	US	Monitorables
Bill introduction date	December 2022	June 2022	CBAM needs two more clearances, CCI needs to be reintroduced
Name	CBAM	CCI	The bills need efficient carbon trade markets
Current status	Passed by the European Council and European Parliament	Expired in January 2023	Can be challenged under the WTO framework
Country climate goals	Climate neutral by 2050 55% lower emissions from 1990 to 2030	Net Zero by 2050, 50-52% reduction in emissions from 2005 levels	Any further stringency in climate goals can impact implementation timelines of the bill
Key features	• To reduce free allowances of carbon credit to sectors with high carbon leakage risk • Importers to declare total emissions of their imports • Free emission allowances at 100% until 2026, reduces to zero by 2032 • Emission to include direct and indirect, from production processes; at 10% of lowest performing plants if not known	• Carbon tax of $ 55 per tonne starting in 2024 on industries in the EPA GHG reporting programme • Covered companies to pay emissions that exceed industry average • Domestic companies to receive a rebate for carbon tax for exported products	CBAM to review sector list. Confidence on reported numbers and efficiency of bottom plants may impact payouts. Overall EU exports to continue to follow quotas
Sectors	Priority 1: Steel, aluminium, cement, fertilisers, electricity Priority 2: Hydrogen, ammonia, polymers and products	Power plants, refineries, chemicals, petroleum products, natural gas, metals, paper and more	Sector list can be reviewed further in 2026 for CBAM
Country share in India's merchandise exports	13-15%	15-18%	Both countries account for 30% of India's merchandise exports

Note: CCI - Carbon Competitiveness Incentive Regulation
Source: CRISIL MI&A Research

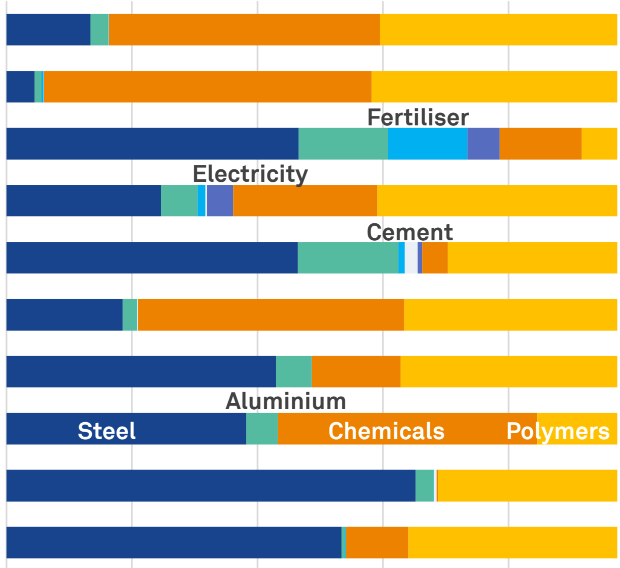
The chart below shows key exporting countries to EU27 and the share of sectors with CBAM exposure using both priority 1 and 2 lists (list of priority 1 sectors to be implemented in CBAM and extended list of priority 2 detailed in the previous infographic).

India's exposure highest considering CBAM implementation across both priority lists

Country-wise split of European imports from key countries: 2021 ($ trillion)	Share of priority 1	Share of priority 1+ 2
China	~1%	~7%
USA	> 1%	~9%
Russia	~7%	~10%
UK	~4%	~11%
Turkey	~11%	~16%
Japan	~2%	~9%
South Korea	~ 5%	~ 15%
India	~ 11 %	~ 24%
Vietnam	~ 5%	~7%
Taiwan	~ 5%	~ 10%

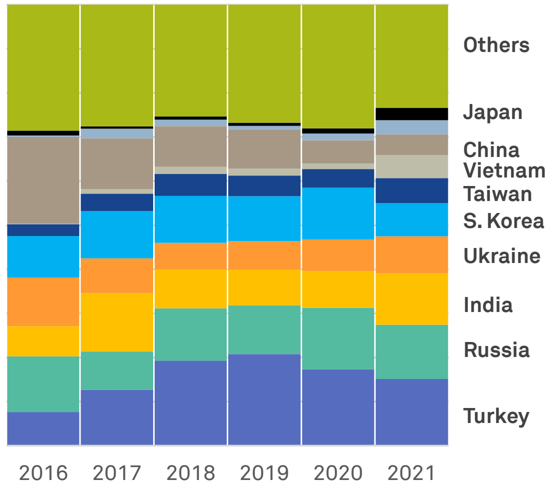


Split of sectoral exports by country across priority 1 and 2



A dipstick study based on reported emissions of larger steel exporters indicates a 11-13% rise in costs on full implementation of CBAM by 2032

Steel imports to EU27 work on quota system, thus limiting bargaining power of importers



Steel imports to EU27 have a blend of finished steel and semis, quotas only in finished steel

Emission inefficiency of larger Indian exporters against EU average at 50%

In the base case, Indian steel exporters may see cost increase of 11-13% at full implementation by 2032, at $100 price per unit of carbon (current prices)

Assuming a $100 carbon unit price (current prices) and comparing various kinds of technologies, the inefficiency level of large Indian steel makers is pegged at 50% of the EU average — which means they cause 50% more emissions.

To derive these inefficiencies, we have compared emission levels of EU manufacturers for specific technologies with those of large Indian exporters and then adjusted them using an average carbon price of $100 per unit of difference, to compensate for the higher emissions of Indian players vis-a-vis their EU counterparts. This translates to an estimated 11-13% rise in the cost of steel exported from India to Europe by 2032 (on account of the emission inefficiency).

Overall green investments are pegged at Rs 28-30 lakh crore between fiscals 2023 and 2030, or 15-18% of annual investments in the industrial and infrastructure categories.

Given these trends in exports and the domestic goals outlined under COP27, India should see a sharp rise in green investments. A total of Rs 5.7 lakh crore has been spent between fiscals 2015 and 2022. We estimate this to grow 4x by fiscal 2030. The COP27 targets imply that power would account for a larger chunk of the investments. Transport investments have begun to pick up too, with front-end investments expected more in optimisation technologies such as CNG infra and ethanol blending-linked capex.

Green investments	2015-22E	2023-2030P	Share of 2023-2026: 2027-2030
Power	Rs 6.4 lakh crore	Rs 24.1 lakh crore	40:60
Non-fossil fuel	Rs 5.3 lakh crore	Rs 17.8 lakh crore	37:63
Grid	Rs 0.2 lakh crore	Rs 3.9 lakh crore	25:75
Efficiency	Rs 0.9 lakh crore	Rs 2.4 lakh crore	75:25
Transport	Rs 0.4 lakh crore	Rs.3.0 lakh crore	47:53
Auto value chain	Rs 0.1 lakh crore	Rs 1.3 lakh crore	47:53
Infrastructure	NA	Rs 1.3 lakh crore	47:53
Optimisation	Rs 0.3 lakh crore	Rs 0.3 lakh crore	67:33
Hydrogen	NA	Rs 2.0 lakh crore	35:65

- Hydro and pumped storage to form ~7% overall non-fossil fuel investments
- RE addition due to green hydrogen pegged at ~113 GW, total capacity addition at 269 GW
- Storage battery addition to form ~94% of overall grid investments
- ~193 million smart meters to be installed by FY25
- 28% of infra investment to come from addition of ~63,000 charging points. Rest to come from investment in city gas distribution infrastructure
- ~5MT of hydrogen production capacity targeted by FY30
- ~33 GW thermal addition by 2030 against 83 GW in the past 8 years

Notes: 1) Fossil fuels are coal, diesel, natural gas, lignite, and hydro (till fiscal 2021); 2) non-fossil fuels are hydro (from fiscal 2022), nuclear, solar, wind, pumped hydro and other renewables; 3) grid investments signify capex for green energy corridor and battery storage; 4) green efficiency investments include FGD and smart metering investments; 5) infrastructure includes charging stations and CGD; and 6) optimisation includes investments in ethanol

P: projected; E: estimated; NA: not applicable

Source: Industry, CRISIL MI&A Research

Circular economy taking shape, plastics processing may lead the way

Split in municipal waste generated

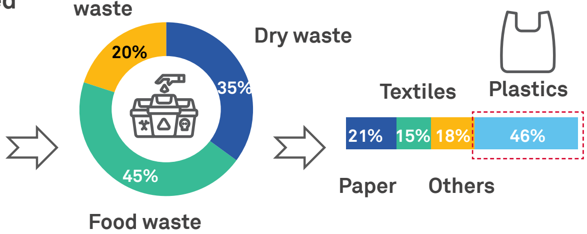
Total liquid waste generated

India: 0.75 lakh (TPD)

Total solid waste generated

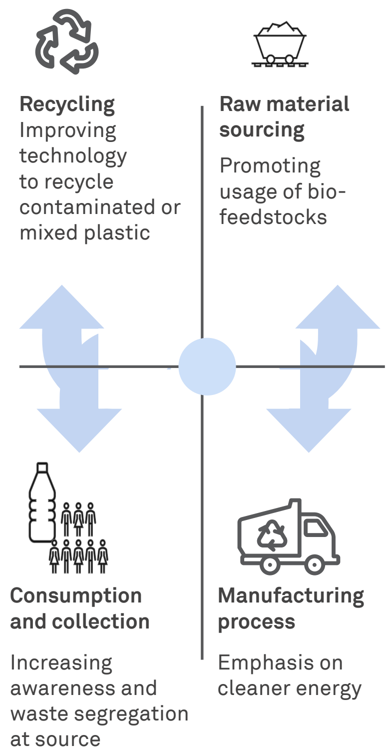
India: 1.45 lakh (TPD)

Plastics account for the largest share in dry waste generated



Source: Ministry of Housing and Urban Affairs

Split in municipal waste generated

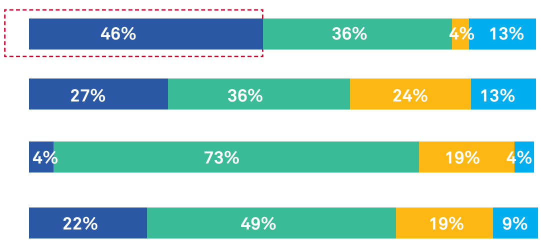


Despite lower per capita consumption, collection remains a challenge

Country/region

15 India	62.4 China
112 US	31.6 World

Projected per capita plastic consumption (kg)



Wholesale credit to pick up pace after moderate growth

Financial lending	Share – March 2022	FY08-14	FY15-22	FY23-30P	
Nominal GDP	—	13%	10%	10-12%	CAGR
Domestic bank credit	—	15%	9%	10-12%	CAGR
Wholesale credit	56%	15%	6%	9-11%	CAGR
Infrastructure as % of wholesale	19%	—	19%	21%	Share
Power as % of infrastructure	51%	—	51%	52%	Share
Non-fossil as % of power	8%	—	8%	40%	Share
RE NBFC*	10%	—	11%	12-14%	CAGR

Note: * RE NBFCs include PFC, REC, IREDA and NaBFID
Source: RBI, company reports, CRISIL MI&A Research

With a banking credit-to-GDP ratio of 51%, India has high potential for credit growth in both the retail and wholesale verticals. The retail vertical led the overall credit growth for banks over the past 3-4 fiscals. Credit growth in the wholesale vertical remained muted over the past 6-8 fiscals. However, an uptick in the investment cycle is expected to improve credit growth in the wholesale vertical, driven by the central government's increasing thrust on infrastructure sectors and the private sector's capex revival in conventional sectors as well as new-age sectors through the PLI scheme.

Within wholesale, the share of infrastructure is likely to grow marginally this decade. Credit growth in the power sector is expected to continue, led by new capacities in green investments and transitional capacities for shift from conventional power.

Alongside banks, non-banks and the domestic bond market would remain the key sources of funding for green investments.

Market borrowings and non-bank financiers to drive green financing

India aims to source half of its energy needs from non-fossil fuel sources by 2030. This entails large investments in infrastructure such as grid, battery storage and hydrogen. The capital-intensive nature and longer gestation period of such projects present financing challenges.

Green investments of Rs 29 trillion are projected over fiscal 2023-30, majorly in the power sector. These investments will encompass various areas, including development of the power grid and distribution network, installation of smart metering systems, and establishment of transport and hydrogen infrastructure.

The projected green investments for fiscal 2023-30 are around four times greater than the Rs 6.7 trillion estimated for fiscal 2015-22. Hence, it is essential that conventional financing methods grow faster, and new financing avenues evolve.

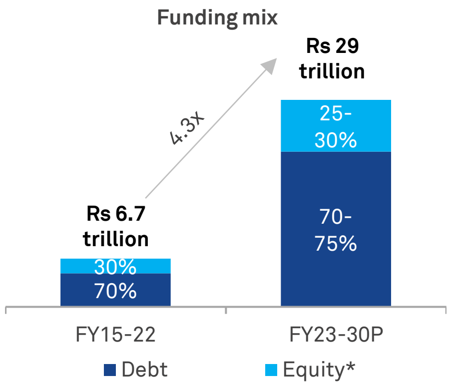
Given the nature of the funding mix in power projects, a typical debt-equity structure of 3:1 is assumed.

Capex-intensive investments in green sectors will require companies to infuse more equity. That said, asset monetisation and foreign direct investment (FDI) in these sectors will be equally critical.

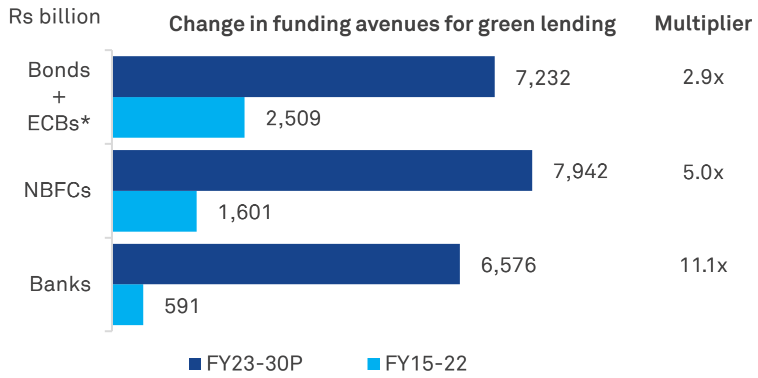
Bonds and non-banks led green financing over fiscals 2015-22 and are likely to continue doing so. However, the share of banks in green financing will increase rapidly.

Banks will play a crucial role in overall debt financing, with a share of 22-24% aggregating Rs 6.6 trillion. An evaluation of the plans of key lenders indicates a surge in green project lending in the coming fiscals, with four to five banks accounting more than 60% share in green financing.

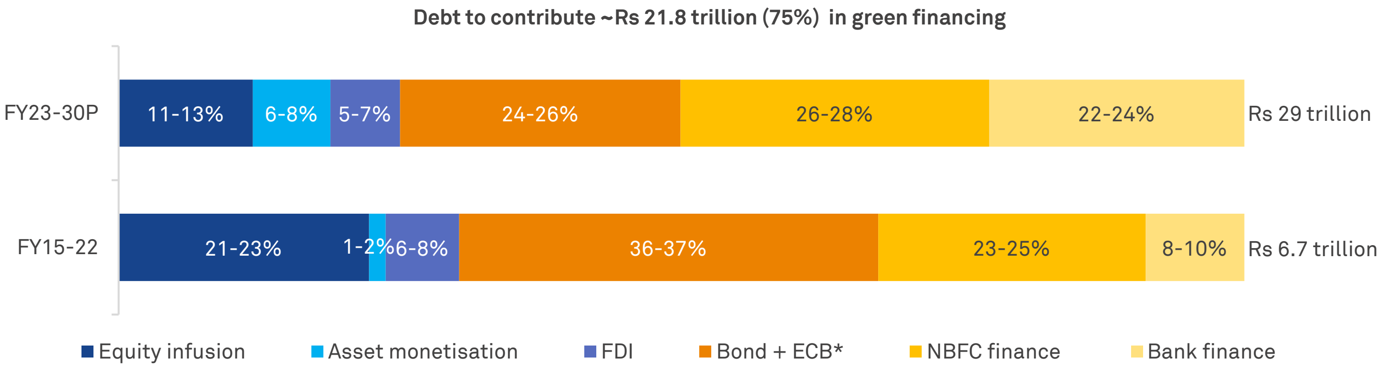
Asset monetisation necessary to enable sustained equity funding



Note: *Equity includes equity infusion, FDI and asset monetisation



Note: *Market borrowings with end use of funds for green projects



Note: *Market borrowings with end use of funds for green projects
Source: RBI, company reports, SEBI, Climate Bonds Initiative, SGX, CRISIL MI&A Research

Non-banks, primarily Power Finance Corporation (PFC), Rural Electrification Corporation (REC) and Indian Renewable Energy Development Agency (IREDA), will lead debt financing. These players have announced plans for RE lending and are gradually increasing their share in green financing. To align with these, the players have raised funds through green bonds.

Indian corporates have primarily raised green bonds in international markets, and this trend is likely to continue.

Nonetheless, the development of the domestic market, with increased investor interest, will also support fundraising within the country.

During fiscals 2023-30, we expect issuance of green bonds by Indian companies to be ~3 times the current level. The Government of India's recent rupee-dominated sovereign green bond issuance worth Rs 160 billion paves the way for the development of the domestic bond market for green issuances.

Note

Note

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