

Industry assessment

# The tyre and treads industry in India

Tolins Tyres

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## 1. Overview of global economy

### 1.1. Review and outlook: Economic trends and inflation in key countries

The global economy has been highly volatile of late, weighed down by the cumulative effect of shocks in the past three years, including the Covid-19 pandemic, the Russia-Ukraine conflict and the consequent rise in energy and commodity prices.

The ongoing Israel-Hamas war may have implications on the global economy, and further escalation in the conflict towards other Middle Eastern oil producers would result rise in oil prices which would drive inflation. This can have an impact on the interest rates at an elevated level for a prolonged period.

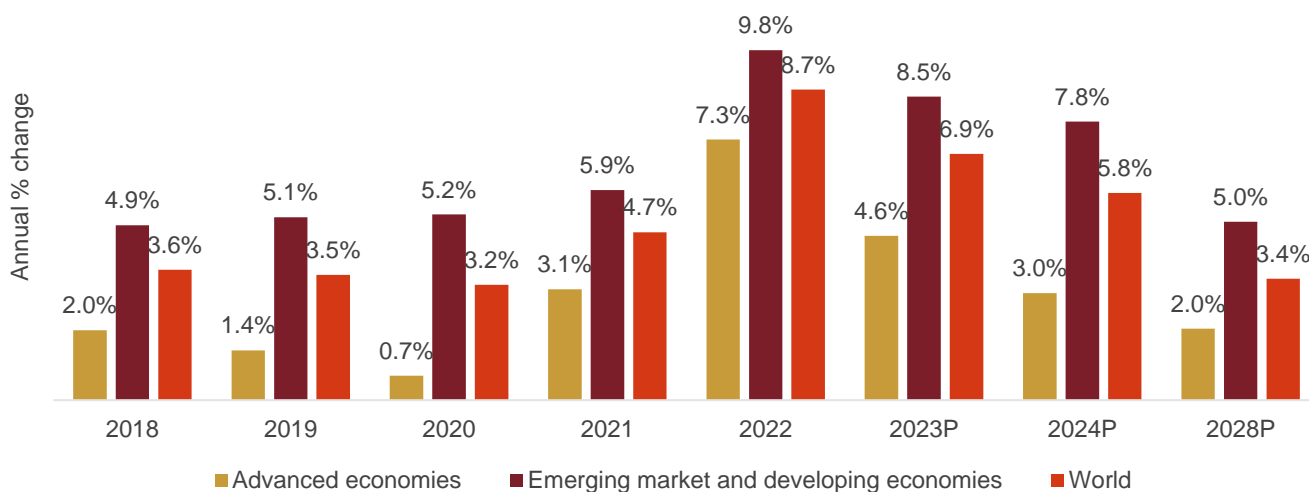
After the initial setback, global economic indicators improved in the second half of 2022 and the world economy had begun showing signs of stabilising by early 2023. However, increasing commodity prices, geoeconomic fragmentation with the Russia-Ukraine conflict and reopening of economic activity in China after easing of the pandemic seem to have continued into 2023. This has forced major central banks around the world to tighten their economic policies and keep inflation expectations anchored.

For the medium term, the global economic growth outlook remains subdued owing to elevated interest rates, recession worries and geopolitical uncertainties.

### 1.2. Global inflation and growth trajectory

A return to the pre-pandemic growth trajectory seems increasingly challenging, particularly for emerging and developing economies, given the convergence of multiple forces — long-term fallouts of the pandemic, the Russia-Ukraine conflict, and increasing geoeconomic fragmentation. Then there are the cyclical factors impeding a steady recovery, such as the effects of monetary policy tightening to cool inflation, withdrawal of fiscal support amid high debt levels, and extreme weather events.

**Figure 1: Inflation trend based on the Consumer Price Index**



E: Estimated; P: Projected

*Advanced economies – the US, Japan, euro area; emerging market and developing economies – China, India, Russia, Brazil, Mexico, and South Africa*

*Source: IMF (World Economic Outlook – October 2023 update), CRISIL MI&A Consulting*

## **As per the International Monetary Fund (IMF):**

- The global economy is projected to decelerate from 3.5% in 2022 to 3.0% in 2023, and further to 2.8% in 2024
- In the case of advanced economies as well, growth is forecast to slow down from 2.6% in 2022 to 1.5% in 2023, and 1.4% in 2024, as stronger US momentum is more than offset by weaker growth in the euro area
- The growth rate of emerging and developing economies is projected to log a modest slowdown as well, from 4.1% in 2022 to 4.0% in 2023 and in 2024, with the downward revision of 0.1% point in 2024 reflecting the property sector crisis in China. Over the medium term, too, emerging and developing economies are forecast to grow at the slowest pace in decades, expanding just 3.1%. So, these countries transitioning to higher living standards is still some way off.

That said, economic activity in major developed countries was resilient in the second quarter of 2023, though there was some downward revision from the previous estimates of the IMF. Real gross domestic product (GDP) growth rate of the US was revised downwards to an annualised 2.1% from 2.2% in the first quarter of 2023; for Japan, to 4.8% from 6.0%; and for the euro zone, to 0.2% from 0.3%.

Meanwhile, inflation remained unchanged on-quarter in the US, the UK and China in September, while it declined in the euro zone and Japan. To be sure, inflation remains a major concern in key advanced economies, with the print trending above the central banks' targets. Hence, interest rates are likely to remain elevated for longer. Rising crude oil prices also pose an upside risk to global inflation.

## **Trend in major economies**

### **Growth accelerates in the US**

- According to the advance estimates released by the Bureau of Economic Analysis, real GDP in the US expanded an annualised 4.9% in the third quarter (versus 2.1% in the previous quarter), the fastest since the fourth quarter of 2021. This acceleration was driven by higher growth in consumer spending (4% versus 0.8%) and supported by increased exports, government spending, private inventory investment, and residential fixed investment
- The US economy added 150,000 jobs in October (compared with 258,000 on average in the previous 12 months). Employment in the manufacturing sector was affected by strikes in the auto industry. The unemployment rate edged up to 3.9% (against 3.8% in the previous month), marking its highest level since January 2022. The unemployment rate has hardened 50 basis points (bps) since its recent low in April.
- Inflation eased to 3.2% in October (against 3.7% in the previous month), led by a sharp fall of 4.5% on-year in energy prices (against a fall of 0.5% in the previous month). Inflation moderated in food (3.3% compared with 3.7%) and shelter (6.7% against 7.2%). However, inflation in transportation services saw a slight uptick (9.2% versus 9.1%). Core inflation moderated marginally to a two-year low of 4% (compared with 4.1%).
- The US Federal Reserve (Fed) maintained the Fed funds rate at 5.25-5.5% for the second consecutive time at its November meeting. The committee noted that it will take into account the cumulative tightening of monetary policy, the lags with which monetary policy affects economic activity and inflation, and economic and financial developments, while determining whether additional policy firming is required to meet its long-term inflation target of 2%.

## **Eurozone inflation declines sharply**

- The eurozone economy contracted a seasonally adjusted 0.1% in the third quarter (versus expansion of 0.2% in the previous quarter, which was revised upwards from the earlier estimate of 0.1%). Among major European economies, growth slowed in Germany (-0.1% compared with 0.1%), Spain (0.3% against 0.4%) and France (0.1% versus 0.6%). GDP growth in Italy was flat, but improved from the previous quarter (-0.4%).
- According to Eurostat's preliminary estimate, eurozone inflation declined sharply to 2.9% in October (versus 4.3% in the previous month), the lowest rate since 2021. Energy prices fell at a sharper pace (-11.1% compared with -4.6%), whereas food inflation eased (7.5% against 8.8%). Core inflation, which excludes energy, food, alcohol and tobacco, softened to 4.2% (versus 4.5%).
- The European Central Bank held interest rates steady in October, following 10 consecutive rate hikes since July 2022. The central bank believes that maintaining rates at their current levels for a sufficient duration will significantly contribute to achieving its target inflation.

## **UK trade deficit narrows**

- Real GDP growth was flat in the UK in the third quarter (compared with 0.2% the previous quarter). Output in the services sector contracted 0.1%, largely offset by 0.1% growth in output in the construction sector. Manufacturing output remained steady. According to the latest available data, monthly GDP in the UK grew 0.2% in September (against 0.1% in the previous month).
- Inflation fell sharply to 4.6% in October (compared with 6.7% in the previous month), the lowest rate since October 2021, led by the housing and household services category (-3.5% versus 6.9%). Food inflation eased to 10.1% (against 12.1%). Core inflation softened to 5.7% from 6.1%.
- The Bank of England held rates steady at 5.25% for the second consecutive time at its November meeting. Six members of the Monetary Policy Committee voted to keep the rates unchanged, while the other three members voted for a 25 bps rate hike. The committee raised its inflation forecast, as it believes that risks are tilted to the upside. It also cut its GDP forecast, citing weaker-than-expected activity data.
- The UK's trade deficit narrowed to £1.57 billion in September (compared with £2.7 billion in the previous month), as the fall in imports (-3.7%) outpaced the decline in exports (-2.2%).

## **Bank of Japan loosens yield curve control**

- Japan's GDP contracted 2.1% in the third quarter (versus 4.5% growth in the previous quarter) following two straight quarters of growth. The au Jibun Bank Japan Manufacturing PMI inched up to 48.7 (vs 48.5). It remained below the neutral level of 50 for the fifth consecutive month, indicating contracting manufacturing activity. The au Jibun Bank Services PMI remained above 50 at 51.6 (though decreased from the previous month).
- Inflation eased to 3% in September (compared with 3.2% in the previous quarter), led by a greater fall in prices of fuel, light and water (-14.3% versus -12.3%). However, food inflation accelerated to 9% (versus 8.6%), the highest rate since 1976. Core inflation stood at 2.8%.
- The Bank of Japan adjusted its yield curve control policy, allowing yield on the 10-year Japanese government bond to rise above 1%. It kept the policy rate unchanged at -0.1%. The central bank raised its core inflation (excluding food) forecast for fiscal 2023 (to 2.8% from 2.5%), fiscal 2024 (to 2.8% from 1.9%) and fiscal 2025 (to 1.7% from 1.6%).

- Japan's trade deficit narrowed sharply to ¥662.6 billion in October (compared with ¥2,205.9 billion in the same month last year), as imports contracted sharply (by 12.5%) while exports rose (1.6%).

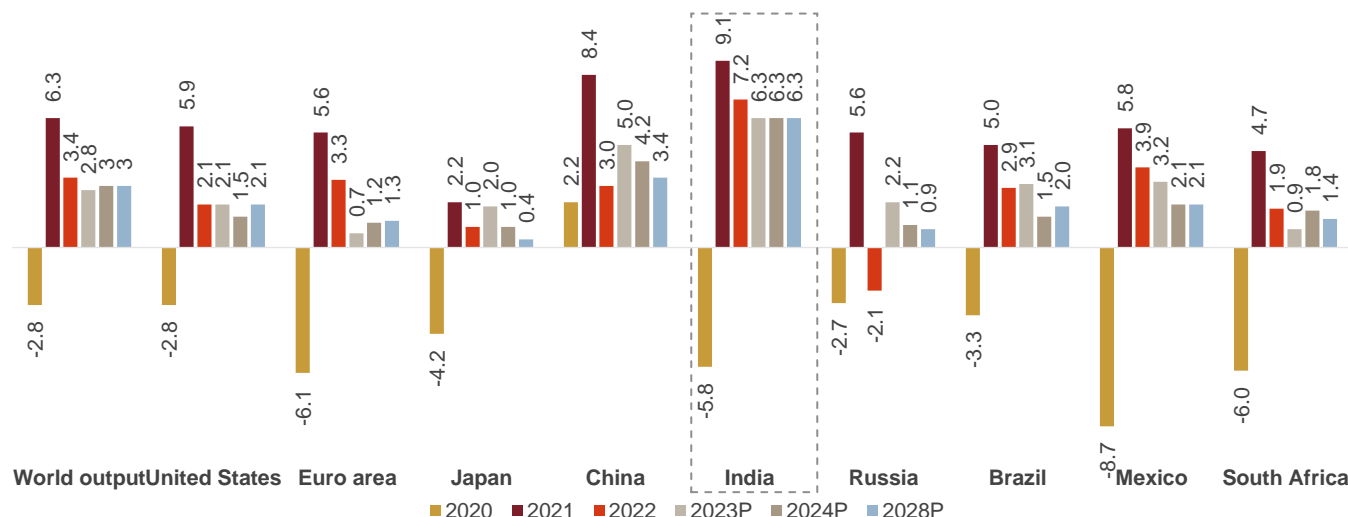
## **Manufacturing activity contracts in China**

- The official National Bureau of Statistics Manufacturing PMI decreased to 49.5 in October (compared with 50.2 in the previous month). It has been below the threshold level of 50 for six of the last seven months, reflecting weakness in the manufacturing sector. The non-manufacturing PMI also fell in October, but remained above 50, indicating expansion in the services sector.
- Inflation in China turned negative to -0.2% in October (versus 0% the previous month). Food inflation declined to -4% (against -3.2%), led by pork prices. Core inflation, which excludes food and energy declined to 0.6% (compared with 0.8%). Despite low inflation, the People's Bank of China held the key policy rate steady at 3.45% in November. However, the central bank ramped up liquidity injection in the banking system.
- China's trade surplus fell to \$56.5 billion in October (versus \$82.4 billion in the same month last year), as exports declined (by 6.4%) while imports rose (up 3%).

## **GDP projections for key economies**

- As per the IMF, the global economy was projected to grow at 3.4% in 2022 and 2.8% in 2023. However, the forecast for 2023 was lowered by 0.1% in the January 2023 outlook. This forecast is well below projections given before the onset of adverse shocks since early 2022.
- For advanced economies, growth was projected at 2.7% in 2022 and 1.3% in 2023. Growth in ~90% of advanced economies is expected to decelerate. With a sharp slowdown, advanced economies are expected to see higher unemployment. For emerging and developed economies, economic prospects are, on average, stronger than in the case of advanced economies. But these prospects vary widely across regions. On average, growth is expected at 3.9% in 2023 and set to rise to 4.2% in 2024. In low-income developing countries, GDP is expected to grow an average 5.1% between 2023 and 2024.
- India is expected to remain an outperformer over the medium term. CRISIL MI&A Consulting expects India's GDP growth to average 6.1% between fiscals 2025 and 2027 vis-à-vis 3.1% globally as estimated by the IMF. India will also outpace emerging market peers such as China (4.2% growth estimated from 2024 to 2026), Indonesia (5.0%), Turkey (3.2%) and Brazil (1.8%).

Table 1: GDP projections for key economies



E: Estimated; P: Projected

Note: Euro area includes 19 countries of the EU

Source: IMF (World Economic Outlook – October 2023 update), CRISIL MI&A Consulting

**Brent crude falls**

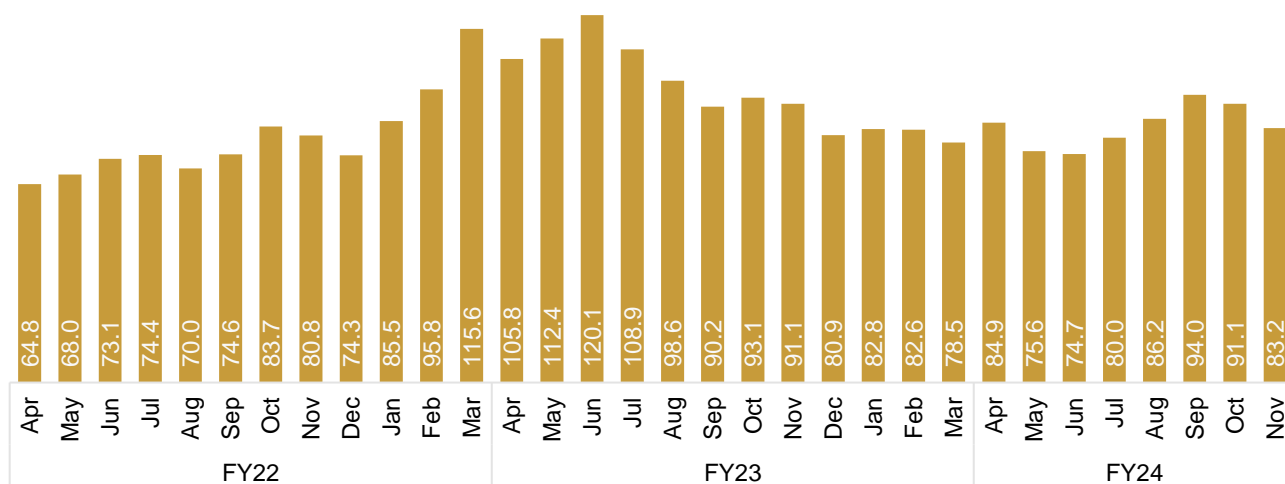
Crude oil prices decreased in the first half of 2023, primarily owing to sustained prevalence of high inflation, coupled with slowdown in demand, which has significantly impacted prices. A strong dollar along with sharp production cuts resulted in supply pressure pushing crude oil prices downward.

However, the prices remained elevated in 2022 owing to demand-supply tightness. Geopolitical tensions between Russia and Ukraine had a major impact on energy prices. This, along with production outages in Libya and Norway, has exerted further pressure on prices.

Prices averaged \$98-103 per barrel in 2022 compared with \$70.4 per barrel in 2021, an increase of 39-46% on-year. However, increasing recessionary fears stemming from inflation, coupled with interest rate hikes globally have had a significant impact on consumption and economic growth, pushing prices downward. CRISIL MI&A Consulting expects prices to remain stable in the \$80-85 per barrel range in 2023, in line with decline in prices globally owing to slowdown in oil demand.



Figure 2: Dated Brent: International prices



Note: Dated Brent price is the price of physically delivered crude oil in the North Sea that has a specific delivery date

Source: Industry, CRISIL MI&A Consulting

### 1.3. Global trade environment

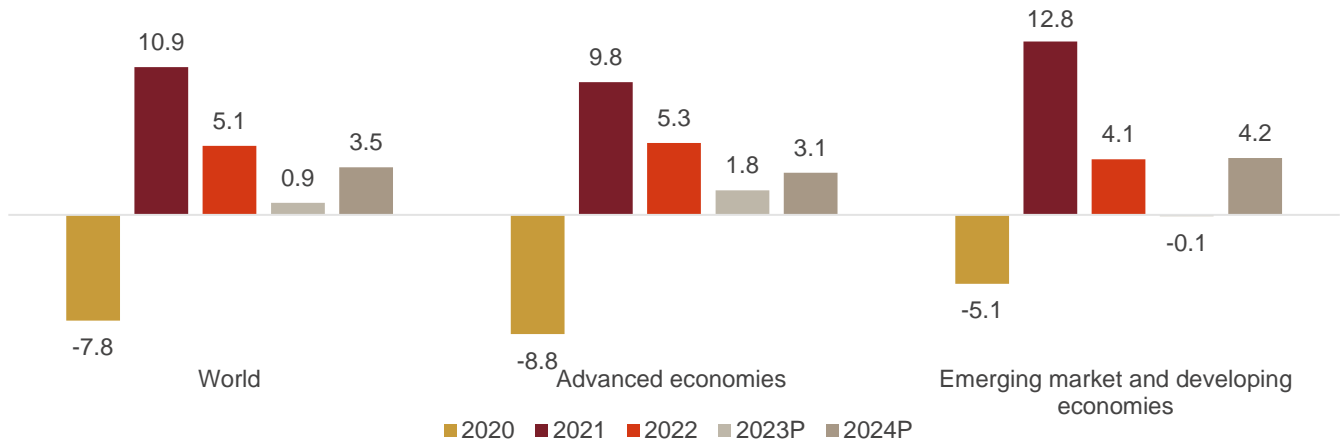
The pace of global trade growth is estimated to have tapered from 5.1% in 2022 to 2.4% in 2023 owing to slowdown in global demand after two years of accelerated growth from the pandemic-induced recession and shift in the composition of spending from traded goods back towards domestic services.

Rising trade barriers and lingering effects of the US dollar's appreciation in 2022 made traded products more expensive for several economies. Considering the dollar's dominant role in trading, this will add further pressure to trade growth in 2023.

Amid delay in China's recovery (post Covid-19) with a substantial share of economies' exports absorbed by China, a weaker-than-expected recovery in China would have further significant cross border effects, especially for commodity exporters and tourism-dependent economies. The ongoing weakness will have an adverse impact on the Chinese real estate market which could potentially lead to financial instability.

An escalation of the Russia-Ukraine conflict, now in the second year, could stoke a renewed energy crisis in Europe and amplify food security challenges in low-income countries. Hike in gas prices for winter 2022-23 was averted because of ample storage at European facilities with higher liquified natural gas imports and lower gas demand amid high prices. A possible increase in food prices from the failed extension of the Black Sea Grain initiative will exert further pressure on food importing countries.

Figure 3: IMF's estimates of world trade growth



Advanced economies – the US, Japan, euro area; Emerging market and developing economies – China, India, Russia, Brazil, Mexico, South Africa

Note: Volumes of exports of goods and services have been considered for the calculations

Source: IMF (World Economic Outlook – April 2023 update), CRISIL MI&A Consulting

Further, geoeconomics fragmentation risks have not only lowered cross border flows of labour, goods and capital, but also reduced international activity on vital global public goods such as climate change mitigation and pandemic resilience. Some countries may benefit from an associated arrangement in global production, but the overall impact on economic wellbeing is expected to be negative with costs being particularly high in the short term as replacement of disrupted flow will take time.

## 2. Overview of the Indian economy

### 2.1. Review of real GDP growth over fiscals 2018-2023 and outlook for fiscals 2023-2028

The Indian economy logged a CAGR of 4.1% over fiscals 2018-2023, a sharp deceleration from a robust 6.6% CAGR between fiscals 2017 and 2019, which was driven by rising consumer aspirations, rapid urbanisation, the government's focus on infrastructure investment, and growth of the domestic manufacturing sector. Economic growth was supported by benign crude oil prices, soft interest rates and low current account deficit. The Indian government also undertook key reforms and initiatives, such as implementation of the Goods and Services Tax (GST) and Insolvency and Bankruptcy Code; Make in India and financial inclusion initiatives; and gradual opening of sectors such as retail, e-commerce, defence, railways, and insurance for foreign direct investments (FDIs).

A large part of the lower print between fiscals 2018 and 2023 was because of the economy contracting 5.8% in fiscal 2021 owing to the fallout of Covid-19. The impact of Covid-19 was more pronounced on contact-sensitive services as social distancing norms affected services such as entertainment, travel and tourism, with many industries in the manufacturing sector also facing issues with shortage of raw materials/components as lockdown in various parts of the world upended supply chains.

Over the period, India's economic growth was led by services, followed by the industrial sector. In parts, though, growth was impacted by demonetisation, non-banking financial company (NBFC) crisis, slower global economic growth and the pandemic.

As lockdowns were gradually lifted, economic activity revived in the second half of fiscal 2021. After a steep contraction in the first half, owing to the rising number of Covid-19 cases, GDP moved into positive territory towards the end of fiscal 2021. Subsequently, in fiscal 2022, India's real GDP grew 9.1% from the low base of fiscal 2021.

However, according to the National Statistical Office's estimates released on May 31, 2023, GDP grew sharply to 6.1% on-year in the fourth quarter (January-March) of fiscal 2024. During the third quarter of the fiscal, GDP declined to 4.5%. The growth surpassed the number factored in the National Statistics Office's (NSO) second advance estimate of February 2023. Annual growth for fiscal 2023 was revised up to 7.2% (provisional estimate) from 7.0% in the second advance estimate.

GDP had grown in the fourth quarter, primarily driven by investment and net exports and was less of a drag, given rising exports and slowing imports. Fixed investment logged the strongest growth on the demand side, while private consumption growth was more subdued on-quarter. Manufacturing and agriculture growth improved on-quarter on the supply side even as services growth remained strong, albeit slowing a tad relative to the previous quarter.

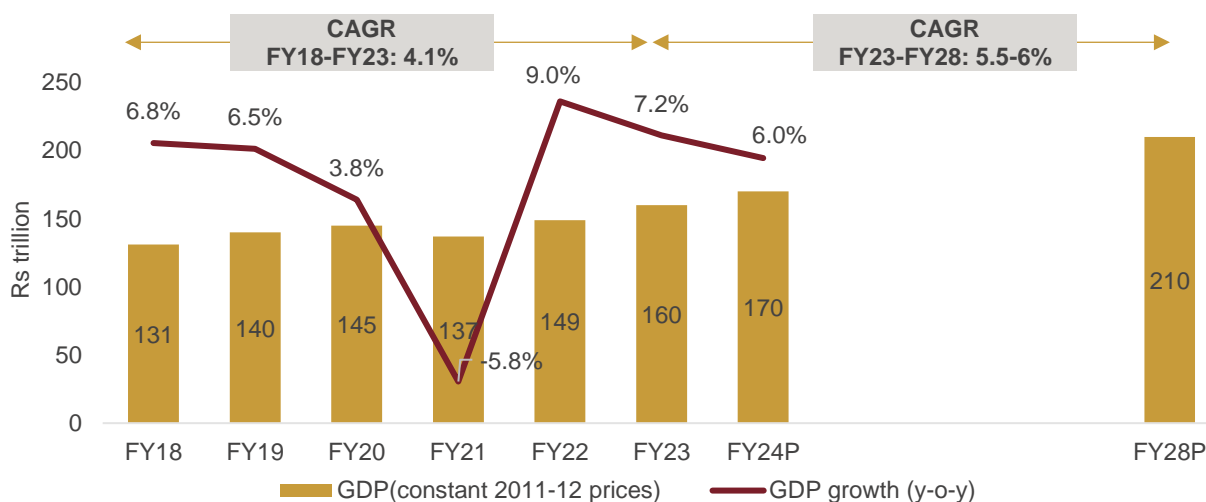
The provisional estimate of 7.2% comes on top of 9.0% expansion in fiscal 2022. This suggests strong growth momentum, which was propelled by domestic demand through the year, both from investment and private consumption. Investment's share rose to an 11-year high of 34% of GDP, while that of private consumption rose to an 18-year high of 58.5% in fiscal 2023.

However, nominal GDP growth tapered to 10.4% on-year in the fourth quarter compared with 11.4% in the third, primarily because of the price-effect since the GDP deflator slowed to 4.1% from 6.6%. The deflator is significantly influenced by inflation based on wholesale price index (WPI), which halved to 3.3% from 6.6%. The gap between nominal and real growth is likely to reduce further, with inflation expected to fall this fiscal.

Growth momentum was strong in fiscal 2023, the current fiscal will feel the lagged impact of rate hikes of central banks over the past 15 months. External demand is likely to be a bigger hindrance to growth with western advanced economies staring at a sharp slowdown in the coming quarters, whipping up a headwind for exports. While domestic demand will also weaken, hit by rising lending rates, softening inflation and government capex will offer support. Monsoon and El Nino risks remain a swing factor.

On account of these factors, CRISIL MI&A Consulting estimates GDP growth to slow to 6.0% this fiscal from 7.2% in fiscal 2023 with risk to downside.

**Figure 4: India's GDP growth trend and outlook**



P: Projected; E: Estimated, FY22 – Second advance estimate

Source: National Statistical Office (NSO), CRISIL MI&A Consulting estimates

On the supply side, gross value added (GVA) grew 6.5% in the fourth quarter of 2023 compared with 4.7% in the previous quarter. Agriculture and allied activities surged to 5.5% from 4.7%, the result of a robust rabi output despite unseasonal rains towards the year-end. Manufacturing growth rose sharply after two quarters of decline (4.5% in the fourth versus -1.4% in the third). Resilient domestic demand, easing commodity prices and supply constraints supported production.

All demand segments witnessed growth in the fourth quarter, with support from private consumption, government consumption, fixed investment, and net export. Fourth-quarter growth was primarily driven by a rise in exports and a slowdown in imports to 4.9% from 19.7%. Hence, net exports contributed positively to GDP growth.

Amongst the demand drivers, investment recorded the strongest growth of 8.9% versus 8.0% in the third quarter. The increasing investment growth also indicates a gradual pick-up in private capex. Private consumption expenditure improved during the quarter. High inflation may have exerted pressure on household consumption, with Consumer Price Index-based inflation remaining elevated at 6.4% in the quarter. However, for fiscal 2023, private consumption growth was a strong 7.5% on top of 11.2% growth attained in fiscal 2022 with pent-up demand, especially in contact-intensive services.

The exports of goods and services also saw robust growth of 11.9% in the quarter versus 11.1% in the previous quarter. Growth in government consumption expenditure slowed sharply to 0.1% from 6.6% as the pandemic spending subsided.

Within the industry basket, growth improved for construction (10.4% versus 8.3%), reflecting a pick-up in capital expenditure, particularly by states. There was a modest improvement in mining (4.3% against 4.1%), while growth slowed for utilities (6.9% compared with 8.2%). Overall, industrial GVA grew 6.3% versus 2.3% in the third quarter of 2023. Services maintained the momentum, growing 6.9% versus 6.1%. Growth remained strong for trade, hotels, transport, and communication services (THTC), but slowed a tad to 9.1% in the fourth quarter of 2023 from 9.6% in the third. It rose sharply for financial, real estate and professional services (7.1% compared with 5.7%), and up for public administration and other services (3.1% versus 2.0%). In fiscal 2023, growth was the strongest for THTC services (14% in fiscal 2023 against 13.8% in the previous year), followed by construction (10% versus 14.8%), utilities (9% versus 9.9%), public administration and other services (7.2% against 9.7%), financial, real estate and professional services (7.1% versus 4.7%), agriculture (4% compared with 3.5%), and manufacturing (1.3% against 11.1%). The solid THTC growth reflected the pending catch-up to pre-pandemic levels, while manufacturing was hit by surging commodity prices and supply constraints post the Russia-Ukraine conflict. Manufacturing remained much above its pre-pandemic level relative to THTC.

Among demand side segments, the strongest growth was in exports of goods and services (11.9% in the fourth quarter versus 11.1% in the previous quarter). While slowing global trade impacted goods exports, services exports remained strong. Meanwhile, imports slowed sharply to 4.9% from 10.7%. This meant net exports contributed positively to GDP growth in the fourth quarter. Among domestic demand drivers, the strongest growth was in investment (8.9% vs 8.0%). Government capital expenditure remained strong, with states raising capex towards the end of the fiscal. Increasing investment growth also indicates a gradual pick-up in private capex. While private consumption expenditure improved, it was more subdued than investment (2.8% vs 2.2%). High inflation may have weighed on household consumption, with Consumer Price Index-based inflation remaining elevated at 6.4% in the fourth quarter; staying put as against the previous quarter.

However, for fiscal 2023, private consumption growth was strong at 7.5%, on top of 11.2% in fiscal 2022. Investment was vigorous at 11.4% compared with 14.6%. Imports increased more sharply than exports in the full year, at 17.1% and 13.6%, respectively, illustrating that net exports were a drag on GDP growth. Government consumption spending slowed sharply to 0.1% from 6.6%, as pandemic spends ebbed.

**Table 2: Domestic macroeconomic outlook for fiscal 2024**

Macro variables	FY22	FY23	FY24P	Rationale for the outlook
GDP (% , on-year)	8.7%	7.2%	6.0%	<ul style="list-style-type: none"> <li>India's real GDP grew at a faster rate of 7.8% on-year in the first quarter this fiscal compared with 6.1% the previous quarter. This is the second consecutive quarter of higher growth</li> <li>Higher domestic private consumption and investments led to faster growth during the quarter</li> <li>Manufacturing growth rose to a lesser extent in contrast to strong Purchasing Managers' Index (PMI) and healthy corporate profit during the quarter</li> </ul>
CPI-linked inflation (% , on-year)	5.5%	6.7%	5.0%	<ul style="list-style-type: none"> <li>Crude oil prices declined, along with the export of other top commodities, mainly due to a slowdown in global growth and lower commodity prices in fiscal 2024, easing inflation</li> <li>CPI inflation moderated further in the past few months of this fiscal year mainly due to a strong base effect that will fade out headline inflation. Moreover, a fall in global oil and commodity prices eased supply pressures leading to better availability of inputs and therefore reduced the pressure on prices. Food inflation eased as the rabi crop outlook was positive</li> <li>CRISIL projects CPI inflation to fall to 5% this fiscal from 6.7% last fiscal. Supportive monsoon is a key assumption underlying these forecasts. Slowdown in growth and moderated inflation may further lead to easing of rates by the end of this fiscal.</li> </ul>

Macro variables	FY22	FY23	FY24P	Rationale for the outlook
10-year government security (G-sec) yield (%), March-end)	6.8%	7.4%	7.0%	<ul style="list-style-type: none"> <li>• Yields on 10-year G-secs have trended downward after the monetary policy committee unexpectedly halted the rate hike cycle in its April 2023 review. They continued to decline in May after the inflation print fell further on the back of a fall in crude oil prices and a rise in debt purchases by foreign portfolio investors (FPIs) supported lower yields. Both global and domestic factors contributed to softening of bond yields</li> <li>• Domestically, yields have fallen almost 50 bps, the lowest since August 2017 and well below the pre-pandemic five-year average of 95bps</li> <li>• 10-year G-sec averaged 7.4% in March 2023 compared with 6.8% in March 2022</li> <li>• G-sec yields are expected to remain low until the end of this fiscal on the back of moderating inflation, lower crude oil prices and as the Reserve Bank of India (RBI) pauses its rate hike cycle, yields are expected to decline to 7% by March 2024</li> </ul>
Current account deficit (CAD)/GDP (%)	-1.2	-2.5	-2.0	<ul style="list-style-type: none"> <li>• India's exports are expected to face headwinds from the anticipated slowdown in global growth. Several key economies such as the US and the euro area, both key export markets for India, are under pressure. Further, deceleration in domestic growth could partly soften imports</li> <li>• However, India's robust growth and falling inflation, and easing trade deficit helped attract foreign investors. A sharp fall in crude oil prices (\$75.7 per barrel in May vs \$84.1 in April) also supported the domestic economy. Foreign portfolio investor (FPI) inflows increased to \$5.9 billion (net) in May, the highest since September 2022. Most of the inflow has been directed towards equities and inflows also improved for debt</li> <li>• Narrowing trade deficit had a salutary effect on India's CAD</li> <li>• CRISIL projects India's CAD at ~2% of GDP in the current fiscal, as exports continue to decline at a greater pace than imports</li> </ul>
Rs/\$ (year-end)	76.2	82.3	83	<ul style="list-style-type: none"> <li>• Rupee continues to face headwinds amid a slowdown in global growth, heightened geopolitical tensions, elevated commodity prices, and aggressive rate hikes by the US Fed that continue to strengthen the dollar as India's trade deficit widens</li> <li>• However, in calendar year 2023, rupee has depreciated a mere 0.5% on average against the US dollar so far, remaining one of the emerging market currencies that depreciated the least</li> <li>• Rupee came under pressure as the US dollar strengthened over the past couple of months of this fiscal. After averaging 82.3 against the dollar in April, the Rs-US dollar exchange rate fell 0.4% on-month to 82.3 in May. The Indian currency has remained resilient this year.</li> <li>• CRISIL expects rupee to average 83 against the US dollar in March 2024 compared with 82.3 in March 2023. A surge in FPI flows prevented the currency from falling further</li> </ul>

E: Estimated, P: Projected

Source: RBI, NSO, CRISIL MI&A Consulting

While growth was robust in fiscal 2023, a slowdown is inevitable in fiscal 2024, driven by rising borrowing costs. While central banks aggressively raised policy rates over the past 15 months, their transmission to broader lending rates is taking place with a lag. Rates are expected to peak in the fiscal, hitting both global and domestic demand. External demand will weaken more with major advanced economies facing the highest interest rates in over a decade. S&P Global expects US GDP growth to slow to 0.7% in 2023 from 2.1% in 2022, while that of Eurozone will plummet to 0.3% from 3.5%. These economies account for 33% of goods exports. Hence, falling exports will hurt growth this fiscal. While the rise in interest rates domestically is relatively lower than advanced economies, bank lending rates have reached the pre-pandemic five-year average and are expected to moderate domestic demand, especially in interest-sensitive segments such as automobiles and housing.

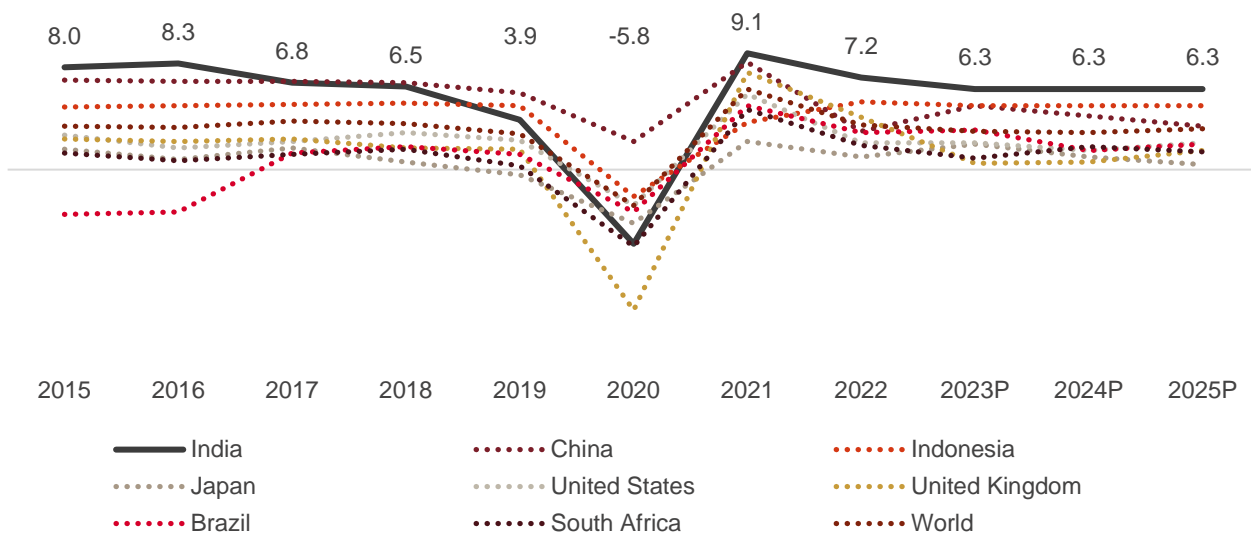
However, falling commodity prices and slowing inflation augur well for domestic demand this fiscal. We expect further support from the government’s continued infrastructure spend. The key swing factor is monsoon, which has a significant bearing on rural demand. While the India Metrological Department has forecast a normal monsoon, regional and temporal distribution will have a bearing on agricultural output. Downside risks from an expected El Niño remain.

Based on these factors, CRISIL MI&A projects GDP to grow 6% this fiscal compared with 7.2% in fiscal 2023. Nominal growth will see a sharper slowdown to 10.6% from 16.1%, with falling inflation (especially WPI) narrowing the gap between real and nominal GDP.

### 2.1.1. India to remain a growth outperformer globally

Despite a slowdown in the near term, India is expected to remain a growth outperformer over the medium term. CRISIL MI&A expects domestic GDP growth to average 6.1% between fiscals 2025 and 2027 compared with 3.1% globally as estimated by IMF.

**Figure 5: India is one of the fastest-growing major economies (GDP growth, % on-year)**



E: Estimated; P: Projected

Note: GDP growth is based on constant prices

Source: IMF (World Economic Outlook – October 2023 update), CRISIL MI&A

### 2.1.2. Key drivers of India’s growth

- Stronger domestic demand is expected to drive India’s growth premium over peers in the medium term
- Investment prospects are optimistic, given the government’s capex push, progress of the Production-Linked Incentive (PLI) scheme, healthier corporate balance sheets, and a well-capitalised banking sector with low non-performing assets (NPAs)
- India is also likely to benefit from its supply chain de-risking strategy as global supply chains get reconfigured with the focus shifting from efficiency towards resilience and friend shoring
- Private consumption (~57% of GDP) will play a supportive role in raising GDP growth in the medium term

## Risks to growth

Growth is likely to have peaked in the first quarter of this fiscal, as several headwinds are likely to slow down growth in the following quarters:

**Weakening monsoon:** All-India rainfall has turned deficient at 7% below the long-period average (LPA) as on September 21, 2023. Deficient monsoon could hit yields and production of the kharif crop. Additionally, the rabi crop could also be hit if groundwater levels are not replenished adequately.

**Inflation pressure:** After easing in the first quarter, retail inflation has rebounded and could soften consumption demand in the second quarter. Food is the biggest risk to inflation, given the weak monsoon. Rural demand will particularly bear the brunt of the impact on income from weak crop production and higher inflation.

**External factors drag growth:** Global growth is likely to slow down this year because of higher interest rates. Central banks in the US and Europe have not halted their rate-hike cycles yet, and rate cuts are not expected before the next calendar year. S&P Global expects a shallow – but protracted – slowdown as borrowing costs remain at decadal highs.

**Impact of higher interest rates:** While strong bank credit growth has supported domestic demand so far, the impact of higher interest rates could still play out in the coming quarters. The rise in domestic interest rates is relatively slower than that in advanced economies, but bank lending rates have reached the pre-pandemic five-year average.

## 2.2. Near-term outlook on agriculture, industrial and services GDP

### 2.2.1. The services sector is the major growth driver

In fiscal 2020, the services sector accounted for 55.3% of India's GDP compared with 52.4% in fiscal 2015. However, its share dipped to 53.6% in fiscal 2021 owing to the pandemic. Fiscal 2022 saw a marginal improvement in the share of the services sector with gradual normalisation of market operations.

The industrial sector, which is the second-largest contributor, maintained its share in GDP, as it logged a 7.1% CAGR over fiscals 2015-19. Industrial contribution declined in fiscal 2020 with the slowdown in economic development. Before overall economic activity slowed down in fiscal 2020, India's industrial sector output growth was supported by the Make in India initiative, rising domestic consumption and GST implementation. The initiatives improved India's position on the World Bank's Ease of Doing Business index to 63 in fiscal 2019 from 142 in fiscal 2014.

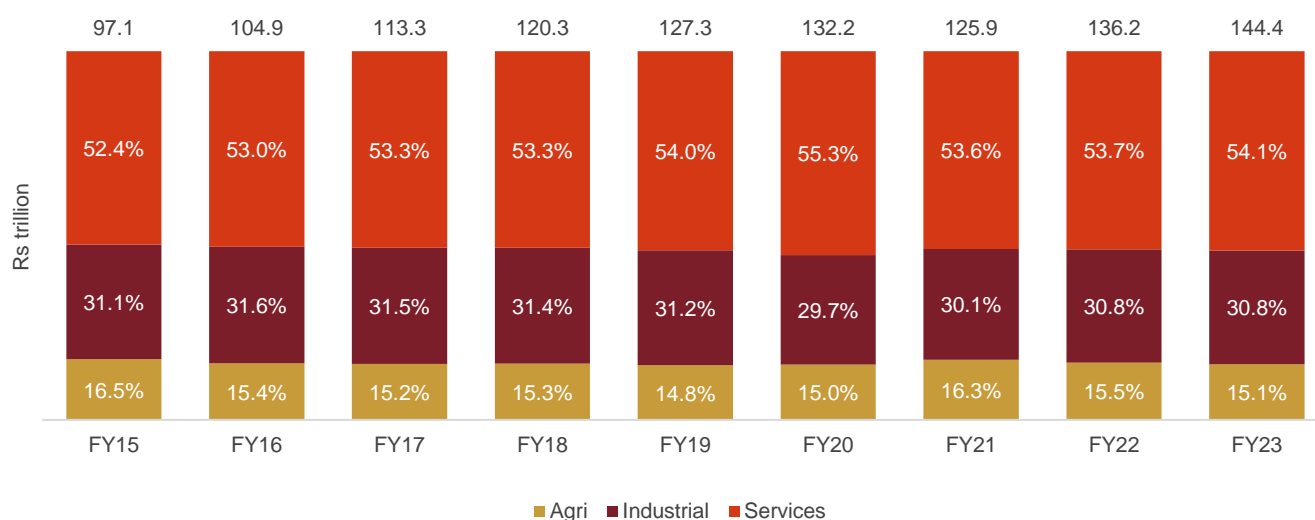
The pandemic and subsequent lockdown exacerbated the economic slowdown in fiscal 2021. The services segment was the worst affected and declined 7.8% on-year, followed by industrial (down 3.3%). Agriculture was the only sector that grew, rising 3.3% on-year and restricted the fall in GDP.

In fiscal 2021, the agriculture sector's share in gross value added (GVA) at constant prices expanded, while the share of the services and industrial sectors contracted.

Agriculture GVA continued to grow steadily at 4.0% in fiscal 2023. Faster GDP growth in fiscal 2023 saw the share of agriculture increase during the fiscal. The share of the industrial sector in GDP grew 4% in fiscal 2023, strongly supported by utility services, which clocked a respectable 8%, exceeding all other industrial sectors. Mining grew by 5%, while manufacturing and construction added marginal growth momentum from a high base of fiscal 2022. The high base of fiscal 2022 led to moderate growth of the industrial sector in fiscal 2023. The services sector grew 9% in fiscal 2023. Trade, hotel, transport, and communication (THTC) grew 14% in fiscal 2023.



Figure 6: Share of sectors in GVA at constant prices



Source: RBI, CRISIL MI&A

In fiscal 2023, the agriculture sector is estimated to have sustained its growth at ~4% on-year, thereby contributing to 15.1% of GVA. The services sector is expected to provide thrust to the economy with 7.2% growth and a share of 54.2%, while the share of the industry sector is estimated to have remained at 30.7% in fiscal 2023.

CRISIL expects the contribution of services to increase and the agriculture sector to lose some ground during the year due to higher growth in the services sector.

## 2.2.2. Industrial production

### Infrastructure remains the driving force

Industrial output as measured by the Index of Industrial Production (IIP) grew 10.3% on-year in August vs 6% the previous month, led by a revival in demand for export-oriented sectors, apart from healthy domestic demand and strong government capex. Exports are expected to weaken given slowing growth in advanced economies. The impact of uneven monsoon on domestic rural demand remains to be seen. The impact of repo rate hikes may play out on domestic demand with a lag in the second half of this fiscal. Rising crude oil prices and geopolitical tensions could lead to input cost pressures for manufacturers. All these factors could cap buoyancy in industrial activity in the coming months.

IIP rose 10.3% on-year in August compared with 6.0% the previous month and -0.7% a year ago. All major sectors recorded improvements: mining rose 12.3% in August (vs 10.7% the previous month), manufacturing increased 9.3% (vs 5.0%) and electricity rose 15.3% (vs 8.0%). Within manufacturing, infrastructure and construction goods once again saw the strongest growth — 14.9% (vs 12.4%), followed by capital goods (12.6%), primary goods (12.4%) intermediate goods (6.5%) and consumer durables (5.7%). Sequentially, IIP grew 1.4% on a seasonally adjusted basis. Electricity saw the strongest sequential growth, followed by mining and manufacturing. Overall, IIP growth has been higher in the second quarter so far (8.2% in July-August) compared with 4.7% in the first quarter.

### Improvement in both essential and discretionary consumption goods

Consumer non-durables production showed persistent growth at 9.0% in August vs 7.9% the previous month, driven by beverages (9.4% vs 3.9%). Food products, meanwhile, slowed (2.9% vs 5.2%). Consumer durables output turned around to post 5.7% growth vs a 2.6% decline in July, supported by automobiles (12% vs 8.9%),

rubber and plastic products (4% vs 0.2%) and leather products (3.9% vs -4.0%). This indicates a recovery in both high- and low-ticket items. The decline in wearing apparels production narrowed (-17.1% vs -22.5%); so also in electronics (-8.7% vs -16.8%).

## Trade deficit narrows

India's merchandise exports contracted 2.6% on-year to \$34.5 billion in September, following 3.9% growth the previous month. Exports fell 2.9% on-year in the September quarter, slower than the decline of 13.9% on-year in the June quarter despite a challenging trade environment. Merchandise imports fell sharply by 15% on-year to \$53.8 billion and were also down sequentially from \$60.2 billion the previous month. A sharper decline in imports than exports narrowed the merchandise trade deficit to \$19.4 billion from \$21.7 billion the previous month and \$27.9 billion in September last year.

Exports are expected to remain under pressure as global headwinds continue to persist. Notably, the World Trade Organization has cut its forecast for global merchandise trade growth in 2023 to 0.8% from 1.7% projected in April.

Cumulatively, India's merchandise exports declined 8.8% on-year to \$211.4 billion in the first half of this fiscal from \$231.7 billion in the year-ago period. The decline in merchandise exports in September was largely due to a 10.6% on-year decrease in oil exports. Despite a rise in crude oil prices, the decline in oil exports both sequentially and on-year indicates: i) subdued global demand; and ii) the impact of increased export tax on diesel and aviation turbine fuel domestically.

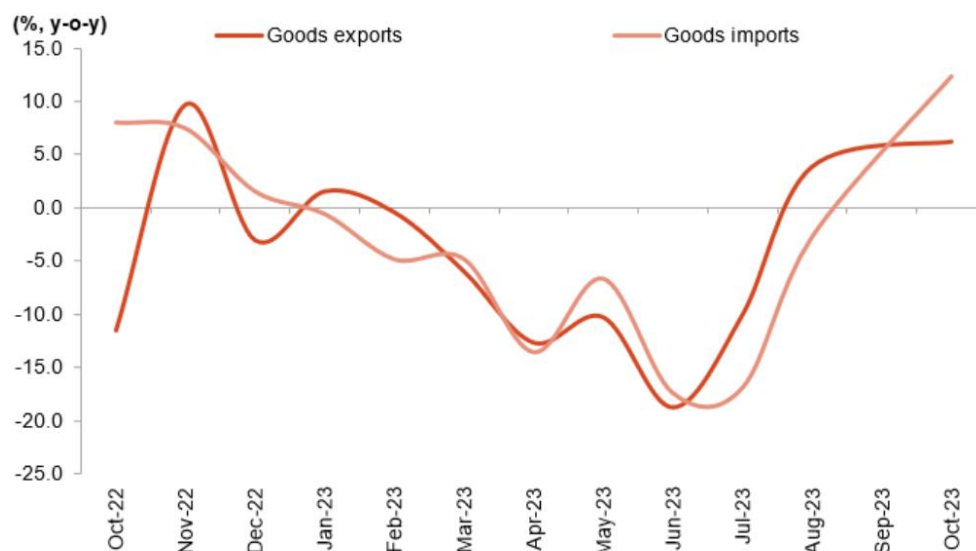
Core (non-oil, non-gold) exports rose 1.2% on-year on a low base, marking the second consecutive month of positive growth. However, they declined sequentially. That said, exports of some key core categories, such as engineering goods and pharmaceuticals, recorded an uptick for the second consecutive month. Smaller categories, such as ceramics, some textile categories, and iron ore, also registered healthy export growth. However, electronic exports, which had hitherto recorded healthy double-digit growth, came under pressure, contracting for the first time in 31 months, albeit on a high base.

Merchandise imports fell sharply by 15% on-year to \$53.8 billion and were also down sequentially from \$60.2 billion the previous month. However, services exports grew more than 8% for the second consecutive month in August (the latest month for which actual data is available).

Compared with merchandise exports, the decline in merchandise imports was not only sharper but also more broad-based in September. All the three categories — oil, gold and core — recorded an on-year decline, indicating some softness in domestic economic momentum. This may correct in the near term on the back of upcoming festive demand.

A sharper decline in imports than exports narrowed the merchandise trade deficit to \$19.4 billion from \$21.7 billion the previous month and \$27.9 billion in September last year.

Figure 7: Growth in merchandise imports significantly outweighs merchandise exports in October



### Outlook

Merchandise exports remain under pressure not only due to global headwinds in advanced economies, such as the US and the eurozone, but also in emerging markets, especially in the Asia-Pacific region. Exports are facing a double whammy from a fall in prices and volumes in many cases.

That said, deceleration in domestic growth is also softening India’s imports. At the same time, services trade surplus is robust, and remittances are expected to remain healthy.

As a result, CRISIL projects India’s CAD, at 2.0% of GDP last fiscal, to soften to 1.8% this fiscal. Any spike in oil prices, however, could increase CAD this fiscal and will be a key monitorable.

### 2.2.3. India’s trade with counterparts

The US emerged as India’s biggest trading partner in 2022-23 on account of increasing economic ties between the two countries. According to provisional data of the commerce ministry, bilateral trade between India and the US increased 7.65% to \$128.55 billion in 2022-23 from \$119.5 billion in 2021-22 and \$80.51 billion in 2020-21. Exports to the US rose 2.81% to \$78.31 billion in 2022-23 from \$76.18 billion in 2021-22, while imports grew ~16% to \$50.24 billion, the data showed.

On the other hand, in 2022-23, India’s two-way commerce with China declined ~1.5% to \$113.83 billion from \$115.42 billion in 2021-22. Exports to China dipped ~28% to \$15.32 billion in 2022-23, while imports rose 4.16% to \$98.51 billion. The trade gap widened to \$83.2 billion last fiscal from \$72.91 billion in 2021-22.

The headwinds of slowing global growth are beginning to buffet India’s trade on all sides in the current fiscal. While the large decline could be attributed partly to a high base effect, as exports unexpectedly shot up in the same month last year, exports declined sequentially and on a seasonally adjusted basis too. Moreover, unlike in recent months when the fall in oil exports was a major cause for a decline in overall exports, non-oil and non-gold exports also saw a sharper contraction in June.

The decline in India’s exports mirrors a similar slowdown in the larger Asian region, suggesting reduced demand for goods from advanced economies where the focus has shifted to consumption of services.

While the decline in commodity prices has played a big role in the fall in dollar value of India's exports, volumes have declined in many cases too. According to data from the commerce ministry, out of 75 commodities, export volumes of 40 witnessed an on-year decline during April-May 2023, including categories such as organic chemicals, base metals, etc. That said, the volume of petroleum exports rose during April-May 2023 (over same period last year), indicating the fall in oil exports (in dollar terms) is purely a price effect.

A second significant development, in what could be an early sign of weakness setting into domestic demand, is a massive decline in merchandise imports in June. Overall merchandise imports fell 17.5% on-year to \$53.1 billion, while core imports dropped 14.5% to \$33.3 billion in June. Investment related imports, which saw robust growth in the past few months, also softened.

In fact, sequentially (in seasonally adjusted terms), imports fell more than exports. With imports declining sharply, the merchandise trade deficit marginally narrowed to \$20.1 billion in June from \$22.1 billion the previous month

The third area of concern, at least for now, is the slowdown in India's service goods exports. In the first two months of the fiscal for which actual data is out, service exports grew 7.6% on average, down from 23.8% for the previous three months.

## 2.3. Review of inflation and its outlook

### Softer core inflation to the rescue

Inflation based on the consumer price index (CPI) dropped a mild 15 basis points (bps) to 4.87% in October from 5.02% in September 2023, led by a broad-based decline in core and fuel inflation. Food inflation remained steady despite a mixed underlying trend.

The decline in core inflation (to 4.3% from 4.5% in September) was led by lower input-cost pressure on producers and, hence, on retail prices. Food inflation was steady — as vegetable prices softened, while pulses prices hardened ~20%. Cereal price inflation remained at ~11%, while that of spices hit 23%. Meanwhile, fuel inflation declined mildly, as it benefitted from a drop in retail LPG prices.

### WPI deflation deepens

Inflation based on the Wholesale Price Index (WPI) remained negative for the seventh month straight, declining to -0.5% on-year in October from -0.3% in September.

WPI inflation in food eased to 1.1% (vs 1.5%), driven by further deflation in vegetables, especially tomatoes (-56.6% vs -37.6%) and potatoes (-29.3% vs -25.2%). On the other hand, the index surged 19.4% for pulses (vs 17.7%) and 7.5% for cereals (vs 7.3%).

Inflation in crude petroleum, at 10.8% in September, dropped to -4.9% in October, aided by a fall in global crude oil prices. On the other hand, fuel and power WPI accelerated to -2.5% (vs -3.3%) led by inflation of -0.4% in mineral oils (vs -4.7%). Inflation in electricity dropped to -11.1% (vs -2.6%). Manufactured products WPI inflation fell further to -1.3% in October (vs -1.1% in September). While inflation accelerated mildly in textiles (-5.5% vs -7.1%), basic metals (-2.3% vs -2.7%) and manufactured food products (-1.6% vs -1.9%), it eased in chemicals (-6.8% vs -6.7%), and machinery and equipment (2% vs 2.1%).

### Outlook

Easing input cost pressures on manufacturers and moderating domestic demand are expected to ease core inflation. That said, several risks to our forecast remain. Tight global food supplies threaten food inflation. So does the surge in onion prices which continued in October. For the December quarter, we expect food inflation to soften

due to government intervention and as the kharif harvest enters the market. Uncertainty over oil prices remain and they could potentially play a spoilsport, if the Middle East conflict escalates. An adverse index base (inflation had seen a drop in the year-ago period) will somewhat restrict the downside to inflation for two months.

We expect the RBI to remain vigilant, as headline inflation remains above the Monetary Policy Committee's (MPC) 4% target and risks to food and fuel inflation persist. Our base case for this fiscal is average inflation of 5.5% and the MPC maintaining its policy rate and stance.

## **2.4. Overview of policies/trends supporting the domestic industry**

### **2.4.1. Decoupling of global supply chains**

Amid traditional supply chains being threatened by large-scale global events, a rising trend of protectionism and wage inflation, there is a greater need for rethinking supply chain models to remain competitive. In the wake of global disruptions such as Covid-19, geopolitical crises, and environmental disruptions, significant decoupling of supply chains is happening to bring key supply links closer home, especially the ones situated in China.

To establish collective supply chains that would improve their resilience in the long term, 18 economies, including India, the US and the EU unveiled a roadmap in July 2022 to counter their supply chain dependencies and vulnerabilities. This was done as part of the ongoing supply chain derisking strategy of global companies/multinationals, wherein these companies are looking at alternative destinations to diversify their businesses and reduce their reliance on a single large supplier. Beijing's Zero-Covid policy and the attendant disruptions to global supply chains, container shortages and higher lead times have provided impetus to this strategy. This reorientation has benefitted other economies in southeast Asia and India. Given the enormous quantum of Chinese exports, coupled with India's cost advantage in manufacturing, Indian manufacturers are well placed to tap this highly lucrative opportunity. The government has also introduced many reforms and incentive schemes to increase domestic manufacturing and attract global manufacturing firms to India.

### **2.4.2. Make in India**

The 'Make in India' scheme was launched in September 2014 to boost domestic manufacturing capabilities and encourage FDI in manufacturing and services. The scheme's objective was to increase the share of manufacturing in GDP to 25% by 2020 by boosting investments, fostering innovation, and intellectual property, and building best-in-class infrastructure for manufacturing across sectors, including, but not limited to, automobile, auto components, aviation, biotechnology, chemicals, construction, defence manufacturing, electrical machinery, electronic systems, food processing, mining, oil and gas, pharmaceuticals, renewable energy, thermal power, hospitality and wellness.

A dedicated Investor Facilitation Cell was also set up to assist investors seeking regulatory approvals, handhold them through the pre-investment phase, support project execution and provide after-care support. Also, regulations and policies were modified to make it easier to invest in India.

Given the surge in FDI inflows, India jumped to the eighth position among the world's largest FDI recipients in 2020 from the 12th position in 2018, according to the World Investment Report 2022. To put this in perspective, FDI in India almost doubled to \$83.6 billion in fiscal 2022 from \$45.15 billion in fiscal 2015, with the country on track to attract \$100 billion FDI this fiscal according to the Ministry of Commerce and Industry.

However, the share of manufacturing in GDP has not attained the target of 25%. Hence, additional policies have been announced, and targets rolled forward initially to 2022 and then to 2025. Several steps have been taken to make sectors more attractive and ease investment processes.

Some of the major steps include the National Infrastructure Pipeline (NIP) and a reduction in corporate tax rates. Also, various sectors such as defence manufacturing, railways, space, and single brand retail have been opened up for FDI. Measures to boost domestic manufacturing were also taken through public procurement orders, a phased manufacturing programme, PLI, etc. Many states have also launched initiatives along similar lines to boost manufacturing.

### **2.4.3. Atmanirbhar Bharat**

Atmanirbhar Bharat was launched in May 2020 amid the peak of the Covid-19 pandemic, with a special and comprehensive economic package of Rs 20 trillion, i.e., equivalent to 10% of the country's GDP.

The scheme's primary aim is to make the country self-reliant based on five pillars: economy, infrastructure, a technology-driven ecosystem, demography and demand. The stimulus package announced by the government under the scheme consists of five tranches to boost businesses, including MSMEs, support the poor (including farmers), improve agriculture, accelerate industrial growth, and bring in governance reforms in the business, health and education sectors.

The mission emphasises the importance of encouraging local products and aims to reduce import dependence through substitution. It also aims to enhance the compliance and quality requirements of products and services to meet international standards, thereby gaining global market share.

### **2.4.4. Production Linked Incentive (PLI) scheme**

The PLI scheme's prime objective is to make manufacturing in India globally competitive by removing sectoral disabilities, creating economies of scale, and ensuring efficiency to create a complete component ecosystem in India and make the country an integral part of the global supply chain. Furthermore, the government hopes to reduce India's dependence on raw materials imported from China. The scheme is expected to boost economic growth over the medium term and create more employment opportunities, as many of the sectors covered under the scheme are labour-intensive. It will be implemented over fiscals 2022 to 2029.

PLI is a time-bound incentive scheme of the Government of India which rewards companies in the 5-15% range of their annual revenue based on the ability of these companies to meet pre-determined targets for incremental production and/or exports and capex over a base year. The stronger-than-expected pickup in demand and larger companies gaining share from smaller companies also led to revival of capex in fiscal 2022 on account of India Inc's expansion plans.

Construction spends are estimated to rise 6-8% across the industrial sector in fiscal 2024 driven by expansion in oil and gas and metals segments on a low base of fiscal 2023 as geopolitical issues in fiscals 2021 and 2022 hampered capex. However, the PLI scheme is expected to provide the necessary boost to the sector.

The stronger-than-expected pickup in demand and larger companies gaining share from smaller companies also led to a capex revival in fiscal 2022. Based on its analysis of eight key sectors, CRISIL estimates construction investments in the industrial sector to rise 1.3 times to Rs 4.0-4.1 lakh crore between fiscals 2023 and 2027 compared with the period between fiscals 2018 and 2022 due to inclusion of these investments in the PLI scheme.

**Table 3: Incentives for each sector under the PLI scheme**

Sector	Segment	Budgeted (Rs billion)*	
Automobiles	Automobiles and auto components	259.3	259.38
Electronics	Large-scale electronics manufacturing and IT hardware	409.5	1305.15
	Electronic/technology products/IT hardware	73.25	
	White goods (ACE and LED)	62.4	
	Semiconductors	760	
Pharma and medical equipment	Critical key starting materials/drug intermediaries and active pharmaceutical ingredients	69.4	253.6
	Manufacturing of medical devices	34.2	
	Pharmaceutical drugs	150	
Telecom	Telecom and networking products	122	122
Food	Food products	109	109
Textile	Textile products: man-made fibre (MMF) and technical textiles	106.8	106.8
Steel	Speciality steel	63.2	63.2
Energy	High-efficiency solar PV modules	240	240
Aviation	Drones and drone components	1.2	1.2
<b>Total</b>			<b>2,952</b>

\*Approved financial outlay over a five-year period

ACE: Appliance and consumer electronics; LED: Light-emitting diode

Source: Government websites, CRISIL MI&A Consulting

### PLI scheme for the automotive industry

The scheme intends to promote high-tech green manufacturing, such as electric and hydrogen fuel cell vehicles and excludes conventional petrol, diesel, and CNG segments (internal combustion engines), as they have sufficient capacities in India.

The PLI scheme targeting auto parts includes the following component schemes:

- **Champion Original Equipment Manufacturers (OEM) Scheme:** It is a sales value-linked plan applicable to battery, electric and hydrogen fuel cell vehicles in all segments
- **Champion Incentive Scheme:** It is a sales value-linked plan for advanced technology components, complete-knocked down and semi-knocked down (CKD/SKD) kits, vehicle aggregates of two-wheelers, three-wheelers, passenger vehicles, commercial vehicles and tractors, including automobiles meant for military use and any other advanced automotive technology components prescribed by the Ministry of Heavy Industries – depending on technical developments.

### 3. Review of and outlook on the Indian two-wheeler industry

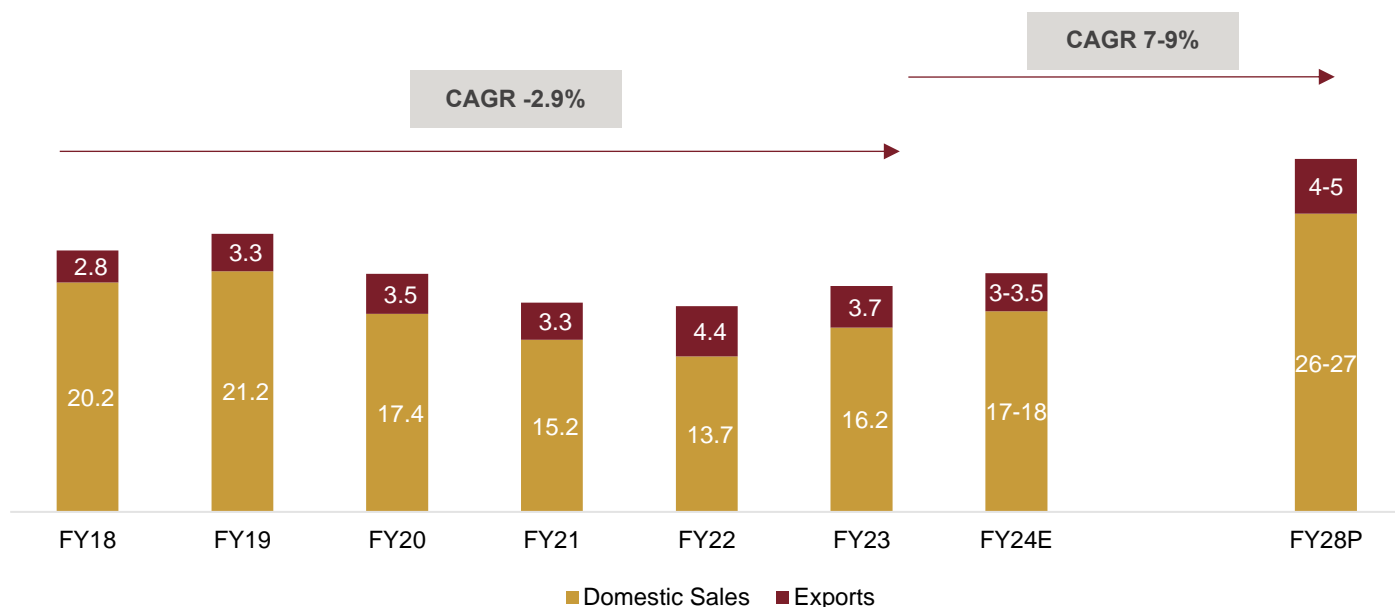
#### 3.1. Historical production and outlook (fiscals 2018-28P)

India is the largest motorised two-wheeler (2W) market in the world, with domestic sales of 16.25 million units in fiscal 2023. It accounted for ~76% of the total market (comprising 2Ws, three-wheelers or 3Ws, PVs and CVs) by volume and ~16% by value (Rs 1,056 billion). Furthermore, India is one of the largest exporters of 2Ws in the world.

2W production in India logged a negative CAGR of 2.9% between fiscals 2018 and 2023 because of lower output in fiscal 2020, as a result of the transition to BS-VI norms and pandemic-triggered challenges in fiscal 2021. However, over fiscals 2016-19, the industry posted a 9% CAGR, thanks to a good monsoon, a favourable economic situation and rising exports.

2W demand in India declined at a meagre 2% CAGR between fiscals 2016 and 2021, after seeing double-digit declines of 18% and 13% in fiscals 2020 and 2021, respectively. However, exports clocked a 5% CAGR over the period.

Figure 8: 2W production volume (million units)



E: Expected, P: Projected

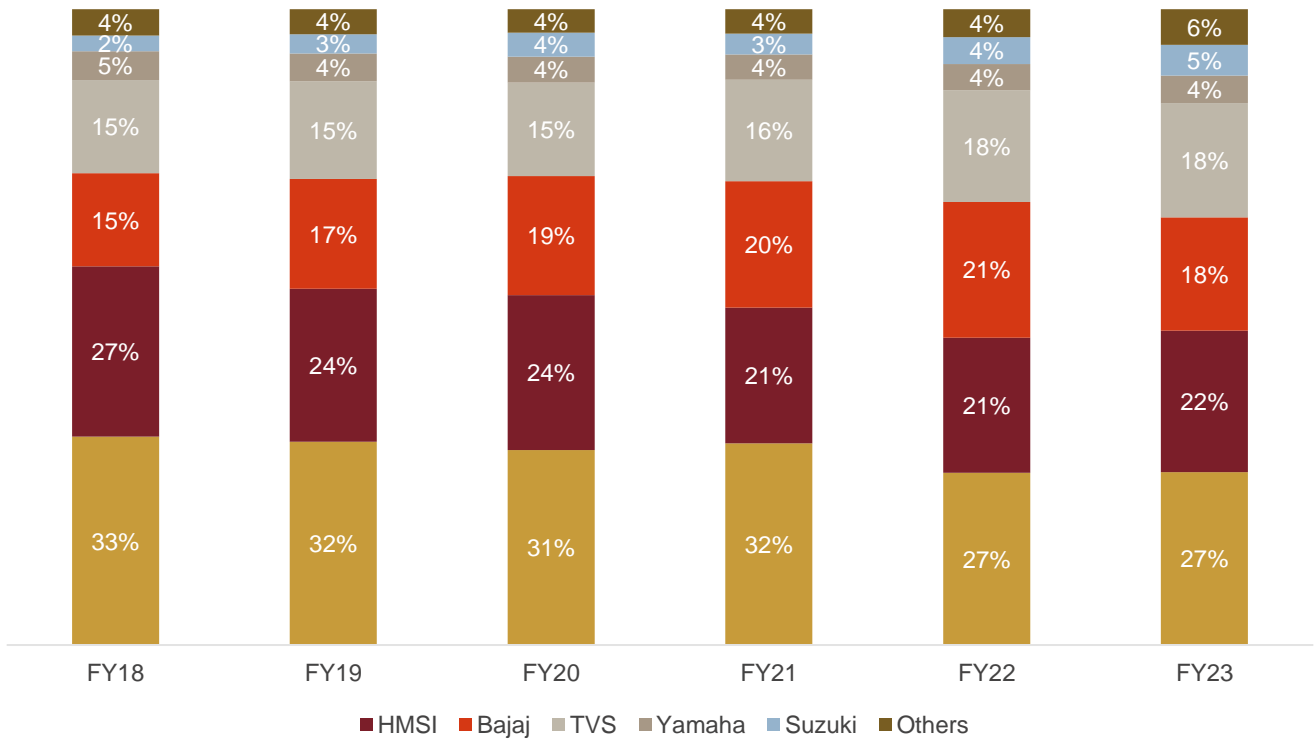
Source: SIAM, CRISIL MI&A

#### Production split by OEM

Competition in the 2W industry has intensified across all segments over the past few years, owing to capacity additions, expansion of dealership network, and model launches at competitive price points. OEMs such as Honda, TVS and Royal Enfield have been steadily gaining market share, heightening competitive intensity over the past few years. The trend is expected to continue, with premium motorbikes and 125 cc scooters tipped to witness most of the action in the next few years. In line with the overall trend, Hero's share has reduced over the years, although the company has maintained its pole position in the market. HMSI has been steadily gaining and establishing its stronghold in the industry, mainly on the back of 125 cc scooter sales.



Figure 9: Production split by OEM



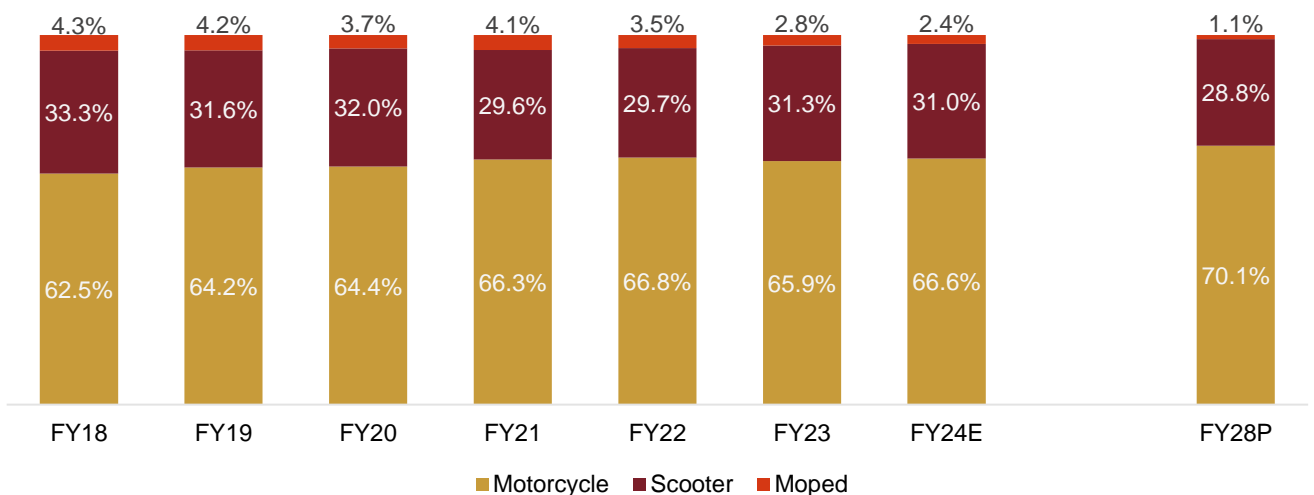
Note: Share of production is shown for OEMs that are part of SIAM

Source: SIAM, CRISIL MI&A

### 3.2. 2W market by vehicle type: Motorcycle, scooter and moped

Motorcycles dominate the domestic 2W space, with ~66% market share in fiscal 2023. Domestic demand for motorcycles increased 10% on-year in fiscal 2023, driven by improving rural productivity, diversification towards horticultural crops, government income support schemes and structural measures taken by the government, such as PM-KISAN, National Agriculture Market (eNAM) and Pradhan Mantri Fasal Bima Yojna (PMFBY). These will aid rural income in the long run. CRISIL MI&A expects motorcycle demand to increase 8-10% on-year this fiscal.

Figure 10: Domestic 2W market share by type



*E: Expected, P: Projected*  
Source: SIAM, SMEV, CRISIL MI&A

### 3.3. 2W market by domestic sales and exports

Domestic sales have accounted for ~85% of the Indian 2W industry's sales over the past five years, though manufacturers such as TVS Motor Company, Bajaj and HMSI have been expanding their geographical footprint. Also, joint ventures with global brands such as KTM, Husqvarna and BMW, coupled with catering to the global demand for these brands from India, have given an additional thrust to 2W exports.

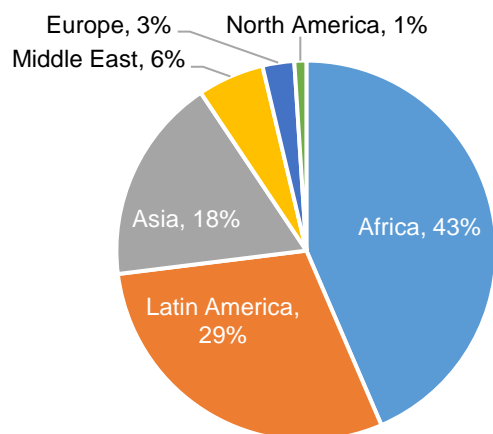
CRISIL MI&A expects 2W exports from India to log a CAGR of 5-7% between fiscals 2023 and 2028, compared with 5.3% between fiscals 2018 and 2023. Demand pressure in major export destinations has arisen due to global tightening and high inflation, leading to adverse effects on economic growth and customer sentiment. While expansion in geographical reach and extensive product portfolios will drive growth, crude oil prices and currency fluctuations in export markets remain key monitorables. Revival in the African economy is expected to lift exports in the long term. Moreover, government initiatives to make India an export hub, along with policies such as PLI, provide further impetus to 2W exports.

### 3.4. Key export destinations

Indian 2Ws are exported to crude oil-exporting developing countries, primarily in Africa and Latin America, which collectively constituted more than 70% of India's exports in fiscal 2023. Hence, crude oil prices and currency fluctuations have an impact on India's 2W exports. In fiscal 2023, exports declined 18% due to demand pressure in major export destinations. This is expected to further impact export growth in fiscal 2024. While ASEAN countries have experienced a milder impact compared with African and LATAM economies, both regions have been affected by the prevailing global tightening and worsening economic conditions. The significant devaluation of currencies in a few countries has led to higher retail prices, particularly in the automotive sector.

Exports jumped 36% in fiscal 2022, on a low base of fiscal 2021, driven by improved economic sentiment, an uptick in mobility, monetary easing and improved production. There was a price hike each in July and October 2021, driven by commodity prices. OEMs' efforts to diversify into more promising geographies boosted exports in fiscal 2022.

**Figure 11: Share of key export destinations (fiscal 2023)**

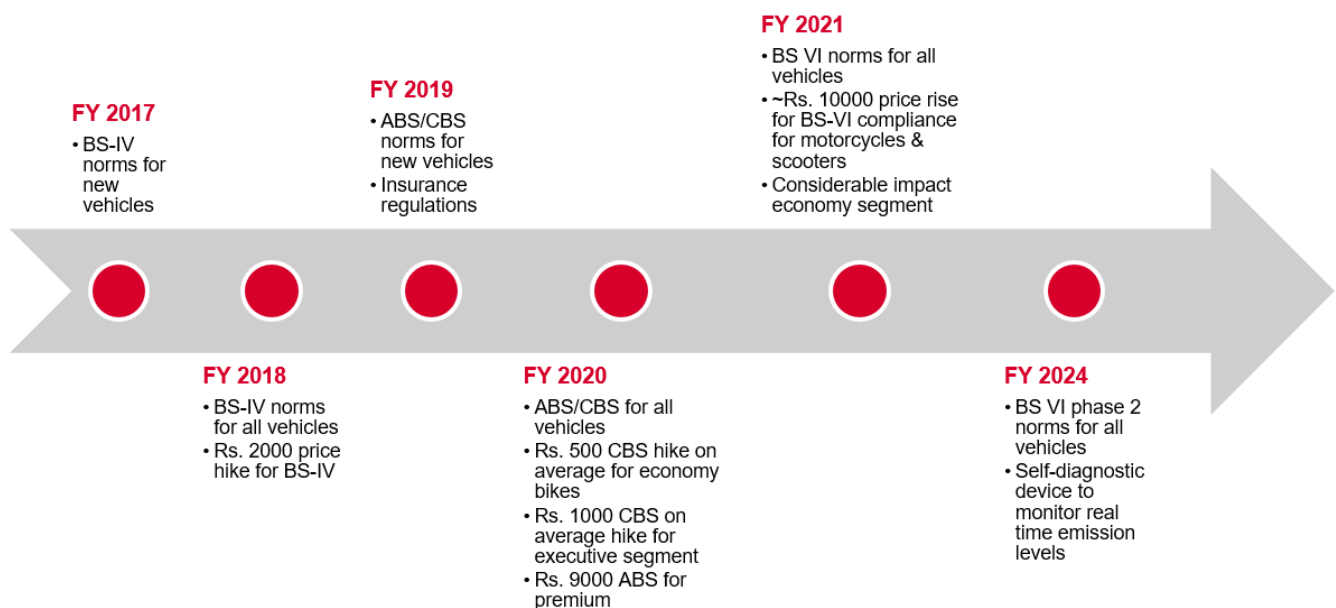


Source: Directorate General of Foreign Trade (DGFT), CRISIL MI&A

### 3.5. Key historical regulatory/macroeconomic trends and growth drivers for domestic sales

The Indian government has been taking aggressive steps to converge emission standards with global norms. In February 2016, it decided to skip BS-V norms and directly mandate BS-VI norms. Compliance with the latest emissions standards requires improvement mostly in the exhaust system, thereby increasing the prices of 2Ws. The second stage of BS-VI was implemented on April 1, 2023, requiring vehicles to meet actual driving emission requirements rather than just laboratory tests. To make this possible, automobiles must come equipped with OBD2 (on-board diagnostics).

**Figure 12: Regulatory timeline and its impact on prices**



Source: Industry, CRISIL MI&A

#### Key macroeconomic trends influencing domestic sales

- **Macroeconomic scenario:** Performance of the Indian 2W automotive sector is dependent on numerous social and economic factors, including demographic trends and preferences, employment and income levels, affordability of 2W vehicle customers, changes in government policies, economic conditions, availability of finance and interest rates
- **Investment in infrastructure:** Rural infrastructure also has a pronounced impact on rural incomes and, in turn, 2W sales — first, by generating employment in the rural economy during the construction of roads, thereby acting as a wage and income multiplier, and second, by enabling mobility and accessibility
- **Finance availability:** Stringent credit norms and credit information through the Credit Information Bureau (India) Ltd (CIBIL) have helped players widen their customer base. Moreover, the entry of NBFCs targeting markets exited by banks, and captive NBFCs (operated by 2W manufacturers) largely focusing on non-metros has raised competition in the industry

- Women participation: An increase in the number of women in the workforce (a sharp rise in the past decade) has increased the overall household income, boosting 2W sales
- Increasing rural penetration and multiple ownership to aid growth in the long run: On the rural front, rising penetration due to a deeper distribution network and improving incomes on the back of three of five normal monsoons are expected to support 2W demand in the long run. In urban areas, demand is expected to be driven by multiple ownership and an increase in demand from Tier 2 cities

**Government intervention through regulations and policies**

The Government of India, through various ministries, has formulated policies for the development of the EV sector.

**Table 4: Policies and their expected outcomes**

Policy	Policy details	Actual/expected outcome
<b>Reduction in GST rate for EVs and chargers</b>	<ul style="list-style-type: none"> <li>• From 12% to 5% for EVs, and 18% to 5% for chargers, effective August 1, 2019</li> </ul>	<ul style="list-style-type: none"> <li>• EV acquisition cost came down. Fast-charging infrastructure cost also reduced</li> </ul>
<b>Union Budget 2019-20</b>	<ul style="list-style-type: none"> <li>• Income tax deduction of Rs 0.15 million on EV loans</li> </ul>	<ul style="list-style-type: none"> <li>• TCO declined, especially for salaried professionals</li> </ul>
<b>Warranty condition for eligibility of vehicle under FAME II (May 15, 2019)</b>	<ul style="list-style-type: none"> <li>• Warranty condition revised to three years subject to 20,000 km; earlier warranty on vehicles was provided for one year only</li> </ul>	<ul style="list-style-type: none"> <li>• Customer perception of low quality of EVs expected to change</li> </ul>
<b>FAME II subsidy (March 22, 2019) valid till FY24</b>	<ul style="list-style-type: none"> <li>• 1 million e-2Ws to be given subsidy at Rs 10,000 per kWh or 15% of ex-factory price (limited to Rs 0.15 million)</li> </ul>	<ul style="list-style-type: none"> <li>• e-2W acquisition cost came down, with subsidy up to 15% of ex-factory price for current models</li> </ul>
<b>State EV policies</b>	<ul style="list-style-type: none"> <li>• Eight states have finalised their EV policies and eight others have draft policies</li> <li>• Policy entails supply- and demand-side incentives</li> </ul>	<ul style="list-style-type: none"> <li>• Maharashtra and Delhi are offering incentives, further lowering acquisition cost</li> <li>• Demand-side incentives include reduced tariff for EV charging, rebates on road tax, interest-free loans for auto component manufacturers and non-fiscal incentives for skill development</li> <li>• Supply-side incentives include interest subvention on investments made and stamp duty exemption</li> </ul>
<b>PMP norms (April 29, 2019)</b>	<ul style="list-style-type: none"> <li>• Increase in import duty on EV auto component parts from 10% to 15% from April 2021</li> </ul>	<ul style="list-style-type: none"> <li>• OEMs not meeting localisation norms will not be eligible for demand incentives</li> <li>• Subsidies of those EV OEMs who had not met the domestic value addition (DVA) criteria were put on hold by the Centre in September 2022</li> <li>• The cost of importing parts is also set to increase from April 2021, if a sustainable and cost-effective domestic alternative is not found</li> <li>• This will increase acquisition cost of e-2Ws</li> <li>• Our recent interactions with e-2W OEMs suggest vehicle control units, battery packs and lithium-ion cells are still being considered for substitution</li> </ul>

Policy	Policy details	Actual/expected outcome
<b>EV charging ecosystem</b>	<ul style="list-style-type: none"> <li>Sixteen state policies in final and draft stages offer incentives for setting up charging stations</li> <li>As per the Ministry of Power's notification issued on December 14, 2018, resale or commercial activity in electricity has been allowed for utilities/service providers providing public charging infrastructure</li> <li>Oil marketing companies' (OMCs) retail pumps will be given priority for installation of public EV charging stations</li> <li>Nine cities with a population of 4 million and above are the focus of phase I of the EV charging policy</li> <li>There must be at least one charging station in a grid of 3 km x 3 km in cities</li> </ul>	<ul style="list-style-type: none"> <li>Under FAME I, the government sanctioned 520 chargers</li> <li>Under FAME II, the government sanctioned 2,636 charging stations across 62 cities</li> <li>Fast and accessible charging will help reduce range anxiety and drive faster adoption of e-2Ws</li> </ul>

Source: SMEV, FAME, Department of Heavy Industries (DHI), CRISIL MI&A

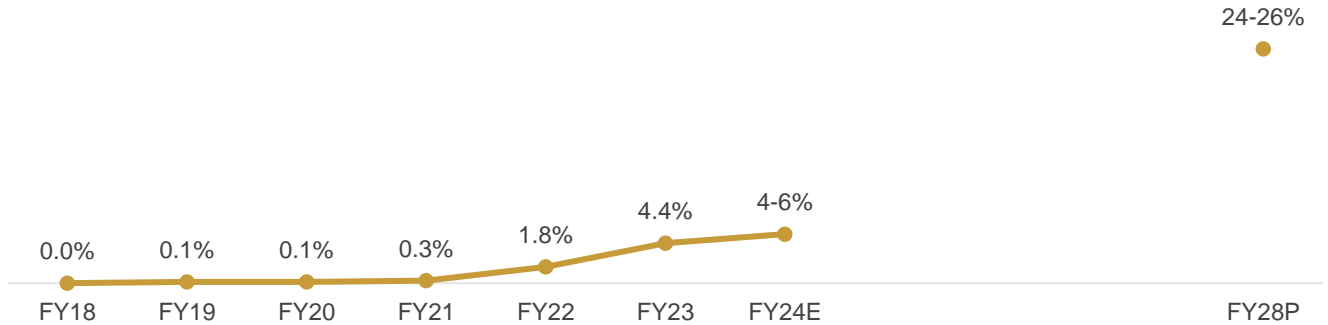
Regulators play an important role in driving faster adoption of EVs. The FAME II scheme has an outlay of Rs 100 billion with a major proportion dedicated to demand incentives. Rs 10 billion is earmarked for the development of charging infrastructure. Demand-side incentives under the FAME II scheme are applicable until fiscal 2024, and state EV policies (mostly of five-year tenure) until fiscal 2024. The outlay set for e-2Ws under FAME II is already exhausted; an additional budget of around Rs 3,500 crore was added at the beginning of fiscal 2024. Continuation of policies after fiscal 2024 will play an important role in driving adoption of hybrid and EVs. All the policies and regulations focus on decreasing the acquisition cost and building capabilities through the PMP scheme and the recently announced PLI scheme.

### Growth drivers for domestic sales

- The main driver is likely **improvement in macroeconomic factors** following subdued growth earlier this fiscal. CRISIL MI&A expects GDP to clock a 5.5-6% CAGR between fiscals 2023 and 2028. Inflation, on the other hand, is expected to remain soft to moderate. Higher GDP growth and lower inflation would boost domestic sales, led by better affordability with a rise in disposable income
- Higher penetration in semi-urban and rural markets will steer growth in 2W sales
- Finance penetration is likely to rise in the long term, with continued focus of banks and NBFCs on semi-rural and rural areas
- Urban demand sentiment improved in fiscal 2023 and the first quarter of fiscal 2024 in line with reopening of offices and educational institutions, which boosted scooter sales. Petrol consumption improved 13% on-year in fiscal 2023 and was 20-25% higher on-year compared with pre-pandemic levels. Consumption improved a further 7% on-year in the first quarter of fiscal 2024
- Rural infrastructure growth has a pronounced impact on rural incomes, boosting domestic sales in turn. Strong investments under infrastructure schemes will further boost rural infrastructure, with a multiplier effect. Farm income is also expected to grow moderately going forward, with improvement in irrigation facilities, increase in mechanisation and crop yields, and continued government support
- The use of 2Ws (mainly electric) in last-mile delivery by e-commerce players/food chains would also drive demand

### 3.6. Current and estimated EV penetration in 2W market

Figure 13: Penetration of e-2Ws



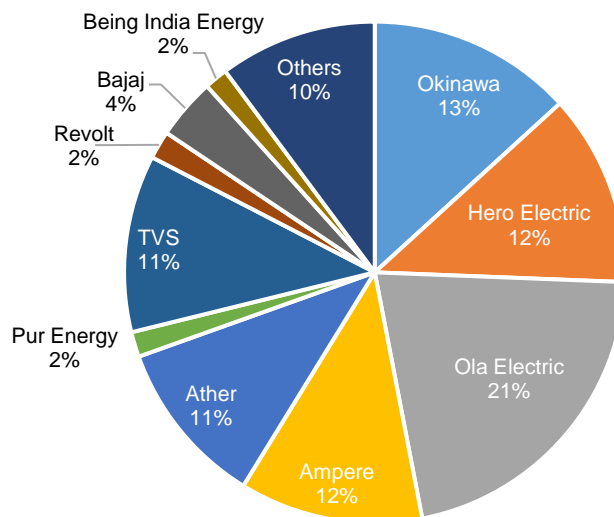
E: Expected, P: Projected

Source: SIAM, SMEV, VAHAN, CRISIL MI&A

EVs are gaining global interest owing to their potential to curb pollution. In India as well, EVs are gaining popularity as the government is extending support via FAME II vehicles and tax rate cuts to encourage EV adoption. Furthermore, growing awareness and concern about environmental issues are likely to drive electrification in India. We expect e-2W market penetration to be 4-6% by fiscal 2024 and reach 24-26% by fiscal 2028, increasing at a CAGR of 55-58% between fiscals 2023 and 2028.

On June 1, 2023, the government reduced the FAME subsidy incentive cap from 40% of a vehicle's value to 15%, and capped the subsidy at Rs 10,000 per kWh of battery vs Rs 15,000 per kWh earlier. Because of this, manufacturers such as Ola, TVS and Ather had to increase the prices of their electric scooters. That said, the e-2W segment has started to emerge stronger, and despite challenges, 7.1 lakh high-speed units were sold in fiscal 2023, ~3x of fiscal 2022 levels. However, reduction in subsidy will remain a key monitorable.

Figure 14: e-2W market share by player (fiscal 2023)



Source: Vahan, CRISIL MI&A

In fiscal 2023, e-2W sales totalled 0.71 million units vs 0.24 million units in fiscal 2022 (192% growth on-year). Sales jumped last fiscal due to improved model availability, new model launches by Internal Combustion Engine (ICE) OEMs, lower-priced models, improved charging infrastructure availability, and TCO parity with ICE vehicles. Even in fiscal 2024, the cost of ownership of an e-2W is more favourable than that of a traditional ICE scooter. Sales of high-speed e-2Ws totalled 0.21 million units in the first quarter of fiscal 2024. The industry is currently driven by supply and capacity of OEMs meeting ample demand. Non-legacy players such as Ola Electric, Okinawa Scooters, Ather Energy and Ampere EV by Greaves are gaining a strong foothold in the domestic e-2W industry, stealing a march on the established OEMs, and are disrupting the market with a hope to leverage their first-mover advantage and technological advances. However, legacy OEM TVS has gained significant market share through its model iQube, gaining volume sales close to Ampere and Hero. The current e-2W market growth is largely supply-driven, as high demand for these vehicles is not being met by existing suppliers, resulting in long waiting periods. The incumbent ICE players have taken longer to enter the e-2W segment; however, they are making up for lost time by rapidly expanding their sales network as well as production capacity and are likely to challenge the top EV players.

Measures enabling home charging, battery swapping, etc., will alleviate range anxiety (fear of running out of charge in the middle of the journey), which is a key concern for EV buyers due to low availability of public charging infrastructure. To address this, and to generate an ecosystem to accelerate EV sales, the Ministry of Road Transport and Highways has decided to set up new EV charging stations. The government has also come up with draft guidelines on battery swapping policy, which allows interoperability of batteries. This is a positive for battery swapping stations that can be set up at petrol pumps to address range anxiety for EV owners. However, availability of necessary infrastructure, especially provision for DC fast charging at remote petrol pumps (away from cities), remains a monitorable.

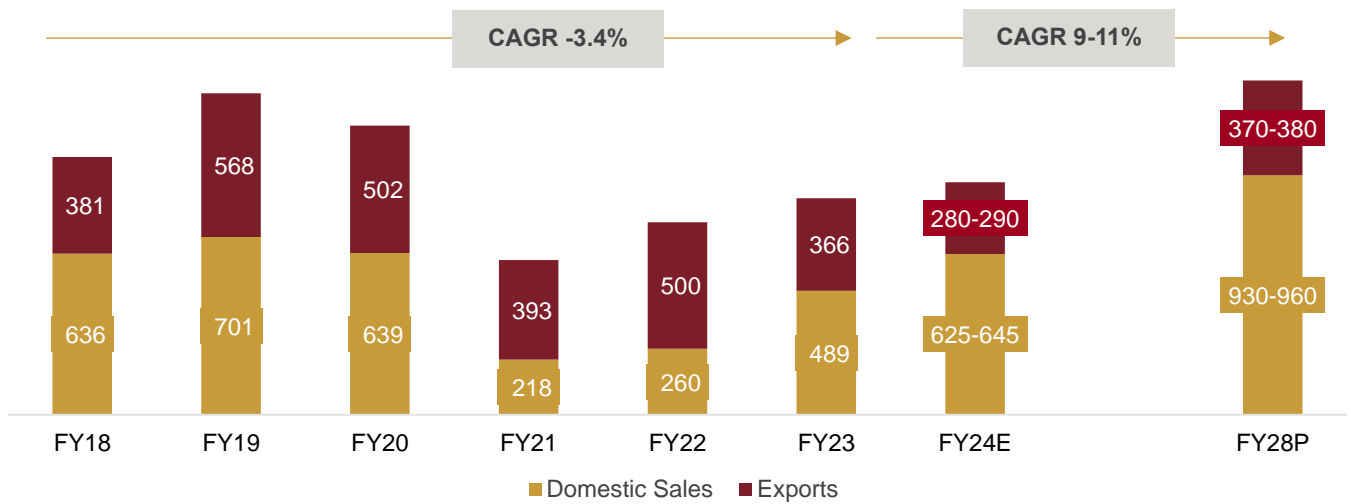
As per our analysis, bulk of the migration towards EVs will take place within the scooter segment. This segment accounted for 31% of 2W sales in fiscal 2023 and had a higher urban penetration (65-75%) compared with motorcycles, which is largely rural demand driven. EV adoption in the 2W segment will be largely driven by urban scooter buyers by fiscal 2028, because the cost of ownership of electric scooters will be less than that of ICE scooters. Major OEMs are already in the process of developing EVs in-house or acquiring stake in existing EV start-ups to diversify their offerings.

## 4. Review of and outlook on the Indian three-wheeler industry

### 4.1. Historical production and outlook (fiscals 2018-28P)

India is the largest 3W market in the world, with domestic sales of 0.49 million units in fiscal 2023. It accounted for ~2% of the total market (comprising 2Ws, 3Ws, PVs and CVs) by volume and ~1% by value (Rs 98 billion).

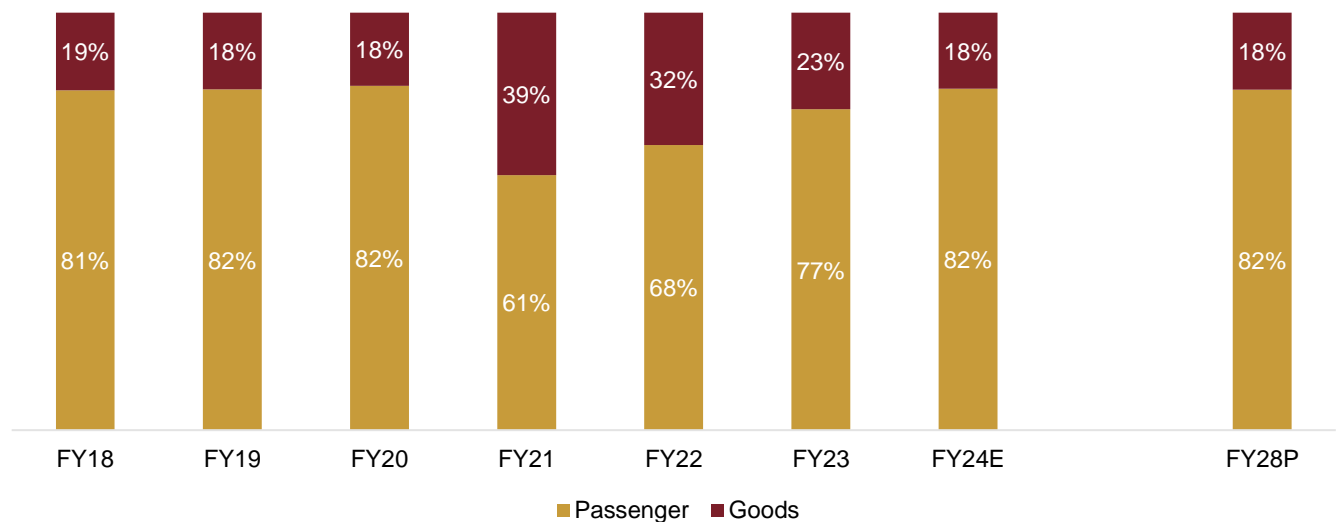
Figure 15: 3W production volume (thousand units)



E: Expected, P: Projected  
Source: SIAM, CRISIL MI&A

### 4.2. 3W market by vehicle type: Goods and passenger

Figure 16: 3W market share by type

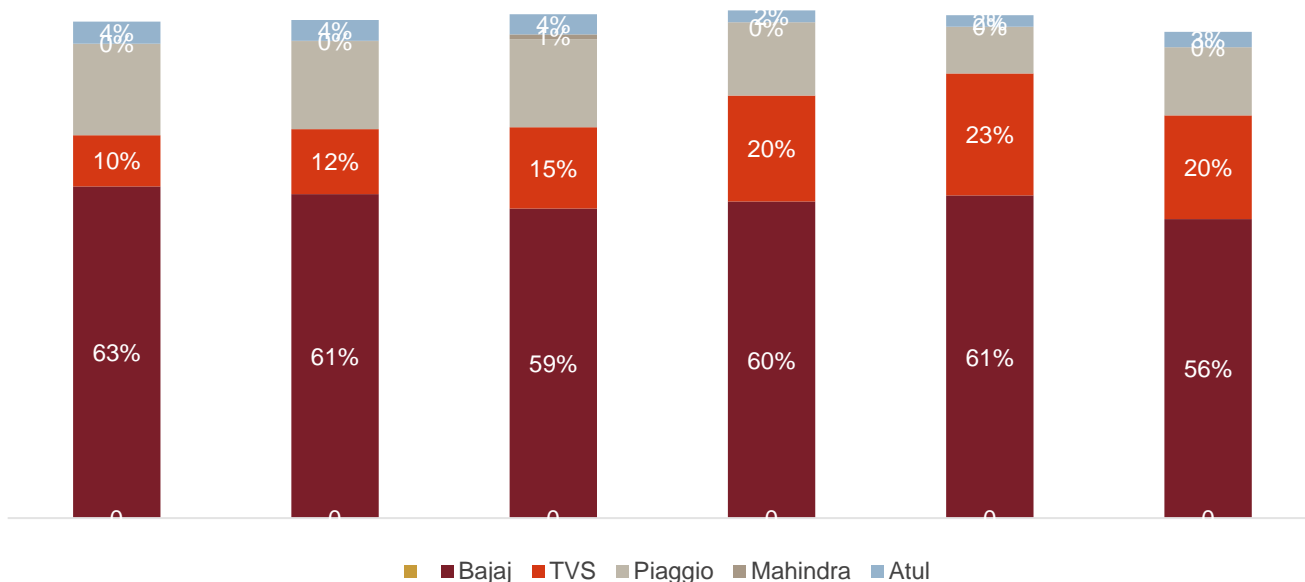


E: Expected, P: Projected  
Source: SIAM, CRISIL MI&A



The passenger segment accounted for a major share (77%) of the overall domestic sales of 3Ws in fiscal 2023. It is expected to log a 14-16% CAGR between fiscals 2023 and 2028, followed by goods 3Ws (8-10%).

**Figure 17: Production split by OEM**



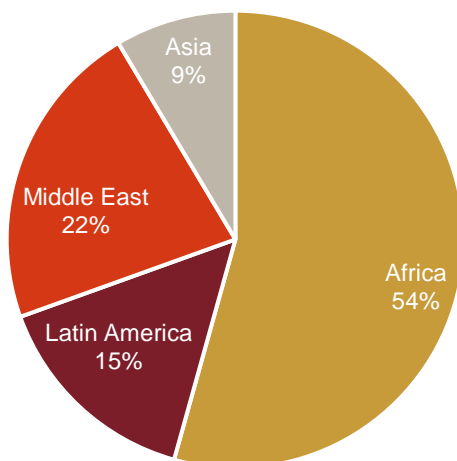
Note: Share of production is shown for OEMs that are part of SIAM

Source: SIAM, CRISIL MI&A

Competition in the 3W industry is reasonably consolidated, with Bajaj at the helm over the past five years. Players such as Bajaj, TVS, Piaggio, Mahindra and Atul make up more than 90% of the market. While Piaggio is a dominant player in the goods segment, Bajaj is way ahead of competition in the passenger segment.

### 4.3. Key export destinations

**Figure 18: Share of key export destinations (fiscal 2023)**



Source: DGFT, CRISIL MI&A

Exports to Africa in fiscal 2023 amounted to 173.0 thousand units and those to the Middle East amounted to 69.9 thousand units. Latin America and Asia contributed to the rest, at 48.3 thousand units and 27.2 thousand units, respectively.

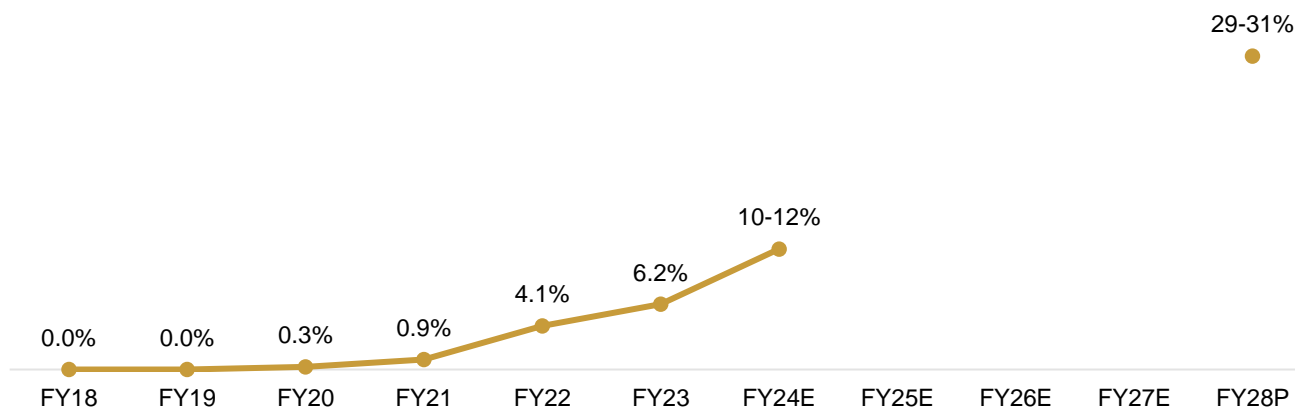
The share of exports to Latin America rose amid increased exports to Mexico, Peru, Ecuador and Peru. Exports to Africa were affected in fiscal 2023 due to currency devaluation, demonetisation and elections. Exports to Asia also declined due to a decrease in exports to markets such as Bangladesh, Nepal and Indonesia.

#### 4.4. Key historical regulatory/macroeconomic trends and growth drivers for domestic sales

- Stable agricultural output
- E-commerce growth
- Fillip to industrial output
- Vehicle Scrappage Policy
- Improvement in shared mobility and rising intra-city movement

#### 4.5. Current and estimated EV penetration in 3W market

Figure 19: Penetration of e-3Ws



E: Expected, P: Projected

Source: SIAM, SMEV, VAHAN, CRISIL MI&A

Climate change concerns, pollution and the surge in oil prices have prompted the Indian government to undertake policy initiatives aimed at transitioning towards electric mobility. The country is now a signatory to the Paris Agreement and part of the EV30@30 campaign. With this, the automotive sector, including the 3W segment, is set to receive substantial policy stimulus. E-rickshaws dominate this space. The key trends and growth drivers for electrification include changes in regulations and policies, TCO and growing awareness about environmental issues. The government, through various ministries, has formulated policies such as FAME II for the development of the EV sector in India.

Mahindra Reva and Piaggio were the top two players in the e-3W space in fiscal 2023, together accounting for over 50% of the market. They saw strong growth in sales in fiscal 2023 as 3W operators looking to lower their operating costs amid high fuel prices were seen switching to electric variants.

E-3Ws use lithium-ion batteries and have a speed exceeding 25 kmph. They are used for cargo as well as passenger movement. Under FAME I, lead-acid battery-driven e-3Ws were also eligible for the subsidy. However, under FAME II, only advanced batteries and registered vehicles are eligible. Higher initial cost of e-autos, limited availability of a wide range of products in the market, and inadequate charging infrastructure have hindered their penetration (6.2% as of fiscal 2023).

Despite these challenges, improving operating cost economics and environmental considerations have supported the shift towards e-autos. E-3W passenger vehicles, unlike ICE vehicles, do not fall into the ambit of the permit system. This has also led to a shift in customer preference towards e-3Ws. As more players launch products in this category, we expect it to drive 3W sales. Incentives declared in the FAME II and state EV policies are also anticipated to be the drivers.

## Government's FAME policy to promote EVs

### Incentive structure under FAME II

Maximum no. of vehicles to be supported	Approx. size of battery in kWh	Incentive (Rs/ kWh)	Maximum incentive (Rs)	Max ex factory price to avail incentive (Rs.)	Total fund supported (Rs Cr)
500,000	5	10,000	20% of cost of vehicle	500,000	2500

Source: DHI, CRISIL MI&A

### FAME II versus FAME I

	FAME II		FAME I	
	Approx. Incentive	Max ex-factory price( Rs lakh)	Incentive L1 (Rs)	Incentive L2 (Rs)
Registered 3W	40,000-62,000	5	45,000	54,000

Source: DHI, CRISIL MI&A

Electric penetration reached 6.2% in fiscal 2023 from 4.1% in fiscal 2022, aided by various state and central EV policies. By fiscal 2028, we expect the penetration of e-3Ws to reach 29-31% from 6.2% currently. The e-3W segment is expected to log a CAGR of 55-58% between calendar years 2023 and 2028.

Under FAME II, subsidy is made available to 0.5 million e-3Ws, but at least 50% localisation is required. This limit is to be increased in a phased manner under the programme. Various states have provided additional subsidies to drive EV growth. The Delhi EV Policy has even declared subsidies for 3Ws powered by lead acid-based batteries.

### Key factors driving electric three-wheeler growth

- Ban on permits for diesel vehicles by a few top-selling three-wheeler states

- Favourable cost economics, strong charging infrastructure and easy availability of finance to drive e-auto growth
- E-retail is currently an important segment in e-auto sales. An improving economy amid low to moderate inflation is expected to drive consumer spends, thus driving sales of e-autos even further
- The strengthening infrastructure network (metro lines, road connectivity, etc.) and need for zero-emission three-wheelers for last-mile connectivity

## 5. Review of and outlook on the Indian Passenger vehicle industry

### 5.1. Historic production development

Until liberalisation, there were only three major car manufacturers in India – Hindustan Motors, Premier and Maruti Udyog. However, post liberalisation, Maruti and Suzuki's partnership was the country's first Indian-foreign joint venture. Thereafter, major international corporations such as Hyundai and Honda entered the country following gradual implementation of economic reforms. From 2000 to 2010, almost every major car company had established manufacturing facilities in the country.

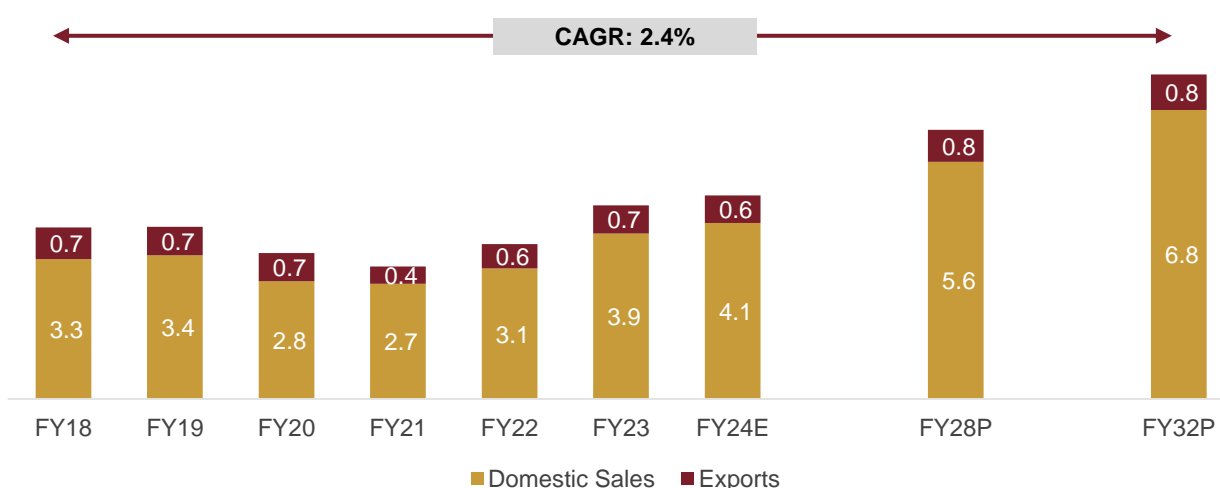
Between fiscals 2018 and 2023, India's domestic PV sales rose at 3% CAGR. The growth was despite sales contracting 6% CAGR from fiscals 2018 to 2021. From the low base of fiscal 2021, industry sales bounced back to reach a historic high of 3.9 million vehicle sales in fiscal 2023.

The previous high was in fiscal 2019, led by continued improvement in GDP, increase in disposable incomes, new model launches, stable cost of vehicle ownership and rising traction for UVs. In fiscal 2020, though, an economic contraction put pressure on vehicle sales. Moreover, the NBFC liquidity crisis as well as cut in BS-IV vehicle production amid mandatory implementation of BS-VI norms from fiscal 2021 exerted added pressure. The industry also lost nearly half a month's sales at year-end owing to the pandemic and subsequent nationwide lockdown.

In fiscal 2021, domestic sales were affected by the first Covid-19 wave. A nationwide lockdown, reduced mobility, and supply chain constraints leading to production cuts weighed on annual sales. Despite sales improving somewhat with the economy reopening and increased demand for personal mobility during the second half of the year, sales contracted ~2.2% on-year on an already low base of fiscal 2020.

Fiscal 2022 began with a more severe second wave. State-imposed lockdowns, economic uncertainty, struggling vehicle supply and extended waiting periods impacted sales, especially in the first half. The economic scenario lightened a tad, as did sentiment, with markets reopening in the second half. Pent-up vehicle demand, increased need of personal mobility and improved supply scenario provided a thrust to PV sales during the second half. After a two-year consecutive drop, PV sales rose 13% on a very low base of fiscal 2021.

**Figure 20: Review of PV sales and export volume (million units)**



Source: SIAM, CRISIL MI&A

In fiscal 2023, the PV industry grew 27% on-year, almost double the 13% on-year growth in fiscal 2022. The growth was on the back of healthy pent-up demand created by a two-year slump in sales volume because of the pandemic-induced disruptions. The orderbooks of auto OEMs were further supported by several new launches in the growing UV category, which saw high traction, along with multiple facelifts of existing models and easing semiconductor supplies. In fact, overall wholesale volume reached an historic high of 3.9 million units in the fiscal.

## 5.2. Split of industry sales by PV segment

Small cars have been leading PV sales over the years. The significantly high share of small cars in total sales is primarily because of the lower ticket size of small cars, making these affordable to the average Indian customer. Moreover, it is an ideal vehicle for first-time car buyers.

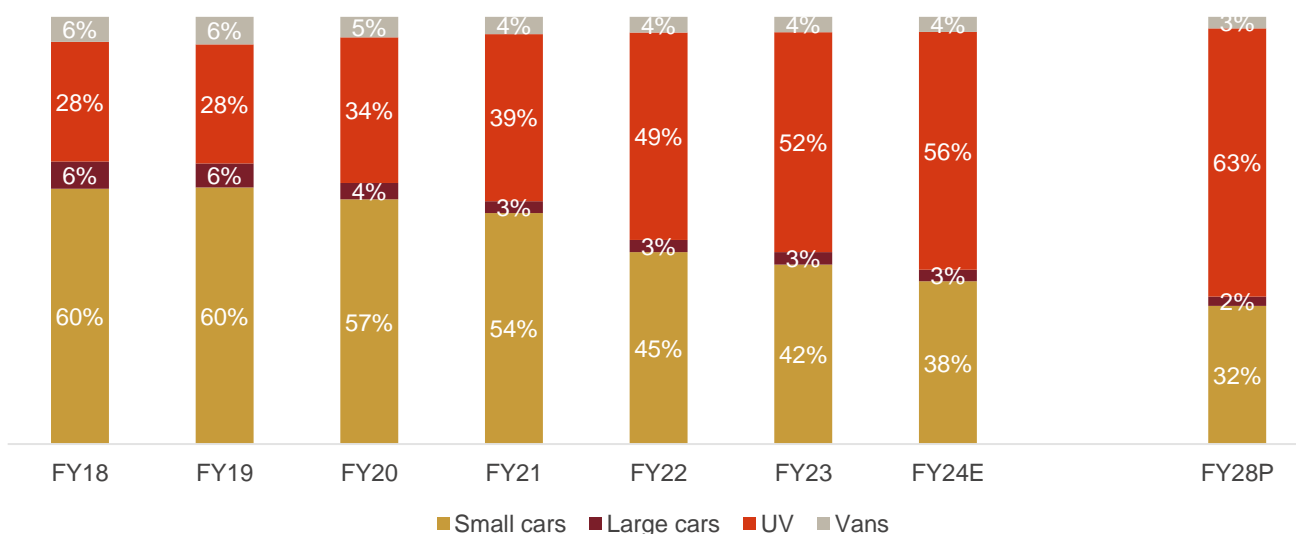
However, the price differential between small cars and other premium segments, such as UVs, has narrowed over the years.

UVs traditionally appealed to customers valuing larger seating capacity and the ability to drive on rough and rural roads. However, the launch of compact UVs in fiscal 2017, with prices starting at <Rs 1 million, provided a considerable thrust to the overall UV segment.

With consumer preference shifting to UVs, and a high number of UV launches in recent years, the share of UVs in overall PV sales increased to 52% in fiscal 2023 from 28% in fiscal 2018.

Expansion of the UV segment's share was led by OEM focus; competitively priced new vehicle launches; entry of global players in India, such as Kia and MG, with their UV portfolios; along with shift in customer preference towards the premium UV segment.

**Figure 21: Trend in segmental share**



Source: SIAM, CRISIL MI&A

On the other hand, the share of small cars has been contracting in recent years over a high base. From 60% in fiscal 2018, the share of small cars in overall sales contracted to 42% in fiscal 2023. Lack of new model launches,

hike in vehicle prices, increase in operating cost amid fuel price hikes, and impact of an unfavourable macroeconomic environment on the bottom-of-the-pyramid customer base restricted the growth of small cars.

There has also been a shift in demand from large cars, primarily towards UVs in recent years, halving their contribution over fiscals 2018 to 2023. Lack of model launches as well as shift in consumer preference towards UVs restricted the growth of this segment.

Vans typically contributed 6-8% share of industry sales. The discontinuation of Omni from fiscal 2020 with the implementation of BS-VI impacted the segment's share.

### **Premiumisation within the industry**

Traditionally, Indian vehicle buyers have been cost-conscious, with mileage and vehicle cost the two main pillars of decision-making.

Now, amid rising disposable incomes, higher global exposure, growing awareness and expanding share of younger buyers, other parameters such as driving experience, safety, features, brand and aesthetics are gaining importance in the decision-making process. In fact, a vehicle is being seen as an extension of customer's personality, especially by young buyers.

With this, there has been a perceptible shift in buying behaviour, with customers prioritising experience over costs, willing to pay a premium and accept a longer waiting time for the desired specifications in their next vehicle.

Premiumisation is resulting in both inter- and intra-segment shifts. Within the segments, customers are increasingly preferring premium vehicles; e.g., sales of premium hatchbacks such as Baleno and Altroz are growing faster compared with basic hatchbacks such as Alto and WagonR.

The inter-segment shift is more prominent in the UV space, where growth is accelerating. The UV segment has grown at 17% CAGR in the past five years while non-premium/ mass segments such as small cars have contracted at 4% CAGR. Customers are even preferring UVs such as Nexon, Brezza, Venue and Fronx over premium hatchbacks such as Baleno, Altroz and i20.

Premiumisation is also evident from OEM actions in form of launches, with most new launches in recent years being in the UV segment. Even within the UV segment, the focus has been on the larger UVs, comprising vehicles such as Grand Vitara, Creta, Seltos, etc.

### **Competitive landscape**

Maruti/ MSIL leads the overall Indian PV landscape. Hyundai is a distant second, closely followed by Tata Motors and Mahindra. These four players together contribute ~80% of the market.

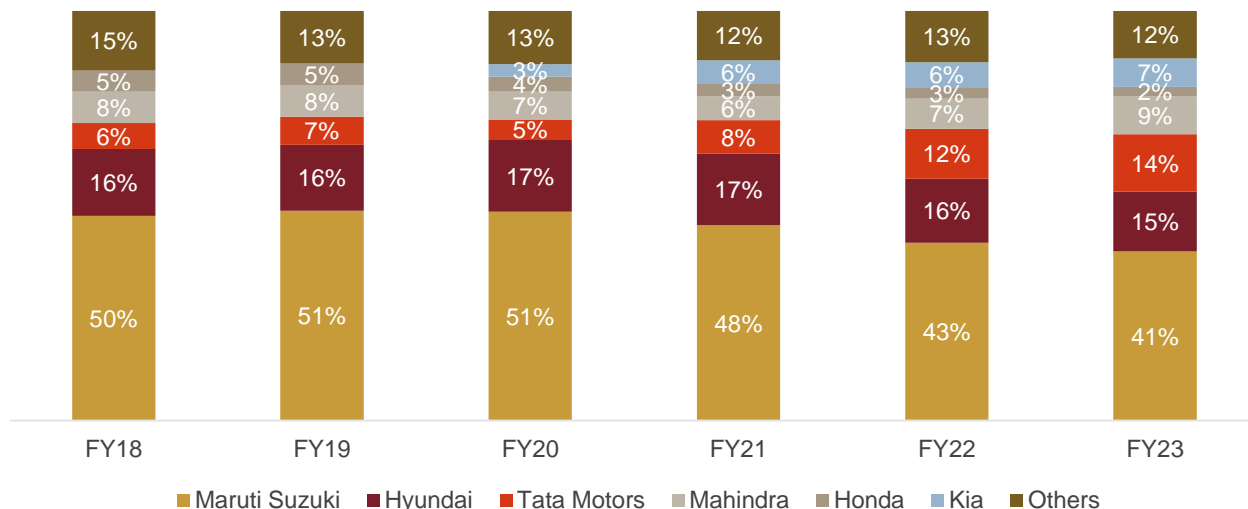
However, in the past five years, the contest has intensified amid competitively priced feature-rich vehicle launches by all players as well as recent entrants such as Kia and MG grabbing sizeable shares.

Maruti's share has contracted from a high base of 50% in fiscal 2018 to 41% in fiscal 2023 due to the shift in customer preference from cars towards UVs; Maruti's focus is on the cars segment. However, the success of recent launches such as Grand Vitara, XL6 and Fronx and continued traction for Ertiga and Brezza helped Maruti regain some lost ground during the first quarter of this fiscal. The latest launch, Invicto, is providing an added kicker to the demand for Maruti.

Hyundai has managed to remain rangebound in the 15-17% bracket with primary support from continued traction from its UV portfolio of Creta and Venue. Tata Motors has successfully expanded its presence, riding on the

success of its UV models of Nexon and Punch. The increase in traction for EVs (where Tata Motors dominates) has also provided an additional support to its sales.

**Figure 22: PV domestic market share across OEMs**



Note: Others include MG, Renault/Nissan, Skoda, PCA etc

Source: SIAM: Society of Indian Automobile Manufacturers, CRISIL MI&A

The portfolio expansion in the form of XUV300, XUV70 and Scorpio N has aided Mahindra's share in recent years. Recent entrant Kia has tasted early success in the Indian market in the form of Seltos and Sonet, which has helped the company grab a sizeable 7% share in fiscal 2023. Toyota has maintained its 4-5% market share with continued demand for its flagship Innova.

Honda has been facing intense competition in the domestic market and its share has contracted from 5% in fiscal 2018 to 2% in fiscal 2023. Honda and Maruti contributed 43% to the annual sales during fiscal 2023.

### 5.3. Key regulations and developments affecting the PV industry

#### Demonetisation

Demonetisation had little impact on PV sales as dealers resorted to alternate sources for accepting payment, such as cheques, cards and e-wallets for purchasing vehicles. However, owing to overall negative economic sentiment, the industry posted flat growth in November and December 2016.

#### Goods and Services Tax implementation

Economic disruption caused by implementation of Goods and Services Tax (GST) impacted the industry in the short run. However, the impact on the PV segment was limited since the GST rates of major car segments are comparable with the previous tax regime. However, higher cess impacted prices of luxury cars.

#### BS-IV to BS-VI transition

BS emission standards are issued by the government to regulate the output of air pollutants from motor vehicles. In January 2016, the government decided to skip BS-V and instead implement BS-VI norms directly, fixing April 1, 2020 as the deadline for the introduction.



**BS-VI regulations call for major reduction in particulate matter and nitrogen oxide levels**

Type of Vehicle	Unit	BS IV	BS VI	Change
<b>Diesel</b>				
HC	gm/km	0.3	0.17	<b>-43%</b>
NOx	gm/km	0.25	0.08	<b>-68%</b>
PM	gm/km	0.025	0.0045	<b>-82%</b>
<b>Petrol</b>				
NOx	gm/km	0.08	0.06	<b>-25%</b>
PM	gm/km	-	0.0045	<b>Newly added</b>

Prices of BS-VI-compliant PVs increased 2-4% as devices and systems were added to reduce emission levels. The price hike was higher for diesel vehicles since they require additional exhaust parts.

**Addition of devices and sub-systems in BS-VI-compliant vehicles**

Pollutant	Devices / Subsystems to be included to reduce the Pollutants
NOx- Nitrous oxide	<ul style="list-style-type: none"> <li>▪ Exhaust Gas Recirculation</li> <li>▪ Selective Catalytic Reduction</li> <li>▪ 3 way catalyst</li> <li>▪ Lean NOx Trap</li> </ul>
HC- Hydrocarbons	<ul style="list-style-type: none"> <li>▪ Secondary Air Injection</li> <li>▪ 3 way catalyst</li> <li>▪ Diesel Oxidation Catalyst</li> <li>▪ Purge Control Valve</li> <li>▪ Canister</li> </ul>
PM- Particulate matter	<ul style="list-style-type: none"> <li>▪ Diesel Particulate Filter</li> <li>▪ Gasoline Particulate Filter</li> </ul>

The second stage of BS-VI was implemented from April 1, 2023, after which vehicles have been required to meet actual driving emission requirements rather than just laboratory tests. To make this possible, automobiles must come equipped with OBD2 (on-board diagnostics). OEMs hiked prices by 1-2% for the implementation of OBD2 norms in the first quarter of fiscal 2024.

**Safety norms**

As per the Bharat New Vehicle Safety Assessment Programme, introduced from October 2017, new cars sold in India need to go through mandatory crash testing. They must also comply with voluntary star ratings based on the results.

**The car testing protocols are:**

- Frontal offset testing (64 kmph proposed)
- Side impact testing
- Pedestrian protection testing
- Rear impact testing

While a full frontal crash test was implemented for new car models and low mass vehicles of gross vehicle weight (GVW) <1,500 kg, the test was implemented for all car models from October 1, 2019. As per the rules, a car has to go through tests pertaining to full frontal crash test, 40% overall offset frontal crash test, and test of moving deformable barrier crashing perpendicular into a stationary vehicle. A test pertaining to pedestrian impact on the hood of a vehicle was implemented from October 1, 2018, for new car models. Points are awarded to a car based on safety features, such as anti-lock braking systems, seat-belt reminders, child lock and electronic stability control (ESC).

Other safety systems include a mandatory air bag for the driver. The government has proposed mandatory airbags for front passengers in all cars. For new models, the front passenger airbag was made mandatory from April 1, 2021, while for models currently sold in the market, it was made mandatory from June 1, 2021.

#### **Some other safety measures are:**

- Seat-belt reminders
- Alert systems for speeds beyond 80 kmph
- Reverse parking alerts
- Manual override over central locking system for emergencies

#### **Corporate Average Fuel Efficiency (CAFE) norms**

CAFE, or Corporate Average Fuel Economy, aims to reduce vehicle fuel consumption (or improve fuel efficiency) through lowering carbon dioxide (CO<sub>2</sub>) emissions, hence reducing reliance on oil and regulating pollution.

CAFE norms came into force in India from April 1, 2017, and apply to petrol, diesel, LPG and CNG vehicles. In Phase 1 (2017-2022), CAFE norms require average corporate CO<sub>2</sub> emissions to be less than 130 gm/km by 2022 and below 113 gm/km thereafter. In other words, the vehicles need to be 10% more fuel-efficient by 2022. CAFE II norms came into effect from April 1, 2023.

This is expected to incentivise the shift towards greener technologies such as hybrids and EVs.

#### **ESC / AEB**

The Indian PV industry has seen a host of safety and regulatory changes in the past 3-5 years. Implementation of CAFE norms will further help cleaner fuel emission. The government is considering making ESC and AEB mandatory on all models by 2023.

When a driver attempts an 'extreme manoeuvre' (e.g., one initiated to avoid a crash or due to misjudgement of the severity of a curve), he/she may lose control if the vehicle responds differently as it nears the limits of road traction than it does during ordinary driving. To counter situations in which such a loss of control may be imminent, ESC uses automatic braking of individual wheels to adjust the vehicle's heading if it diverts from the direction the driver is steering in.

AEB is a driver assistance system that relies on a network of radar sensors mounted behind the vehicle's front grille or windshield to gauge the surroundings and monitor basic driving conditions, such as speed, acceleration and proximity to obstacles. If the risk of an accident is detected, the system prompts the driver to brake by providing audible and visual warnings. If the driver fails to react in time, AEB can even brake autonomously to prevent an accident altogether or at least reduce the impact of a collision.

**Impact of regulatory changes on domestic passenger vehicle sales**

Norm	Description	Applicable from	Implication
6 Airbag	Six airbags will be mandatory for the M1 category of vehicles that can carry up to 8 people	October 1, 2022	Increase in vehicle manufacturing cost and Prices
BSVI-stage 2	vehicles will need to meet the actual driving emission norms and not be limited to only tests in laboratories	April 1, 2023	Increased fuel Efficiency Increased R&D cost Timing controlled Fuel injection On board Diagnostic 2(OBD): Sensor implantation to monitor acceleration crankshaft positioning , temperature and emission
Bharat NCAP	Automobiles in India will be accorded star ratings based on their performance in crash tests factoring in the existing Indian regulations and driving conditions for M1 category	April 1, 2023	Increased use of high strength material in platforms, Electronic stability control (ESC) implementation
CAFE II	Reduce average corporate Carbon dioxide emission limit to 113g/kg	April 1, 2022	Increased fuel efficiency, reduced CO2 emission, Increased R&D cost

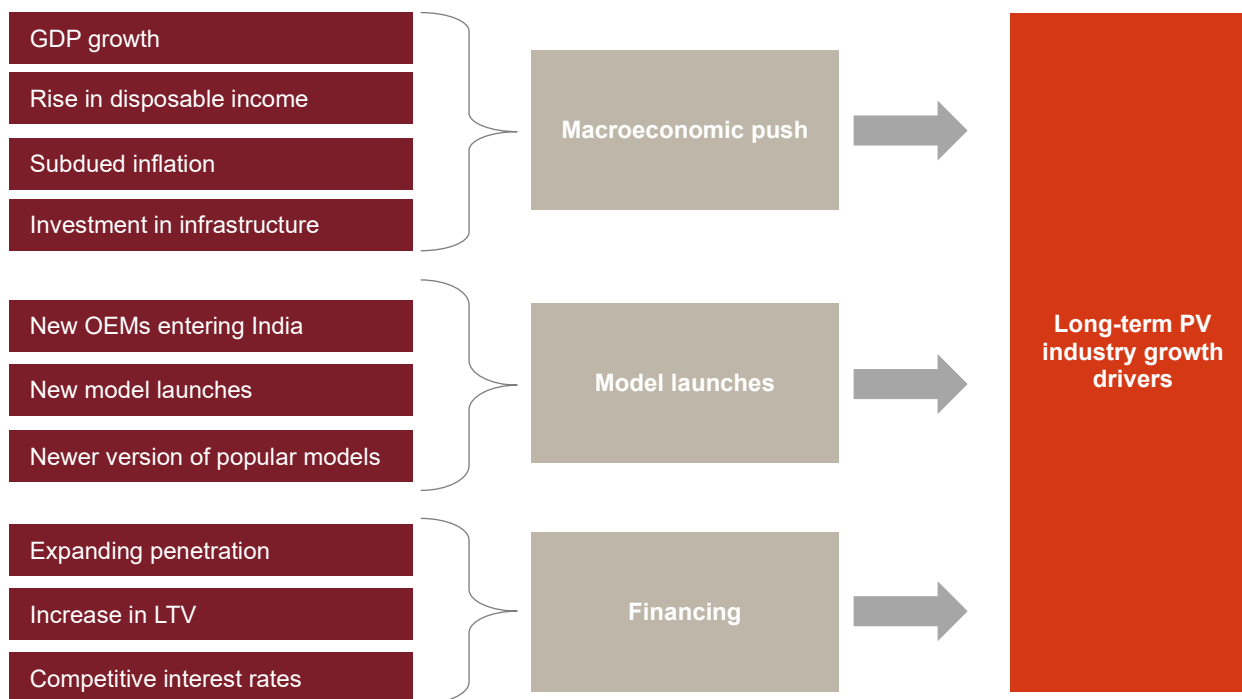
Note: The proposal to make airbags mandatory has been postponed from the initial date.

Source: CRISIL MI&A

### 5.4. Growth drivers for domestic PV sales

Primary demand drivers for the PV industry include improved affordability, lower cost of ownership, financing availability and new model launches.

**Figure 23: Growth drivers for PV market**



**Macroeconomic scenario**

Growth in real GDP, and in turn, increased disposable income, have a direct bearing on the affordability of PV buyers. Between fiscals 2018 and 2023, India’s GDP grew at a modest 4% CAGR. During this period, the domestic PV industry expanded at 3.4% CAGR.

Slowdown in GDP growth during fiscal 2020 and the contraction in fiscal 2021 had a negative impact on the PV industry's growth, which moderated during the period. Moreover, recovery in GDP growth during fiscals 2022 and 2023 helped the industry register healthy growth numbers.

The estimated 5-6% CAGR increase in GDP Between fiscals 2018 and 2023 is expected to have provided a thrust to the PV segment's sales.

### **Government's focus on infrastructure**

The infrastructure investment in India from fiscals 2013 to 2019 was Rs 57 trillion. Power, roads and bridges, urban, digital infrastructure and railways constituted more than 85% share. The Centre and states were the major funding sources for sectors such as power, roads, and bridges, with moderate participation from the private sector. In the case of digital sector investments, though, it was largely driven by the private sector, while investments in the irrigation sector were predominantly made by state governments.

The total infrastructure capex in India during fiscals 2020 to 2025 is projected at Rs 111 trillion, with the National Infrastructure Pipeline propelling spending.

### **Model launches**

Apart from increasing sales of existing models, sales of new models have supported the industry's growth in the past five years, driving the otherwise stagnating demand. Most recent launches were under the UV segment, which accelerated its growth.

New models launched in fiscal 2019 contributed to just ~3% of domestic sales in that fiscal. However, they gained significant traction in fiscal 2020, leading to ~16% share. Launches in fiscal 2021 such as Sonet, Creta facelift, Aura, Altroz and Magnite contributed a sizeable 17% to sales.

Even during fiscals 2022 and 2023, the new launches provided a sizeable contribution to industry sales. Going forward, the new vehicle pipeline is expected to provide additional thrust to domestic sales.

### **Finance availability**

Given the bigger ticket size of PVs, finance penetration is higher (~75%) compared with other automobile segments such as two-wheelers. Thus, the availability of finance plays a key role for PVs.

CRISIL estimates finance penetration levels to have reached 77-79% in fiscal 2023 from 74-75% in fiscal 2018.

The financing industry has also been growing at a strong pace, with new players in the form of NBFCs targeting markets where banks have exited. Captive NBFCs (operated by two-wheeler manufacturers) are largely focussing on non-metros. This has helped the financing industry widen its customer base.

Despite the sharp rise in interest rates amidst the repo rate hike, overall disbursement levels had been during fiscal 2023. Financiers remained accommodative of the PV industry and the financing scenario remained favourable for consumers.

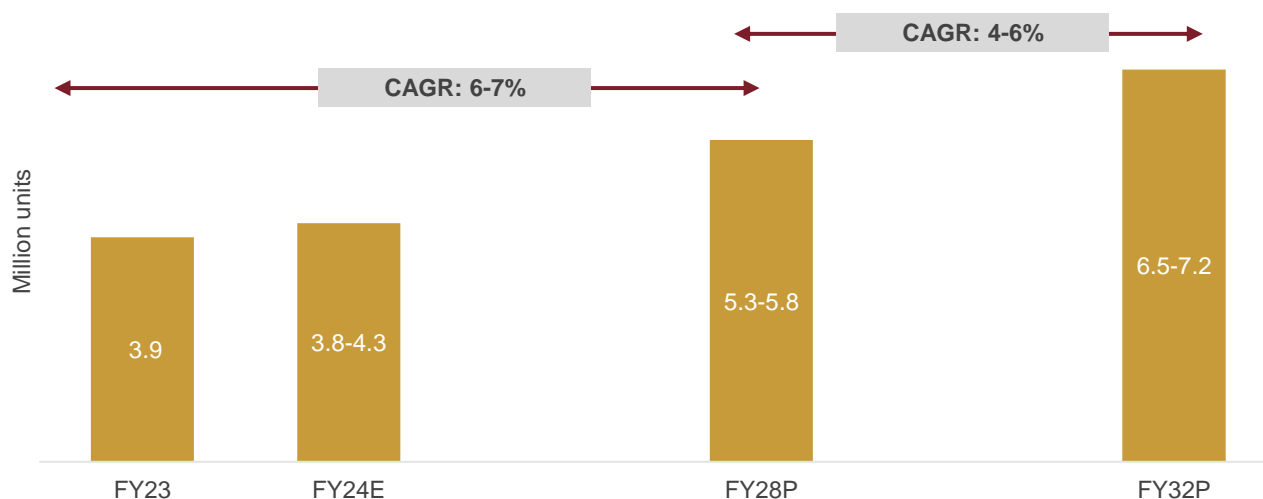
## **5.5. Outlook on the Indian PV industry (fiscals 2023 - 2028P)**

In the long term, domestic PV sales are expected to increase at 6-8% CAGR over fiscals 2023-2032. Healthy macroeconomic growth, increasing disposable income, a modest increase in the cost of vehicle acquisition, favourable financing scenario, as well as a deeper reach in rural markets, Tier 3 and Tier 4 cities will support this growth. Moreover, intermittent feature-rich competitively priced vehicle launches will provide an additional boost to demand.

Other factors that would help demand are increasing urbanisation, government support to farm income, reduction of the vehicle-holding period and electrification. Additionally, there is a sizeable headroom for growth since the automobile industry is yet to fully tap into demand from semi-urban and rural areas. However, increasing congestion in cities and rising popularity of shared mobility services are likely to restrict car sales in the long term.

During fiscal 2024, the industry is expected to continue its growth momentum and clock 4-5% growth over the historic high reached in fiscal 2023. Continued traction for UVs, easing supply constraints and model launches as well as favourable macroeconomic scenario will support this growth.

**Figure 24: PV domestic sales outlook**



Note: E: estimated P: projected

Source: SIAM, CRISIL MI&A

**Split by PV segments**

CRISIL MI&A projects UVs to drive the PV industry’s growth in the long term. The shifting of consumer preference towards UVs, feature-rich and competitively priced launches, and entry of newer players coupled with greater OEM focus on the UV segment, are expected to provide the thrust. UV segment volumes are expected to log 10-12% CAGR between fiscals 2023 and 2032.

The second dominant segment of the industry — small cars — is expected to clock a much slower growth of 1-3%. Even this growth is expected to be fuelled by the premium hatchback segment, while the basic hatchback segment is expected to remain rangebound. The large cars segment is expected to witness only subdued growth over the long term, given the limited launches and customer focus on the UV segment.

Led by the expected faster growth in the UV segment, the share of UVs is expected to rise to 60-65% of the PV industry by fiscal 2032 from ~52% in fiscal 2023.

## 6. Review of and outlook on the Indian Commercial vehicle industry

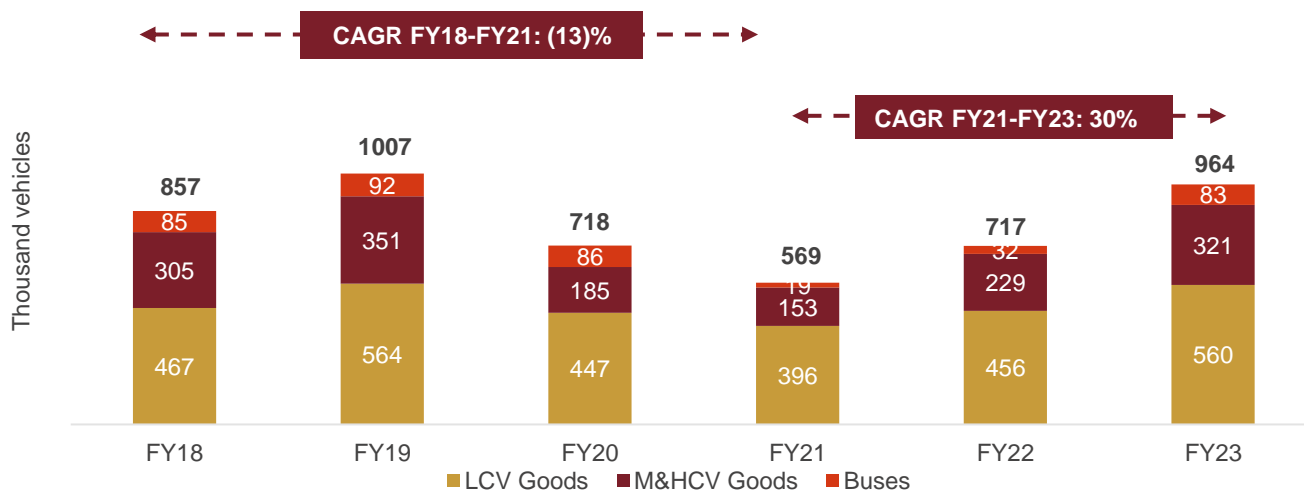
### 6.1. Review of the CV industry (fiscals 2018–2023)

#### 6.1.1. Historic domestic sales (fiscals 2018–2023)

Between fiscals 2018 and 2023, domestic CV sales logged a CAGR of 2%. After healthy growth in fiscal 2019, the industry witnessed a sharp de-growth in fiscal 2020, due to inventory adjustment done for the BS-VI transition. Moreover, the tapering of GDP growth impacted the goods vehicle demand, while safety regulations impacted the demand for buses.

The CV industry shrank further in fiscal 2021 as the nationwide lockdown to arrest the spread of Covid-19 brought the economy to a grinding halt. A downturn in freight demand affected the profitability and sustainability of transporters during the pandemic. The industry, however, gained momentum afterwards as consumption demand and industrial activity started gaining pace. The industry rebounded at a healthy CAGR to reach nearly 1 million sales by fiscal 2023.

Figure 25: Review of CV domestic sales trend



Notes: Domestic sales exclude BharatBenz

Note: M&HCV includes MCV, MAV haulage, tippers and tractor trailers

Source: SIAM, CRISIL MI&A

#### 6.1.2. Segmental trends

LCV goods vehicles dominate domestic CV sales, accounting for more than half of the vehicle sales in the segment. M&HCVs (Medium and heavy commercial vehicles) contribute another 30-35% and buses, the balance 5-10%.

During fiscals 2018-2021, CV sales contracted 13% CAGR after a 30% drop in fiscal 2020 followed by a further 20% contraction in fiscal 2021 due to the pandemic. Over the past five fiscals, the industry has weathered major challenges on account of events such as demonetisation, NBFC crisis, implementation of axle load norms, changes to insurance norms and transition to BS-VI emission norms. All multiple factors, particularly post the second half of fiscal 2019, dampened the demand for CVs.

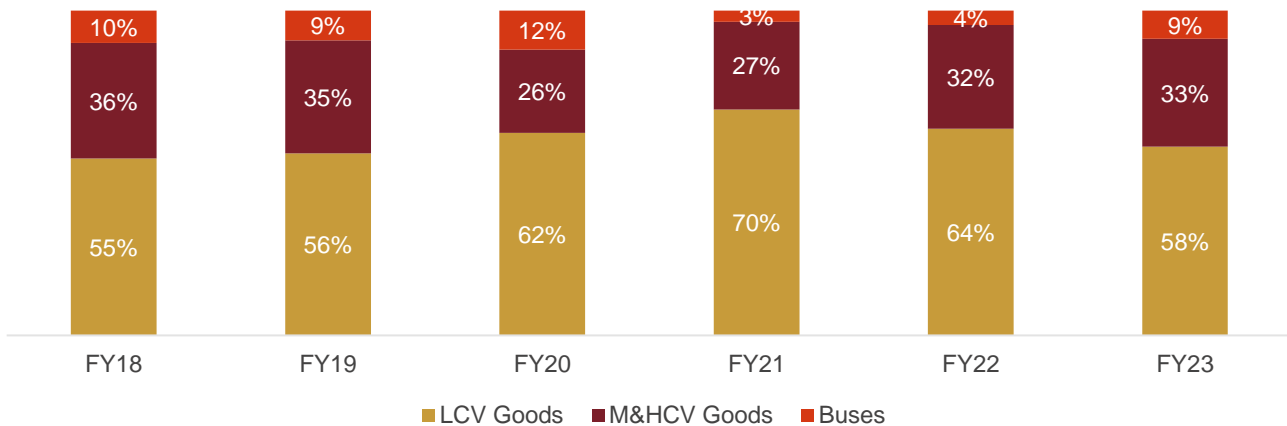
During the pandemic, due to limited mobility, demand for buses took a hit. As a result, between fiscals 2018 and 2021, demand contracted a significant 39% CAGR. In fiscal 2020, demand for buses was impacted with the safety regulations in force (emergency exit doors, fire detection and suppression, escape hatches and emergency lighting), which pushed up the ownership cost by ~Rs 50,000. This came on top of a price hike of ~Rs 15,000 due to mandatory installation of vehicle tracking systems and panic buttons in January 2019.

After the price rise, weakening private consumption also hit the demand for buses in fiscal 2020 as tourist bus operators and intercity travel operators reduced purchases. Weak corporate hiring and production cuts in manufacturing also shrank the corporate demand for staff buses. However, school and route permit buses showed some resilience in fiscal 2020. The demand from state transport undertakings (STUs) ramped up in the second half of fiscal 2020 as they looked to replace much of their older fleet before the BS-VI price rise.

On the other hand, the continued demand for LCVs for e-commerce and last-mile delivery restricted its fall to 5% and thus extending its share to 70% during fiscal 2021. Moreover, LCVs are typically replaced every 6-8 years, and vehicles purchased between 2011 and 2013 were due for replacement in 2019. Given the strong sales witnessed in fiscals 2011 and 2013, the sub-1-tonne segment particularly saw strong replacement demand. This strategic replacement cycle contributed to stable sales in fiscal 2019 and prevented a significant drop in LCV sales in fiscal 2020. The delay in replacement since fiscal 2020 and the resultant pent-up demand boosted LCV demand in fiscal 2023, which is expected to continue in fiscal 2024.

Even during the pandemic, LCVs outperformed M&HCVs with rural areas witnessing lesser impact, which resulted in better sentiment.

**Figure 26: Segment-wise share in domestic sales**



*Note: Domestic sales exclude BharatBenz as SIAM doesn't report the company's numbers*

*Source: SIAM, CRISIL MI&A*

From the low base of fiscal 2021, the CV industry witnessed a strong bounce back during fiscals 2021-2023. Sales witnessed a 19% CAGR driven by the sustained replacement demand. The M&HCV segment clocked a 45% CAGR due to government capital expenditure and demand from key sectors.

On the other hand, bus sales more than doubled every fiscal on a very low base fuelled by robust replacement demand and urbanisation trends. In fact, buses saw unprecedented demand. These vehicles are sold primarily to schools, corporates, which use it to ferry staff, and to tours and travel companies, which use it for intercity and

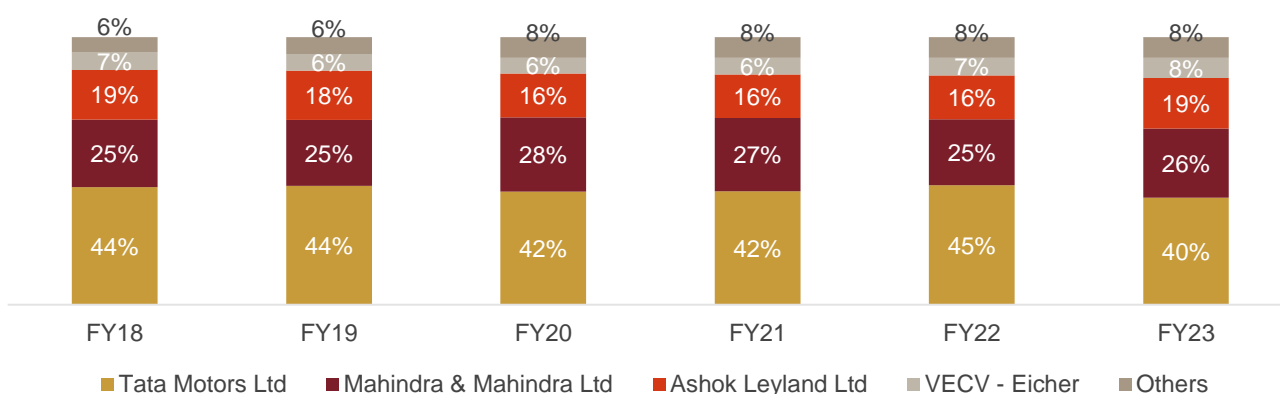
interstate travels. Demand from schools picked up after the pandemic as they shrugged off the impact of the pandemic-induced uncertainties with a lot of pent-up demand emerging for buses. Corporates have also gone back to the work-from-office mode with a few IT giants making coming to the office mandatory. This has led to considerable demand for staff service buses as well.

This helped the bus segment clock ~105% CAGR post the pandemic during fiscals 2022 and 2023.

### 6.1.3. Competitive scenario

Tata Motors leads in the CV segment in terms of market share, followed by Mahindra & Mahindra and Ashok Leyland (ALL). Over the years, from a high base, Tata Motors has lost some ground to Mahindra and VE Commercial Vehicles Ltd (VECV; Volvo-Eicher joint venture).

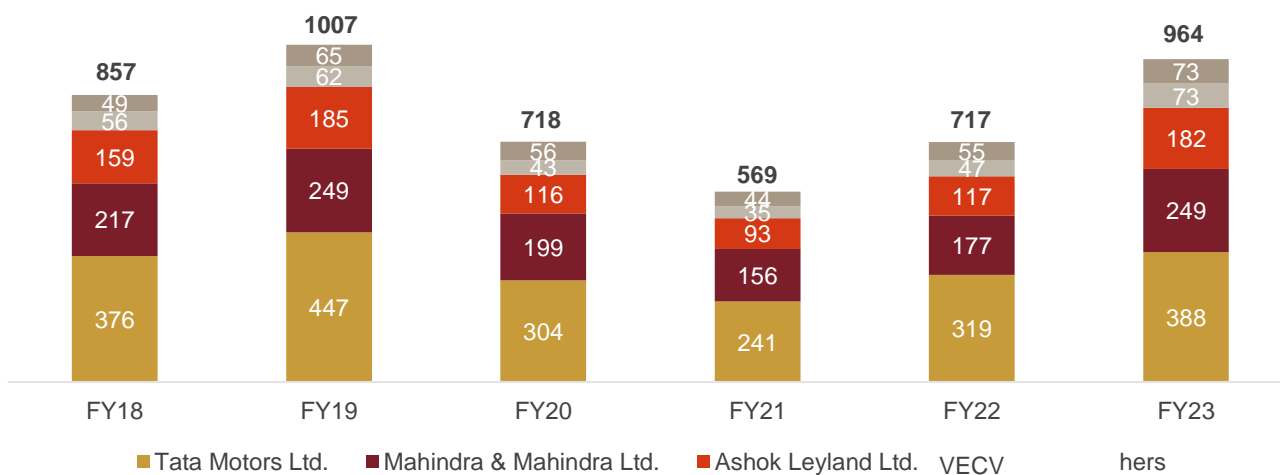
Figure 27: Overall CV industry split by OEM market share



Note: Other players include Force Motors Ltd, Isuzu, JBM Auto Ltd, Maruti Suzuki Ltd, Olectra Greentech Ltd, Piaggio Vehicles Pvt Ltd, SML Isuzu Ltd, Swaraj Mazda Ltd, Toyota Kirloskar Motor Pvt Ltd

Source: SIAM, CRISIL MI&A

Figure 28: CV industry split by OEM volume ('000)



Note: Other players are Force Motors Ltd, Isuzu, JBM Auto Ltd, Maruti Suzuki Ltd, Olectra Greentech Ltd, Piaggio Vehicles Pvt Ltd, SML Isuzu Ltd, Swaraj Mazda Ltd, Toyota Kirloskar Motor Pvt Ltd, VECV

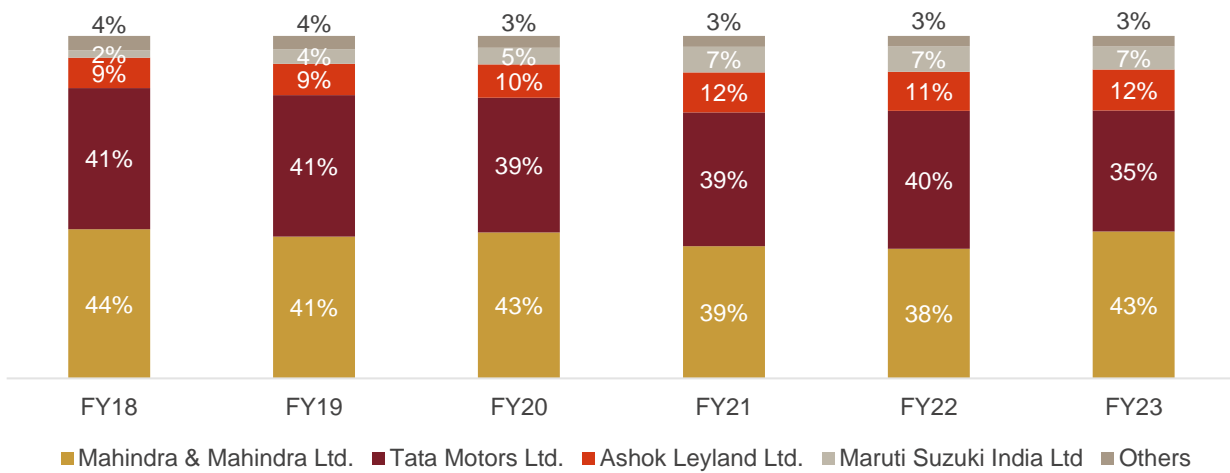
Source: SIAM, CRISIL MI&A



Mahindra lost some share during fiscals 2021 and 2022 amid the supply constraints and semiconductor shortage. However, in fiscal 2023 as well as in the first quarter of this fiscal, the company regained some ground with some ease in supply and with the launch of new Bolero City PikUp, an addition to its existing PikUp range, as well as Furio range, boosting its share.

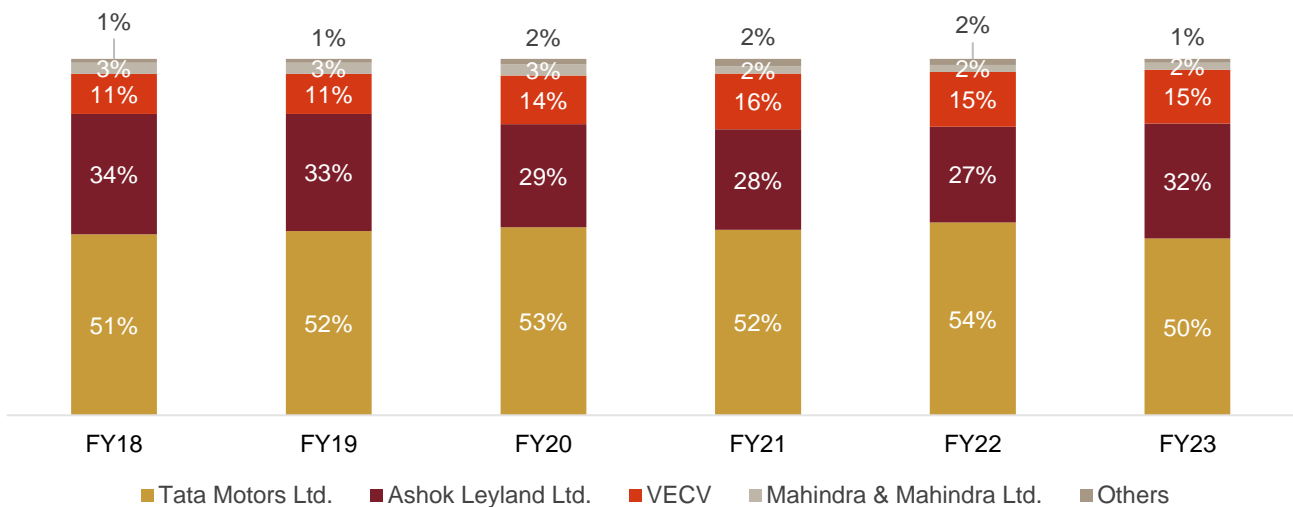
Since the launch of Boss, ALL has rapidly gained market share in the intermediate CV (ICV) segment. Moreover, expansion of the Ecomet Star range helped ALL expand its presence during the first quarter of this fiscal.

**Figure 29: OEM market share in LCV goods segment**



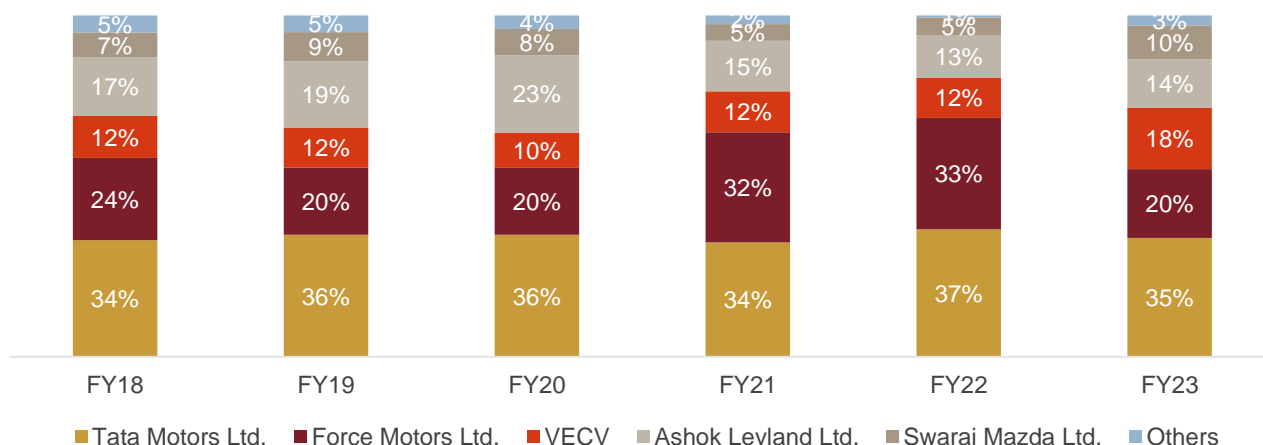
Source: SIAM, CRISIL MI&A

**Figure 30: OEM market share in M&HCV goods segment**



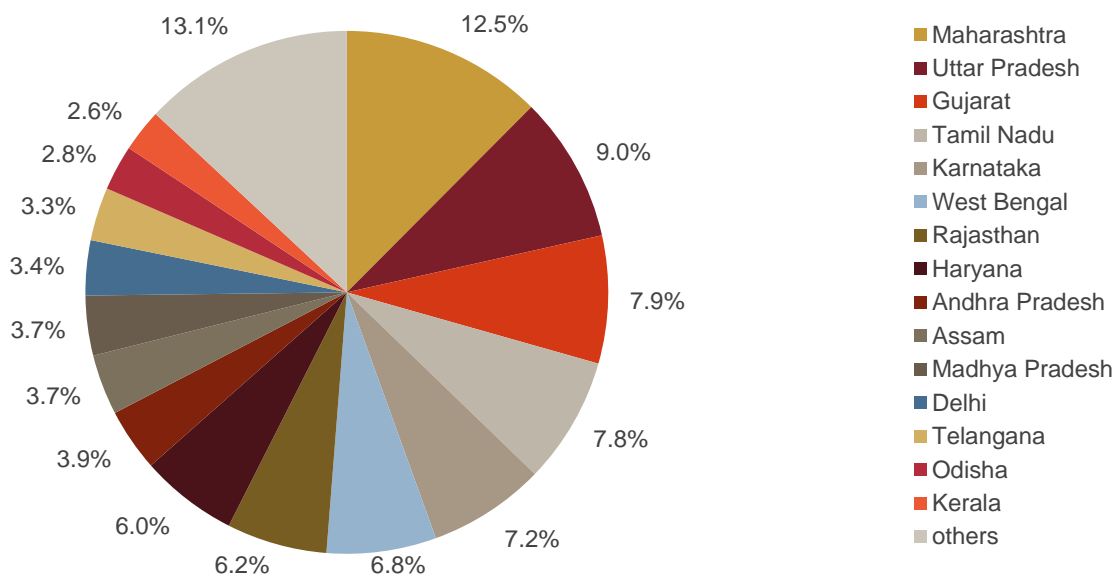
Source: SIAM, CRISIL MI&A

Figure 31: OEM market share in bus segment



Source: SIAM, CRISIL MI&A

Figure 32: State-wise contribution to annual sales in fiscal 2023



Source: SIAM, CRISIL MI&A

CV sales in India are highly concentrated with the top five states accounting for 40-45% of national sales and the top 10 states accounting for more than 70%. Maharashtra and Uttar Pradesh are the biggest contributors to overall CV sales in the country. These two states accounted for 21.5% of national sales in fiscal 2023. Maharashtra, Uttar Pradesh, Tamil Nadu, Gujarat, Karnataka and West Bengal together accounted for nearly half the demand during the period.

Southern states of Kerala and Tamil Nadu together accounted for 11% of the domestic CV sales in the past fiscal.

Tata Motors, ALL and Mahindra were the top three contributors across states catering to ~80% of the states' demand. These three OEMs together contributed 78%, 80% and 85% to the CV sales of Maharashtra, Kerala and Tamil Nadu, respectively.

#### **6.1.4. Key historic regulatory/ macroeconomic trends, growth drivers for domestic sales**

Recent regulations for new CVs, such as the axle norm, bus body code, mandatory anti-lock braking system, speed governors, BS-VI norm enforcement and mandatory cabin ventilation system, impacted the industry. We expect the effects of new fuel-efficiency standards, BS-VI Phase 2 norms, truck body code and new scrappage policy to be felt in the long run.

##### **Axle load norms**

In the second half of fiscal 2019, the Ministry of Road Transport and Highways notified new axle load norms for CVs, which permits an increase in the load-bearing capacity of trucks. The new norms were applicable to the entire fleet of freight-moving trucks.

##### **New payloads stipulated for M&HCVs**

<b>(in Tonnes)</b>	<b>MCV</b>		<b>MAV</b>		<b>T-Trailer</b>		
Previous GVW	16	25	31	37	35	40	49
Previous Payload	9	16.5	21	26	23	27	35
Kerb weight	7	8.5	10	11	12	13	14
GVW as per new norm	18.5	28	35	42	39.5	45.5	55
New Payload	11.5	19.5	25	31	27.5	32.5	41
% increase in rated payload	28%	18%	19%	19%	20%	20%	17%

Source: CRISIL MI&A

The new axle load norms increased freight-carrying capacity of trucks by ~20%, which benefitted the transporters ferrying bulk goods that constitute 35-40% of the truck movement. The movement of bulk goods in billion-tonne-kilometre terms via road fell marginally in fiscal 2020 amid the ~20% rise in capacity for bulk goods transporters. Therefore, bulk goods transportation via roads largely continued to face overcapacity, limiting new truck purchases.

The only saving grace was the transportation of voluminous non-bulk goods (60-65% of truck movement), which, while being unaffected by the axle norms, were impacted by the consumption slowdown in fiscal 2020. Moreover, as some bulk transporters were already overloading near the new payload level or moderately above it, the impact of the axle norms on such transporters was less.

After the implementation of the axle norms, payload of the erstwhile 37T increased to 31T, which was like the erstwhile payload of a 40T T-trailer. Also, the erstwhile 49T T-trailer's payload increased from 35T to 41T. Rated load availability at the 41T mark is expected to be less than 35T. Moreover, issues such as driver availability and lower manoeuvrability plague T-trailers. Because of these reasons, higher tonnage multi-axle vehicles (MAVs) are likely to be more desirable than T-trailers.

##### **Truck body code**

All goods vehicles (>3.5T GVW), manufactured either by a vehicle manufacturer or a body builder on drive-way chassis vehicles, had to comply with the provisions of AIS-093 (Revision 1) in two stages: the first stage of

compliance in October 2018 and the second stage in October 2019. We believe compliance with this code led to a cumulative price rise of ~5%.

With standardisation in truck body building, there was consolidation among truck body builders as small players found it difficult to meet the testing requirements. Financiers are believed to have been more willing to fund the generally unsupported body building cost. This is estimated to have reduced the initial downpayment, minimising the impact of the 5% rise in the cost of ownership.

### **Fuel efficiency norms**

To make heavy-duty trucks and buses more fuel efficient, the Ministry of Petroleum and Natural Gas, the Ministry of Road Transport and Highways (MoRTH) and the Ministry of Heavy Industries are in talks to notify fuel efficiency norms. Based on talks with various stakeholders, BS-IV compliant diesel vehicles of category M3 and N3, with GVW of 12T and above, will have to comply with these norms. Vehicles are expected to meet the target diesel fuel consumption value for a specific set of speeds, which is dependent on the vehicle's GVW, axle configuration and category (N3/M3).

### **Emission norms**

The BS emission standards regulate the output of air pollutants from motor vehicles in the country. In January 2016, the central government decided to skip BS-V and transition directly to BS-VI norms, fixing April 1, 2020, as the deadline for introduction of BS-VI emission norms.

BS-VI Phase 2, implemented from April 2023, entailed addition of OBD2 to monitor real-time emissions. The addition of OBD2 warranted upgradation of vehicle hardware and software, which resulted in a price increase of 2-4%.

### **Higher safety measures for buses**

Safety regulations regarding vehicle tracking and panic buttons were introduced in January 2019. Later, regulations related to fire detection systems, escape hatches, emergency lighting and emergency doors were implemented in April 2019. These regulations pushed up bus prices by Rs 65,000, in addition to regular price increases.

### **Stable agricultural output**

Over fiscals 2023 to 2028, CRISIL projects 3-4% GVA growth in agriculture. After growing at 4% in fiscal 2023 over the previous year, agri GVA is expected to remain steady in coming years.

Rabi output was favourable in fiscal 2023, supporting farmer incomes during the early months of fiscal 2024. In the current fiscal, kharif sowing was initially delayed due to the delayed monsoon. However, sowing has picked up in recent months. Moreover, higher MSP allocation for fiscal 2024 and good prices in mandis have maintained the positivity on-ground.

### **Fillip to industrial output**

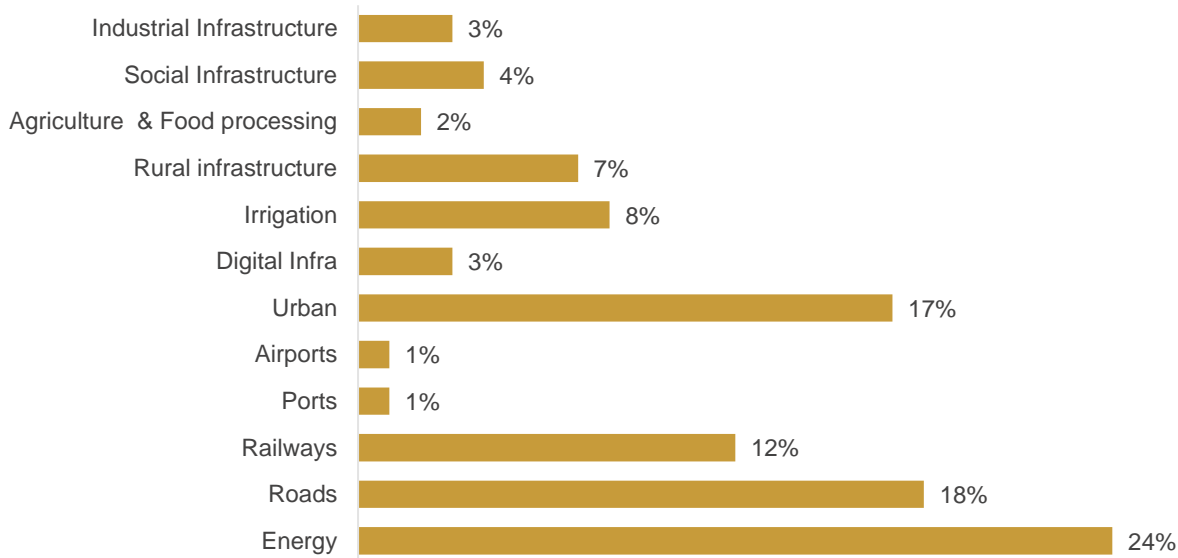
GVA for the industrial sector in India grew at a tepid pace of 3.7% between fiscals 2018 and 2023. After ~5% growth in fiscal 2019, industrial GVA contracted over the next two years amid an unfavourable macroeconomic scenario and the Covid-19 pandemic.

From the low base of fiscal 2021, industrial GVA bounced back rapidly in fiscal 2022 and grew ~11.5%. The gradual improvement continued in fiscal 2023 at 4.4%. Over the next five years (fiscals 2023 to 2028), industry GVA is expected to be robust driven by the government's focus on the 'Make in India' scheme. Moreover, the improvement in infrastructure and expectations of higher corporate expenditure are likely to support the capex cycle post fiscal 2023.

**Government’s focus on infrastructure**

The NIP for fiscals 2019-2025 is a government initiative to develop infrastructure across the country and provide world class services to its citizens. The total capital expenditure in infrastructure sectors in India during fiscals 2020 to 2025 is projected at Rs 111 lakh crore.

**Figure 33: Sectoral break-up of NIP amounting to Rs 111 lakh crore at launch**



Source: Department of Economic Affairs, NIP Volume I

The NIP plan aims to double infrastructure investment from the current average of Rs 10 lakh crore per year to Rs 22 lakh crore per year. Of the total NIP investment of Rs 111 lakh crore, projects worth Rs 44 lakh crore (40%) are under implementation, Rs 34 lakh crore (30%) are at the conceptualisation stage, and Rs 22 lakh crore (20%) are under development. Almost 83% of project allocation indirectly benefits the CV sector in India, and this push for infrastructure is a major growth driver.

Further, new projects have been added to the NIP programme with the total cost of projects at about Rs 183 lakh crore as per the India Investment Grid as of August 2023.

**Scrappage policy**

The MoRTH, in August 2018, considered incentivising the scrapping of vehicles sold before April 2005 (15 years old). After deliberations on the modalities on implementation, the government currently aims to promote vehicle scrapping by exempting registration charges for truck purchases made after scrapping older trucks. To incentivise scrappage of older vehicles, the government has increased the registration charges for older vehicles and increased stringency of fitness tests. These will entail higher costs for owners of older vehicles. Hence, by disincentivising the ownership of older vehicles, the government expects the scrappage of older vehicles to increase. We expect the impact of the norms to be limited on additional scrappage (apart from vehicles scrapped in the normal course of business). If transporters are incentivised to scrap vehicles older than 15 years by the government and OEMs, we expect 6-6.5 lakh MHCVs to be available for scrapping.

**Commissioning of dedicated freight corridors (DFCs) to put brakes on road freight and, hence, CV sales**

DFCs are expected to help the Indian Railways regain its lost freight share by reducing turnaround times between the importing and consuming destinations. DFCs will not only induce faster freight movement, but also enable faster evacuation of cargo from the ports, thereby improving efficiency. In fact, DFCs and the associated logistics parks

are likely to help industries significantly reduce their plant-level inventory as well, enabling savings in working capital. Moreover, the shifting of freight to rail will aid the economy by decongesting major highways.

Thus, the roads segment, which has outperformed rail over the past decade, will lose some share once DFCs are commissioned.

## **6.2. Outlook on the Indian CV industry**

### **6.2.1. Domestic sales outlook**

The CV industry recovered spectacularly in fiscal 2023, with a 34% growth rate, reaching 96% of pre-pandemic levels of fiscal 2019. The CV industry in India is expected to grow steadily in fiscal 2024, reaching pre-pandemic levels. Increased government spending, robust replacement demand, and strong end-user sectors such as construction and mining are expected to support growth.

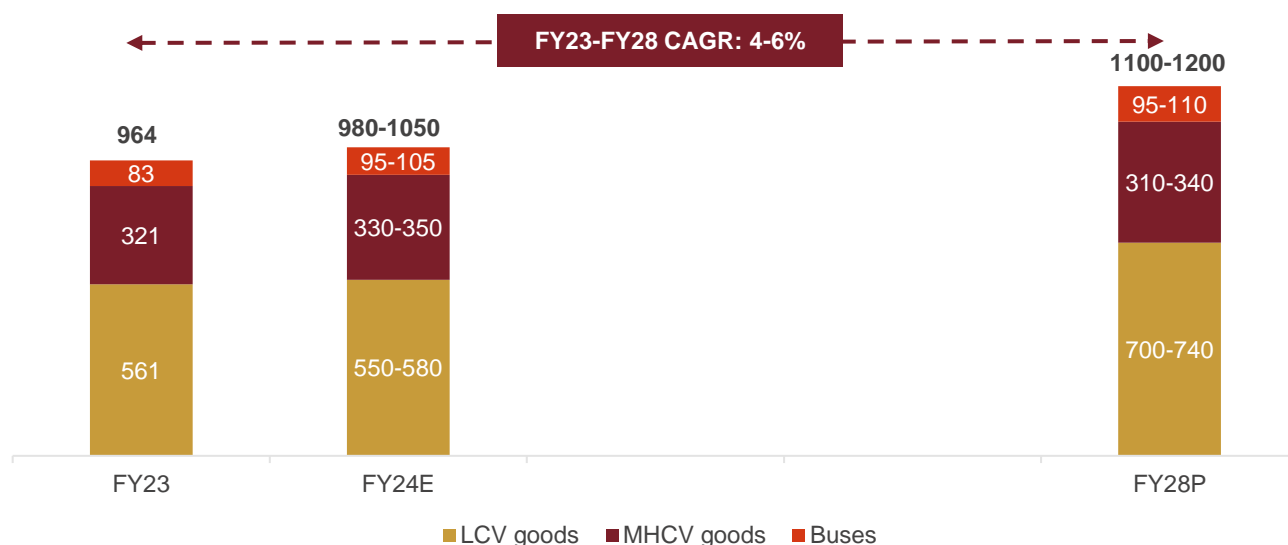
Light CV (LCV) sales are projected to grow moderately at 1-5% in fiscal 2024, supported by sustained replacement demand with rising competition from electric three-wheelers, especially in the sub-1 tonne segment, restricting further expansion. In fiscal 2023, LCV sales recorded impressive growth of 23%, rebounding to 99% of pre-pandemic levels. The surge in sales can be attributed to robust replacement demand, especially in the sub-1-tonne category, which was deferred due to economic challenges and the pandemic.

However, LCV sales declined 9% in the first quarter of fiscal 2024 due to supply-side constraints on account of OEMs transitioning to BS-VI Stage II emission standards. Despite this setback, the industry anticipates a revival in sales in the upcoming quarters, driven by a good monsoon season and an improved economic outlook with the easing of supply constraints.

Due to government capital expenditure and demand from key sectors, the medium and heavy CV (MHCV) segment is expected to grow at 4-8% annually. Bus sales are expected to increase 11-15% in fiscal 2024, owing to strong replacement demand and urbanisation trends. CNG adoption has been hampered, affecting LCV sales. The CV industry, led by MHCVs, is expected to grow steadily over the next five years.

Over the long-term horizon, domestic CV sales are projected to record a 4-6% CAGR between fiscals 2023 and 2028, led by a 2-5% CAGR in the LCV segment, 3-5% CAGR in the M&HCV segment and 6-9% CAGR in the bus segment.

Figure 34: CV domestic sales outlook



Note: E - Estimated; P - Projected; domestic sales exclude BharatBenz as the company's sales figures are not reported by SIAM

Source: SIAM, CRISIL MI&A

Table 5: End-use sector outlook between fiscals 2023 and 2028P

Key end-use segments and outlook		
Sectors	Growth outlook (FY23-FY28)	Key aspects
Coal	5-6%	Growth in coal-based power generation Demand from allied sectors such as cement and sponge iron
Steel	6-7%	Building and construction, the major demand creator in this segment
Cement	5-6%	Demand to be driven by rural housing/affordable housing and commercialisation in Tier III/IV cities Infrastructure demand also plays an important role according to NIP
Port movement	2-5%	Iron ore exports to support growth, as global demand for steel improves. POL trade (imports), especially in LPG, is poised to go up
Road investment	8-12%	NIP to drive infrastructure investments in roads and highways. CRISIL MI&A expects the Government of India to be able to achieve 80-85% of its targeted investments
E-commerce	20-25%	Food, fashion and grocery segments to grow at a faster rate as penetration improves. E-retailers to focus on expansion in Tier I/II cities over this period

Source: CRISIL MI&A

## 6.2.2. MHCVs set to thrive

The MHCV goods industry is projected to clock a CAGR of 3-5% from fiscals 2023 to 2028.

Long-term MHCV sales are likely to be driven by several factors, including the country's improving industrial activity, consistent agricultural output, and the government's continued emphasis on infrastructure development. However, volume growth may be limited due to efficiencies gained from the implementation of the GST, the development of improved road infrastructure, and the commissioning of DFCs. Nonetheless, the industry remains on a promising growth trajectory.

Over the next five years (fiscals 2023 to 2028), industry GVA is expected to be robust, driven by the government's emphasis on the Make in India scheme. Furthermore, infrastructure improvements and higher-than-expected corporate spending are expected to support the capex cycle after fiscal 2023.

### **6.2.3. Growth momentum of LCV sales to continue over the long term**

LCV goods demand is expected to clock 2-5% CAGR from fiscals 2023 to 2028, owing to increased private consumption, lower penetration, increased availability of redistribution goods, and improved financing. The industry logged 4% CAGR between fiscals 2018 and 2023.

Upper-end light CVs (ULCVs) provide lower returns to transporters than ICVs and are best suited for captive use. Entry restrictions on ICV trucks and higher tonnage MHCVs are expected to keep demand from this segment buoyant. However, the higher toll on ULCV trucks versus pickups will limit segment growth.

The SCV segment now offers a diverse range of products in various tonnages that cater to the needs of all types of customers. To fill tonnage gaps, players have launched a slew of new products, especially in the past five years. In addition, the availability of CNG options is expected to keep volume growth in this segment stable.

### **6.2.4. Bus demand to witness strong growth over the next five years**

Domestic bus sales are expected to log a CAGR of 6-9% between fiscals 2023 and 2028. Increased demand for intercity/state travel, aided by improved road infrastructure, and higher personal disposable income will drive growth. The unregulated segment, which primarily serves demand from schools, businesses and intercity travel by private operators, will continue to be the largest end-user segment. However, the implementation of metro rail and monorail in several cities will impact future bus sales growth. In terms of penetration (buses per 1,000 people), with one bus per 1,000 people and a 35% urbanisation rate, there is a significant upside opportunity.

These estimates may have an upside if the scrappage policy is enforced.



## 7. Indian tractor industry review and outlook

### 7.1. Review of historic sales

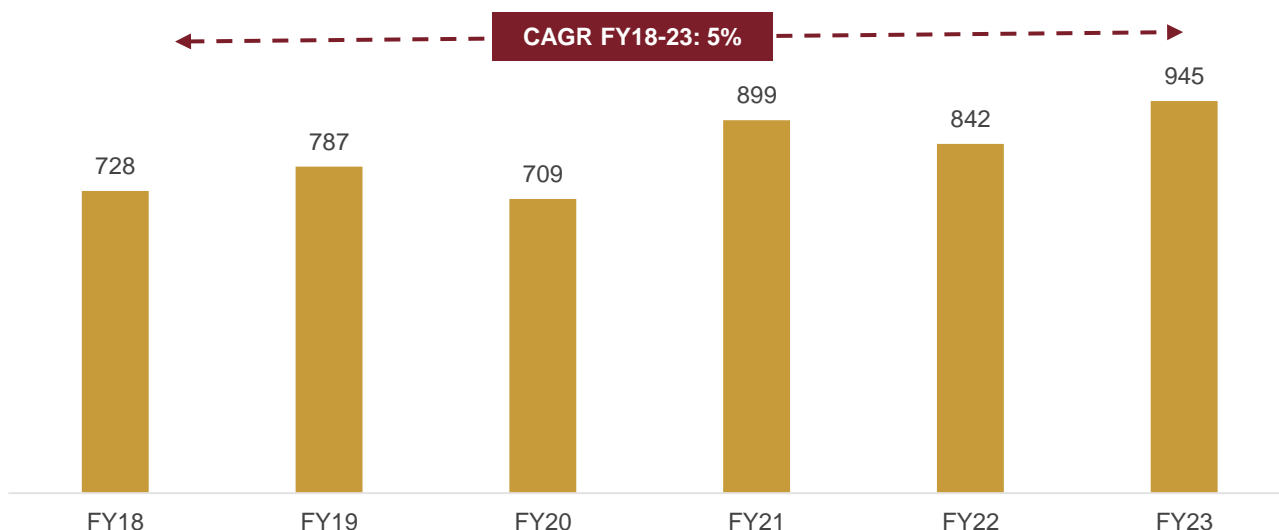
#### History

Domestic tractor demand dropped 6.4% on-year in fiscal 2022 after growing 27% in fiscal 2021. Rising tractor prices amid price hikes by OEMs, higher inventory at dealerships, lower commercial demand, negative farmer sentiment due to rising cultivation cost, low fertiliser availability, and an increase in expenditure on marriages and other social occasions hampered demand.

In fiscal 2023, domestic tractor sales grew 12% on-year to peak at ~945,000 units. Healthy crop prices, sound reservoir levels due to an above-normal monsoon season, announcements for a higher MSP and rabi acreage, all led to positive farmer sentiment during the fiscal. Healthy festive demand, helped by schemes and discounts, supported retail growth momentum. that said, due to slower retail momentum in eastern states and a complete ban on sandmining activities, commercial demand remained range-bound. Illegal mining activities were at a standstill in Bihar, Jharkhand and Uttar Pradesh, negatively impacting commercial demand in the last two fiscals.

A large part of domestic sales is driven by replacement demand. The typical holding period for a tractor is 6-9 years, where most of these are replaced in the country within 7-8 years. Specifically, 50-60% of overall domestic demand constitutes replacement demand. In states with high tractor penetration, such as Punjab and Haryana, replacement demand accounts for 70-80% of total sales. In contrast, states with lower farmer incomes than in Punjab and Haryana see lower replacement (higher-age tractors) compared with the industry average.

**Figure 35: Review of sales of tractor industry (thousand units)**



Source: TMA, CRISIL MI&A

## 7.2. Factors influencing tractor industry

### Improving farm income and pick-up in commercial activity to drive domestic tractor demand

Parameters	Impact			
	FY21	FY22	FY23	FY24E
<b>Farm income</b>	<b>F</b>	<b>N</b>	<b>F</b>	<b>N</b>
Crop prices (MSP)	F	N	F	N
Crop output	F	N	F	N
<i>Kharif</i>	F	N	F	N
<i>Rabi</i>	F	N	F	N
<b>Demand indicators</b>	<b>NF</b>	<b>N</b>	<b>N</b>	<b>N</b>
Infrastructure development	NF	N	F	F
Sandmining	N	N	N	N
<b>Finance</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>F</b>
Agri credit, finance availability	N	N	N	F
<b>Supply</b>	<b>F</b>	<b>NF</b>	<b>NF</b>	<b>N</b>
Channel inventory	F	NF	NF	N
Player action: Pricing and products	F	F	N	N

Source: CRISIL MI&A

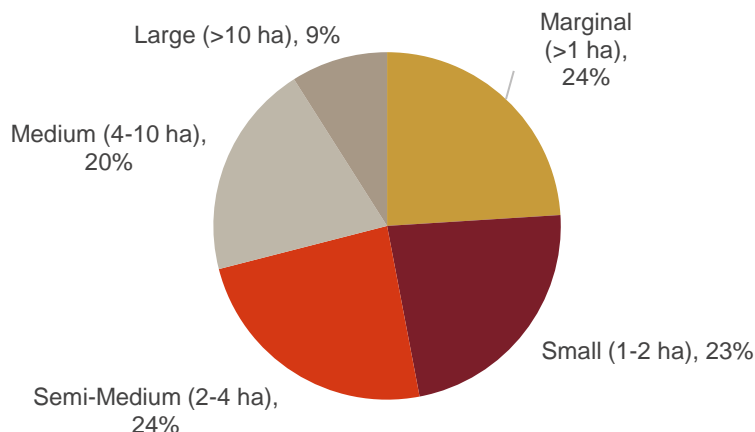
### Irrigation intensity and monsoons

Irrigation plays a vital role in determining demand for tractors. Farmers prefer to invest in costlier assets such as tractors only when assured of receiving essentials for farming, such as water supply. Irrigation spends, which increased significantly in the last two decades, have aided both irrigation and cropping intensity, leading to higher and stable farm incomes. Irrigation intensity is expected to improve further over the medium term, supporting tractor sales. Punjab and Haryana have the highest irrigation intensity and tractor penetration in India. Thus, as irrigation facilities improve in other parts of the country, tractor penetration will rise correspondingly. However, extremely fragmented land holdings in certain states may deter them from reaching higher tractor penetration. Besides, deficient monsoons also impact reservoir levels and, in turn, irrigation intensity.

### Landholding pattern

The average landholding size in India is very low, at 1.16 hectares (ha), as against the world average of 3.7 ha, with ~68% of farmers being marginal ones (holding less than 1 ha). This has been a deterrent for tractor demand. Moreover, the average landholding size has been declining due to socio-economic factors such as the break-up of joint families and division of ancestral land. This has positive, as well as negative impact on tractor demand. With the division of larger landholdings into smaller ones, the number of tractors required is expected to rise. However, the purchase of a tractor would become uneconomical for small farmers due to a reduction in farm size (due to sub-division of already small landholdings). However, with the proportion of landholdings below 2 ha being very high, their consolidation will drive demand in the long run.

**Figure 36: Break-up of landholdings in India (by area)**



Source: CRISIL MI&A

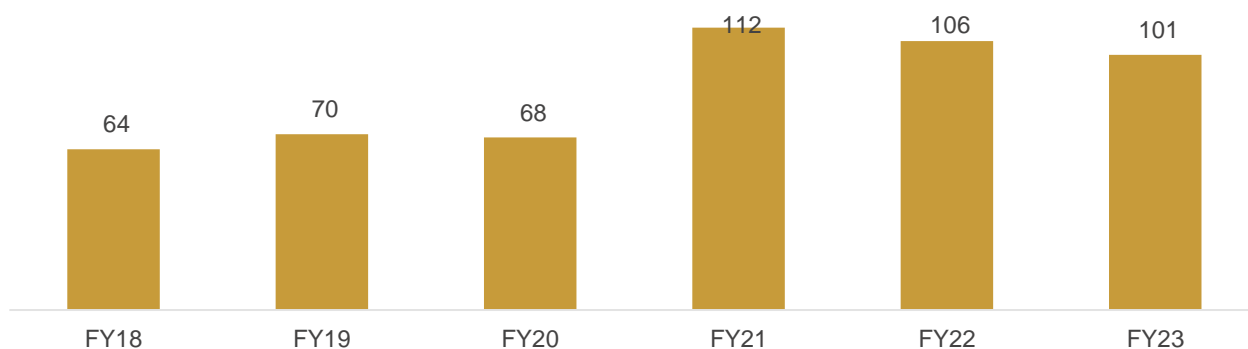
**Availability of credit**

In India, 70-75% of tractors purchased are on credit, making their availability a key demand driver for the industry. Hence, any major change in financing norms directly impacts their demand. Agricultural credit usage in farm mechanisation has been growing steadily over the years, enhancing farmers' ability to buy tractors. Public sector banks (PSBs) and non-banking financial companies (NBFCs) are major financiers. Over the last decade, the cumulative share of PSBs, co-operative banks, and regional rural banks has come down from ~75% to 15-20%, with NBFCs accounting for 50-55% of the market.

**MGNREGA spending**

Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) is the central government's employment-generating, asset-creating scheme. It makes up a large portion of the expenditure budget of the Department of Rural Development. It is a social safety net scheme and is driven by demand. So, periods of rural stress or shocks result in higher-than-budgeted spending under the scheme. Even for fiscal 2023, the budgeted MGNREGA allocation was Rs 73,000 crore. In fact, even in the past, MGNREGA actual spends have, on average, been higher than budgeted.

**Figure 37: MNREGA expenditure (in thousand crore)**



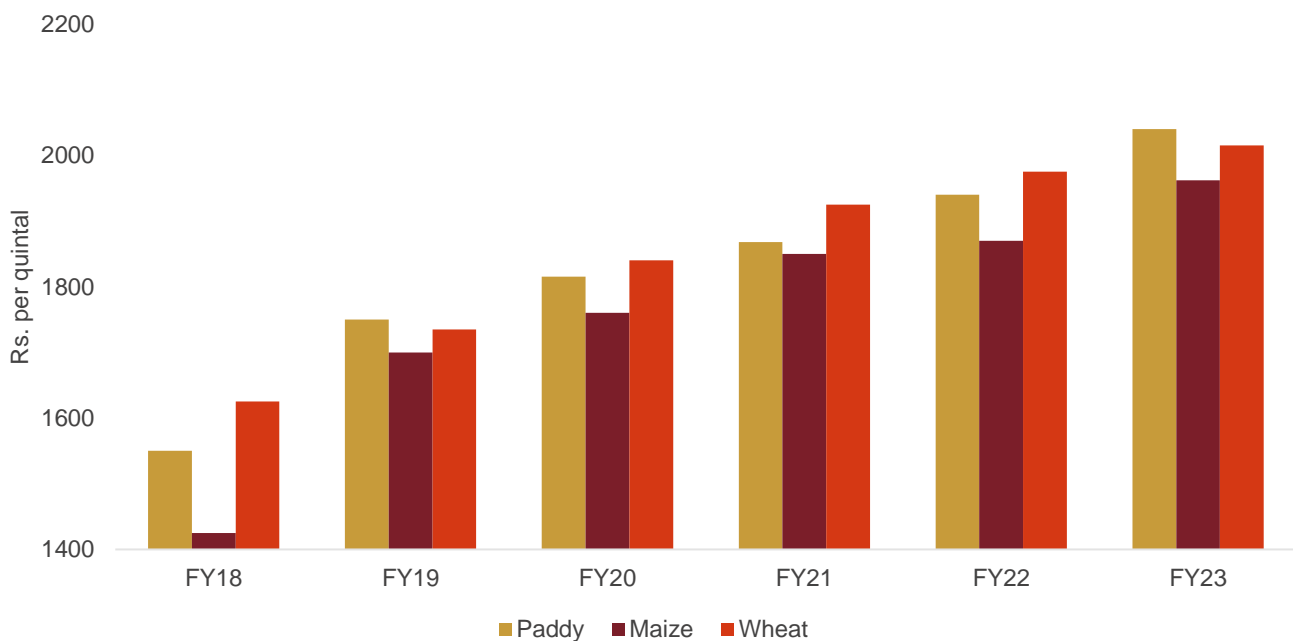
Source: Ministry of Rural Development, CRISIL MI&A

**Food grains MSP**

The government's price policy for major agricultural commodities seeks to ensure remunerative prices to growers for their produce with a view to encourage higher investment and production and safeguard consumers' interest by making available supplies at reasonable prices. To this end, it announces MSPs for 22 mandated crops, and fair and remunerative prices for sugarcane at all-India-level recommendations of the Commission for Agricultural Costs and Prices (CACP) after considering the views of concerned state governments and central ministries/departments. The 22 mandated crops include 14 kharif crops, viz. paddy, jowar, bajra, maize, ragi, tur (arhar), moong, urad, groundnut, soybean (yellow), sunflower seed, sesamum, niger seed, and cotton, and 6 rabi crops, viz. wheat, barley, gram, masur (lentil), rapeseed and mustard, as well as safflower, and two commercial crops, viz. jute and copra. In addition, MSPs for toria and dehusked coconut are also fixed on the basis of those of rapeseed and mustard, and copra, respectively. While recommending MSPs, CACP considers important factors such as the cost of production, overall demand-supply situation of crops in domestic and world markets, domestic and international prices, inter-crop price parity, terms of trade between the agricultural and non-agricultural sectors, likely effect of price policy on rest of the economy, and a minimum of 50% as the margin over the cost of production.

- **Exponential increase in MSP for paddy and maize (fiscals 2018 to 2023):** Going by the trends, it could be noticed that there has been an exponential rise in the MSP for paddy and maize. That for paddy, which was Rs. 1550 per quintal in 2017-18, was at Rs 2040 in 2022-23, up almost 32%. Similarly, that for maize, which was Rs 1425, was at Rs 1962/-, up 38%
- **Exponential increase in MSP for major oil seeds:** The MSP for groundnut, which was Rs 4450 per quintal in 2017-18, was at Rs 5850 in 2022-23, up 31%. Similarly, sunflower seeds and soyabean saw an increase of 56% and 41%, respectively
- **Exponential increase in MSP for wheat:** The MSP for wheat, which was Rs 1625 per quintal in 2017-18, was at Rs 2015/- in 2022-23, up almost 24%

**Figure 38: Trend in MSP**



Source: PIB, CRISIL MI&A

The government fixes the procurement prices of food grains. These affect market prices, as they are used as a base for calculation. Changes in procurement prices directly affect farmers' income, impacting their loan repayment capability. This has reduced volatility in farm incomes, notwithstanding some fluctuations in agricultural production arising from deviations in rainfall. In fiscal 2019, the MSP hike was 15-20% on-year, coupled with good crop output, which resulted in higher farm income across major regions. However, in fiscal 2023, the hike was only 4-6% on-year. Going forward, high growth in MSP is unlikely to continue in view of the central government's fiscal constraints and fixing of inflation control emerging as the central pillar of economic policy.

### **Cropping pattern**

Farmers are being encouraged and educated by state governments to improve farm productivity, and consequently increase incomes. To improve farm productivity, farmers are practicing multiple cropping. Here, tractors help them save time and move on to the next crop.

### **Increase in cash crop production**

Extensive cultivation of cash crops has yielded higher incomes for farmers and boosted tractor demand. Over the years, cultivation of cash crops has been rising in terms of the land area and share of output.

### **Nature of soil**

Smaller tractors are more suitable for soft soil conditions, as agricultural operations in such soil conditions require the use of lower-powered tractors. In India, the northern states of Punjab and Haryana and the western parts of Uttar Pradesh have relatively soft soil. Hence, demand for small tractors is high in these regions. In the southern and western regions, soil is relatively hard, requiring medium and large-sized tractors.

### **Crop mix**

The crop mix and nature of crops cultivated play a significant role in selecting the right kind of tractor. Medium and large tractors are preferred for the cultivation of cash crops such as sugarcane and cotton, where the agricultural activity involved is high, and the timeliness of operations is significant. High-power tractors are preferred for intensive farming and multiple cropping, land bed preparation, harvesting and when transportation needs to be quick.

### **Replacement demand**

The lifespan of a tractor is estimated at 18-20 years, though its actual usage could vary depending on the soil and cropping conditions. Usually, the farmer replacing a tractor would want to upgrade to a higher-powered tractor. Hence, given the increasing income levels and existing numbers of lower-powered tractors, replacement demand in states such as Punjab and Uttar Pradesh would be high for higher-powered tractors.

### **Purpose of use**

Tractor selection depends on whether the customer is a farmer purchasing the tractor for agricultural purposes or a contractor using it for commercial purposes such as in construction projects for goods and material transportation. Higher-powered tractors are preferred in construction projects.

### **Resale price of tractors**

A tractor is typically replaced after 6-8 years of use. However, it is estimated that it still continues to be useful for 18-20 years. Since farmers try to cover the margin money payment for the new tractor from the sales proceeds of their existing ones, they consider the resale price that a particular tractor is expected to earn after it has been used for a certain number of years.

**PMGSY completion trend**

Pradhan Mantri Gram Sadak Yojana (PMGSY) is a one-time special intervention to provide rural connectivity by way of a single all-weather road to eligible unconnected habitations in the core network with a population of 500 persons and above (Census 2001) in plain areas. PMGSY phase 1 was launched in 2000. Under the scheme, the centre recognised 178,184 habitations as requiring all-weather roads, of which, 97% of eligible and feasible habitations were connected as of November, 2019.

Further, the government launched a new intervention in the scheme, PMGSY-II, in 2013-14 for the consolidation of total 50,000 km existing rural road network to improve its overall efficiency as a provider of transportation services for people, goods and services. Overall, 41,434 km of rural roads are sanctioned under PMGSY-II as of date, of which, 75% have been completed. The umbrella scheme involves the construction/upgradation of over 800,000 km of rural roads. In PMGSY-I, 97% of the target has been achieved. In PMGSY-II, 75% of the target has been achieved. That said, PMGSY III target km are 40% lower compared with roads constructed over the last five fiscals.

Under PMGSY-III, announced in Union Budget 2019-20, it is proposed to consolidate 125,000 km road length in states over the next five years. The scheme will also include 'through routes' and 'major rural links' that connect habitations to gramin agricultural markets, higher secondary schools and hospitals.

It will entail an estimated cost of Rs 80,250 crore (central share Rs. 53,800 crore, states' share Rs 26,450 crore).

The road length in km to be constructed under PMGSY-III is significantly lower than the 218,000 km constructed under the umbrella scheme between fiscals 2015 and 2019. CRISIL MI&A expects investments in rural roads to slow ~10% over the next five years, due to the lower targets.

Rural road construction (in km) was down almost half in fiscal 2020, at ~27,000 km construction, compared with ~49,000 km the previous year. Fiscal 2021 saw the construction of ~37,000 km, while fiscal 2022 construction was ~42,000 km. In fiscal 2023, rural road construction remained muted and failed to achieve the year's target. In fiscal 2024, the target for rural road construction has been slashed to 38,000 km.

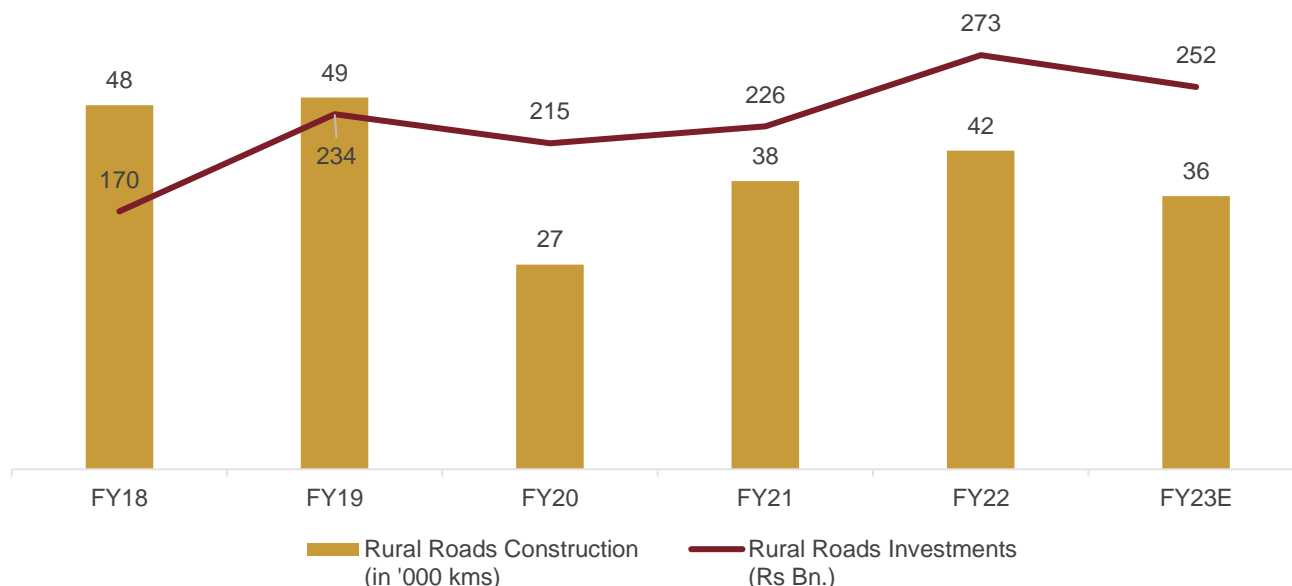
After fiscal 2017, budgetary allocation by the central government to the scheme was kept at Rs 190 billion; the allocation for fiscal 2023 was increased to Rs 195 billion. Actual expenditure has remained lower than the allocation, and the achievement ratio slipped to 74% from 81% in fiscal 2019. Total investment in PMGSY, by both, states and the centre, was Rs 234 billion in fiscal 2019, up 35% from Rs 173 billion in fiscal 2018, because of an uptick in length being constructed, as well as higher cost per km.

**Despite the challenges faced, progress under PMGSY has been satisfactory. The vertical-wise details of overall achievement are as follows:**

Vertical	Sanctioned			Completed		
	No. of roads	Road length (km)	No. of bridges	No. of roads	Road length (in km)	No. of bridges
PMGSY-I	1,64,806	6,45,605	7,516	1,59,783	6,13,030	5,864
PMGSY-II	6,700	49,885	765	5,755	46,468	562
RCPLWEA	1,030	10,231	463	363	5,310	135
PMGSY-III	9,972	77,129	708	1,984	29,773	96
<b>Total</b>	<b>1,82,508</b>	<b>7,82,850</b>	<b>9,452</b>	<b>1,67,885</b>	<b>6,94,581</b>	<b>6,657</b>

Source: PIB, CRISIL MI&A

Figure 39: Rural road construction investments



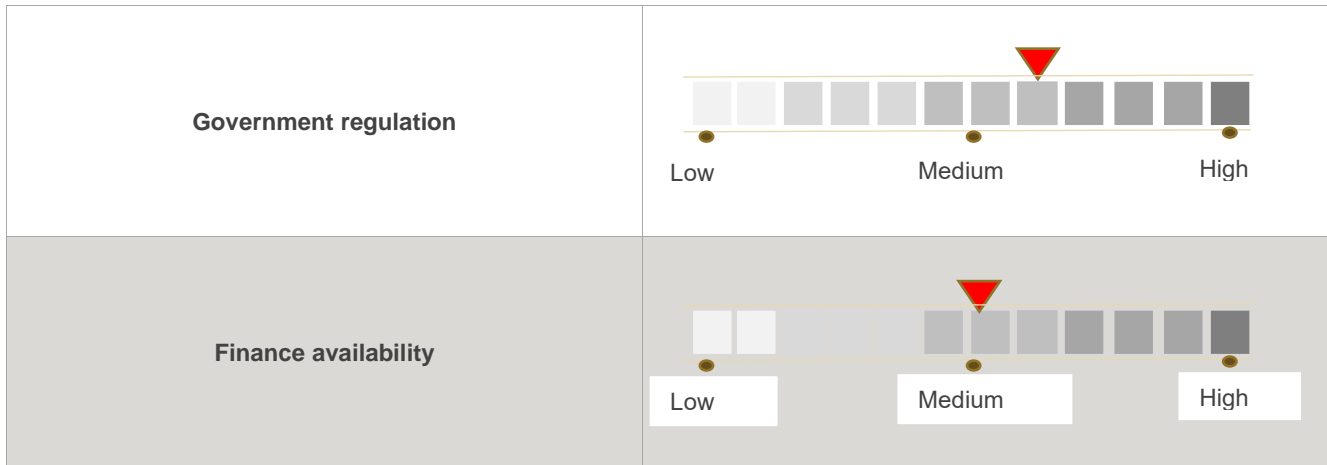
Source: Ministry of Rural Development, CRISIL MI&A

Residual construction target under PMGSY II and future targets under PMGSY III are largely concentrated in northern and eastern states in the country. Odisha is expected to see 15-20% of targeted rural road construction under PMGSY, followed by Assam, at 9-11%. Arunachal Pradesh, Bihar and Uttarakhand are expected to see 5-10%, and other states such as West Bengal, Jammu and Himachal Pradesh also have potential for rural road construction under the scheme.

### 7.3. Demand drivers

Tractor demand in the country is mainly dependent on farmer incomes from agricultural operations, which, in turn, get impacted by the monsoon, crop prices, and procurement, among other factors. Government regulation over rural infrastructure development also affects non-farm tractor demand, which accounts for 20-25% of overall domestic demand. Additionally, the availability of formal financing channels helps support demand.

Risk factor	Impact
Monsoon performance	<p>Low Medium High</p>
Crop prices	<p>Low Medium High</p>

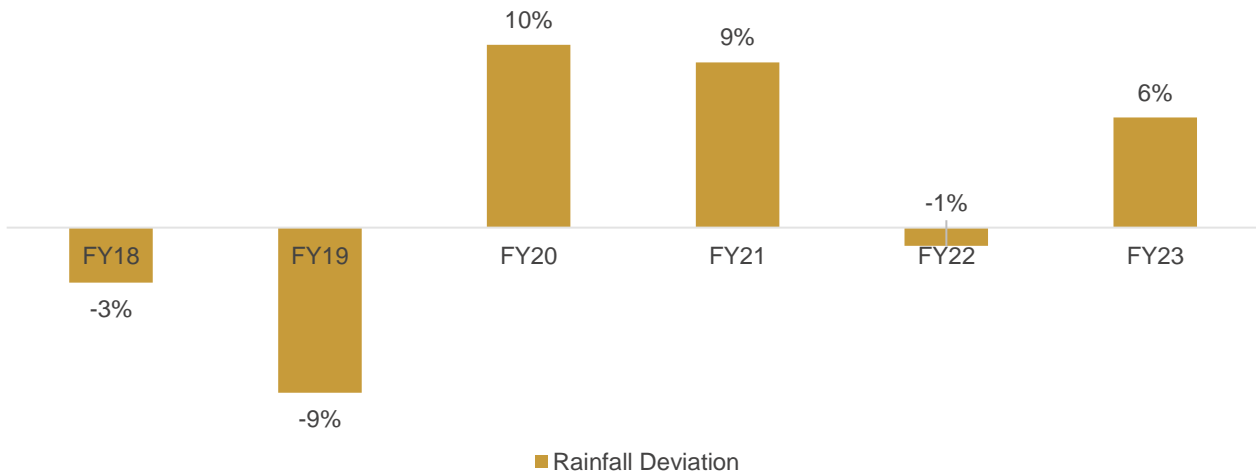


**Monsoon performance**

The south-west monsoon (June-September), as well as the north-east monsoon (October-December) to some extent, is very critical for the Indian farming community, as its performance decides the country’s overall crop production. A poor monsoon with uneven geographical spread, and even unseasonal rainfall, can severely dent the rural economy by impacting farm incomes, which would affect tractor demand. Monsoon, therefore, presents the highest risk for the tractor industry.

A normal monsoon in fiscal 2018 led to a revival in tractor demand, with sales increasing a healthy 22%. In fiscal 2021, 9% above normal monsoon and positive retail sentiments contributed to a substantial 27% on-year increase in tractor sales. In fiscals 2022 and 2023, monsoon remained normal, contributing to higher tractor sales, although in fiscal 2023, due to unseasonal rainfall in March, rabi crop damage was seen, to some extent, impacting farmers’ income and overall crop production. In fiscal 2024 south-west monsoon was delayed in many states, dampening the outlook for kharif season.

**Figure 40: Rainfall deviation**



Source: IMD, CRISIL MI&A



**Crop prices**

The central government announces MSPs for a majority of crops, but only paddy and wheat get procured at scale. Other crops (pulses, oilseeds, vegetables, and so on) are mostly sold to mandis/private traders, and are subject to high price volatility and cartelisation. As a result, despite surplus production, subdued crop prices can affect farmers' cash flows negatively, in turn, impacting their ability to purchase tractors.

**Government regulation**

There is significant government intervention in the agricultural and non-agricultural aspects of the rural economy. While a marginal increase in MSP hurts farm sentiment, government monitoring of sandmining activities and fund disbursement toward rural infrastructure development, key drivers for non-farm tractor demand (commercial/non-farm demand of tractors accounts for 15-20% of total tractor demand), can also have a significant impact on the industry.

In fiscals 2021 and 2022, illegal mining activities were at a standstill in Bihar, Jharkhand and Uttar Pradesh, which impacted commercial demand negatively. In fiscal 2023, a decline in construction activity led to slower growth in commercial demand, along with a ban on illegal mining and change in rules and regulations for the operation of brick kilns, impacting commercial demand in fiscal 2024 as well.

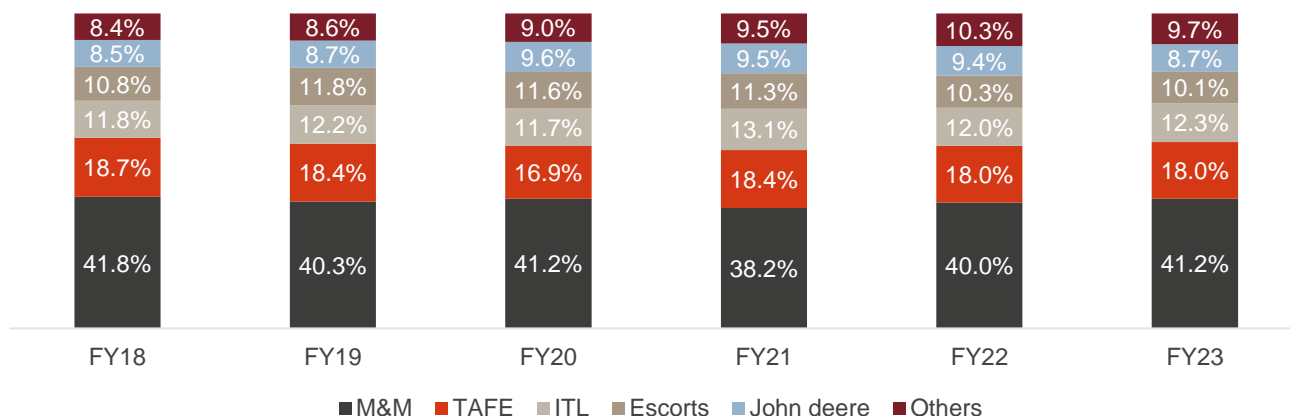
**Finance and credit availability**

The availability of formal financing channels also plays a very important role in enabling industry growth, as ~70% of tractors purchased are backed by loans. However, as farm incomes are dependent on the vagaries of monsoon, a rise in NPA levels results in financiers taking a cautious stance towards disbursing tractor loans, which impacts tractor sales; this was seen in fiscals 2023 and 2024, majorly in Andhra Pradesh and Telangana, where financiers have reduced funding due to an increase in delinquency levels.

**Competitive scenario**

The structure of the tractor industry has remained largely steady over the years; Mahindra & Mahindra (M&M) continues to lead, with a 41.2% market share, and Tractors and Farm Equipment Ltd (TAFE), a distant second, with an 18% market share for fiscal 2023. A strong pan-India network reach, strategic location of manufacturing facilities, good brand equity, and a comprehensive product range from <20 horsepower (hp) to >50 hp have been the major factors behind M&M's consistent dominance of the industry.

**Figure 41: M&M gained significant market share in fiscal 2023**



Source: CRISIL MI&A

CRISIL MI&A expects the industry's competitiveness to intensify further, with the top five players, though, continuing to comprise 85-90% of the industry by volumes. A strong distribution network, brand recall, captive financiers and diverse product range are critical to maintain market position in the industry.

## 7.4. Exports

Exports accounted for ~12% of overall tractor sales as of fiscal 2023. With some revival in demand from Europe, however, with demand from Asia and the US anticipated to remain slow, overall tractor exports are expected to remain sluggish for the fiscal.

In fiscal 2023, tractor exports declined 3% on-year on a high base of 45% on-year growth in fiscal 2022. Demand for Indian tractors was slower in several Asian and European countries due to the political disruptions and energy crises in these regions.

A strategic push, such as setting up a base in foreign countries, by players to cater to global demand would aid export sales. ITL's Solis brand has also been gaining popularity in the European markets. With most global companies de-risking exports from China due to complexities and disruptions in the nation, India has become the natural hedge against Chinese exports. Further, with most companies equipped to comply with TREM IV norms, exports have bloomed over the past few years.

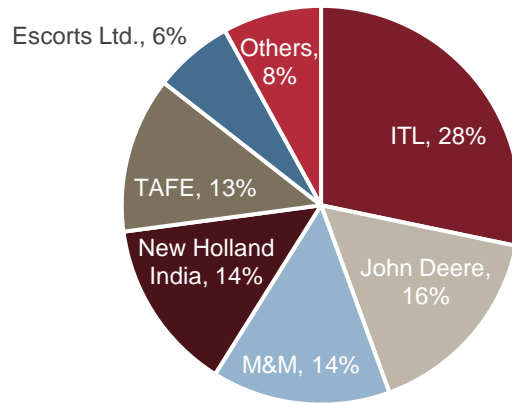
The US, Europe and Asia are likely to remain the focal regions for long-term exports. Further, with India emerging as an export hub for relatively small tractors (30-75 hp), and major companies increasing focus on international markets with the launch of 90-120 hp tractors, we expect sustainable export growth over the next five to six years.

Exports are expected to log a 2-4% CAGR between fiscals 2023 and 2028 amid higher demand from the US and other Asian and European countries.

### **>51 hp segment dominates tractor exports**

Tractors of more than 51 hp accounted for a ~55% share in India's tractor export basket for fiscal 2022. The share has increased to 62% over April 2022-February 2023, dominating the tractor exports market. Rising demand for Indian tractors from the US, Europe, Mexico and neighbouring Asian countries has fuelled demand for tractors with higher hp. John Deere is the leading player for exports in this segment, followed by International tractors limited (ITL). Another dominant segment after >51 hp is the compact tractor segment, i.e., <31 hp, accounting for ~18% in India's tractor export basket.

**Figure 42: Player-wise share of tractor exports**



Source: TMA, CRISIL MI&A

ITL, John Deere and Escorts have been focusing on growing exports to insulate themselves from cyclical domestic market demand. ITL's market share increased from 25% in fiscal 2021 to 27% in fiscal 2022 and 28% in fiscal 2023. Escorts reduced exports from its Poland factory and started exporting from India. Mahindra is a dominant player in exports to the US and Asian nations. John Deere has been using its Indian manufacturing plant to export to the US, its home country.

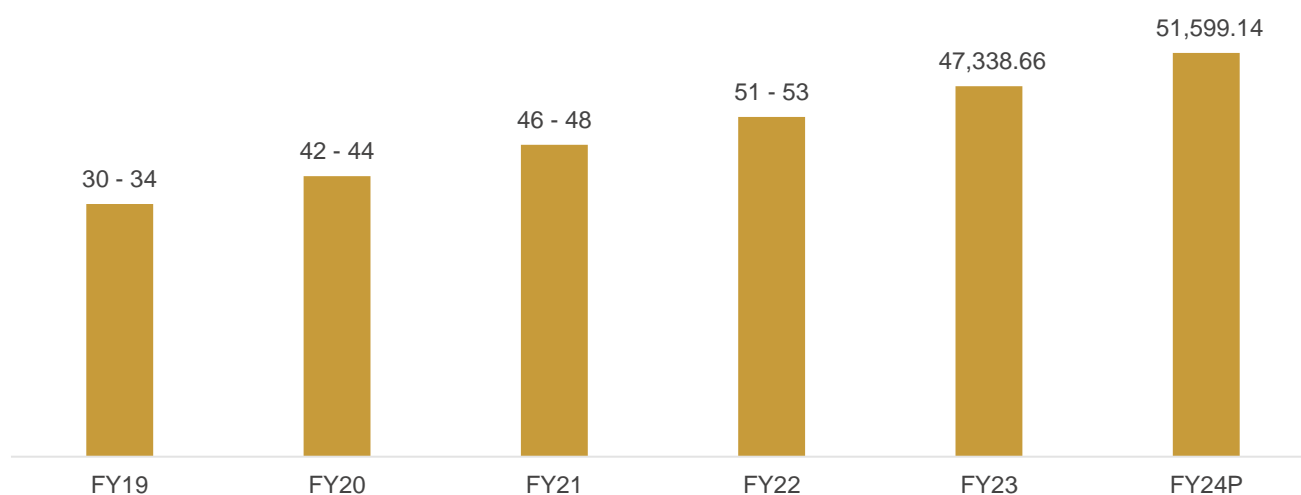
## 7.5. Indian tiller industry review

The domestic tiller industry is a growing market, led by increasing demand for agricultural mechanisation and rising awareness on the benefits of tillers, which are used to prepare soil for planting, by breaking it up and removing weeds. They are more efficient than manual methods of tillage, such as ploughing and hoeing, and can save farmers time and money.

The Indian tiller market is dominated by small and medium enterprises (SMEs). Major players include VST Tillers, M&M, and Kubota. The market is also witnessing the entry of new players, both domestic and international.

The market is segmented by power output and type. Power output is further divided into below 10 hp, 10-20 hp, 20-30 hp, and above 30 hp. This segment is divided further into power tillers and rototillers.

Figure 43: Tiller volume in India (in thousands)



Source: CRISIL MI&A

Note – Industry numbers have been estimated based on publicly available numbers of VST Tillers and Tractors Ltd.

The power tiller segment is the largest in the Indian tiller market, accounting for an over 70% share. Power tillers are more powerful than rototillers and are used for heavy-duty tillage operations. Rototillers are smaller, but are more manoeuvrable and can be used in tight spaces.

**The market is driven by the following factors, among others:**

- **Increasing demand for agricultural mechanisation:** The Indian government is promoting agricultural mechanisation to improve the efficiency and productivity of Indian farms, leading to an increase in demand for tillers
- **Rising awareness on the benefits of tillers:** A growing number of farmers are becoming aware of the benefits of using tillers, such as increased efficiency, reduced costs, and improved soil health
- **Government subsidies:** The Indian government provides subsidies on the purchase of tillers, which makes them more affordable for farmers
- **Increasing farm incomes:** The rising incomes of Indian farmers are enabling them to invest in new technologies, such as tillers.

**Trends shaping the industry:**

- **Growing demand for power tillers:** Power tillers are more powerful and efficient than rototillers, and are gaining popularity among farmers
- **Increasing demand for tillers from small and medium farms:** Such farms account for the majority of agricultural land in India, and demand for tillers is growing from this segment
- **Rising demand for tillers from rental companies:** Rental companies are providing tillers on rent to farmers, making these more accessible for them

- **Growing demand for tillers with advanced features:** Farmers are increasingly demanding tillers with advanced features, such as depth control, rotary tillers, and adjustable handles

The industry is a promising market with a lot of potential. Market players can capitalise on growth opportunities by focusing on quality, innovation, and affordability.

## 7.6. Outlook on Indian tractor industry

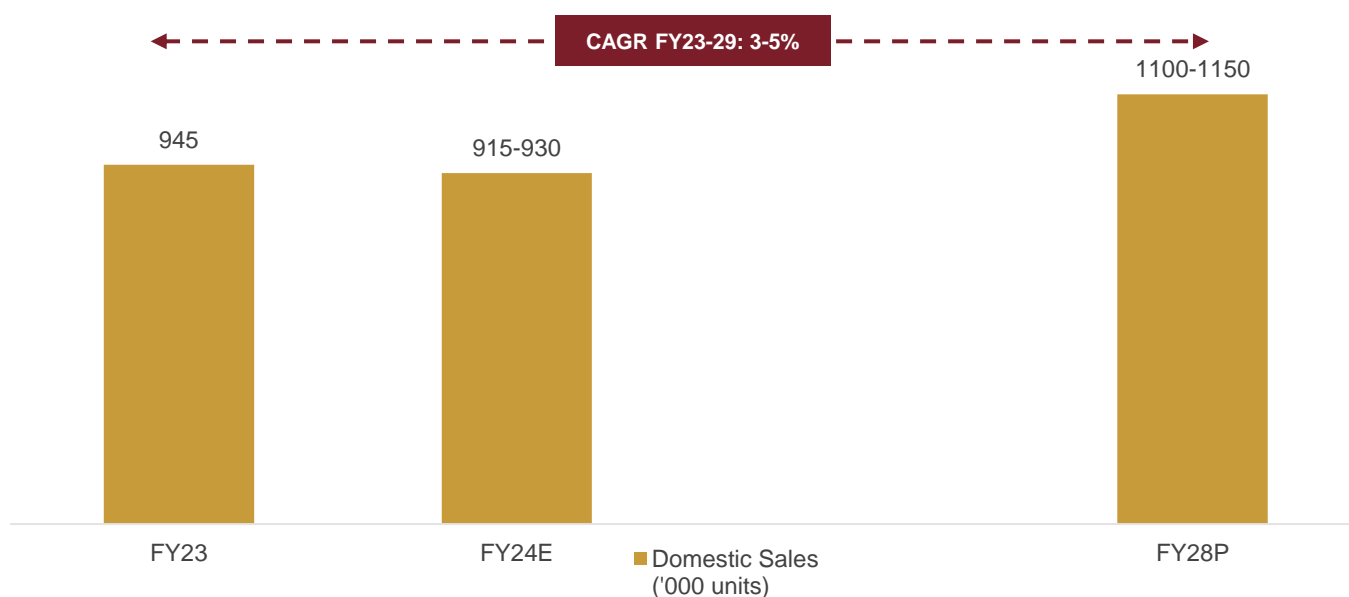
CRISIL MI&A's long-term assessment projects domestic tractor sales to increase 3% to 5% compound annual growth rate (CAGR) between fiscals 2023 and 2029 factoring in one to two years of erratic monsoon during the period. The growth will be supported by low levels of tractor penetration in India (three tractors per 100 ha area), government's focus on improving agricultural incomes through various schemes and promoting farm mechanisation and investments to improve rural infrastructure.

Between fiscals 2018 and 2023, the industry registered a CAGR of 5%, driven by healthy sales in fiscals 2017, 2018, 2021 and 2023.

Being a cyclical industry, it is observed that whenever the tractor industry witnesses a downturn, it takes four to five quarters for recovery.

In fiscal 2024, we expect domestic tractor sales to decline 1% to 3% on-year on account of elevated inventory levels and negative farmer sentiments. Slower retail momentum due to lower rabi profitability, is expected to decline 13-15% on-year amid lower yield and prices of wheat and mustard. Elevated inventory levels by end-fiscal 2023 will lead to inventory liquidation in fiscal 2024 and negatively impact the wholesale demand. The picking up of commercial activities and an anticipated increase in replacement demand will prevent further decline in sales.

**Figure 44: Outlook on tractor industry**



Note: E - Estimated; P - Projected

Source: CRISIL MI&A

A large part of domestic sales is driven by replacement demand. A typical holding period for a tractor is between six and nine years with most of them being replaced in the country within seven to eight years. Of the overall domestic

demand, 50% to 60% of the sales account for replacement demand. For states such as Punjab and Haryana with a high penetration of tractors, accounts for replacement demand for approximately 70% to 80% of the total sales. States with lower farmer incomes, compared with Punjab and Haryana have a lower replacement cycle (higher age tractors) versus the industry average.

In fiscal 2024, replacement demand is expected to increase 4% to 6% on-year with healthy sales registered during fiscals 2017 and 2018. We estimate replacement demand to be 0% to 2% higher in fiscal 2023 due to its preponement amid positive farmer sentiments.

**Emerging trends**

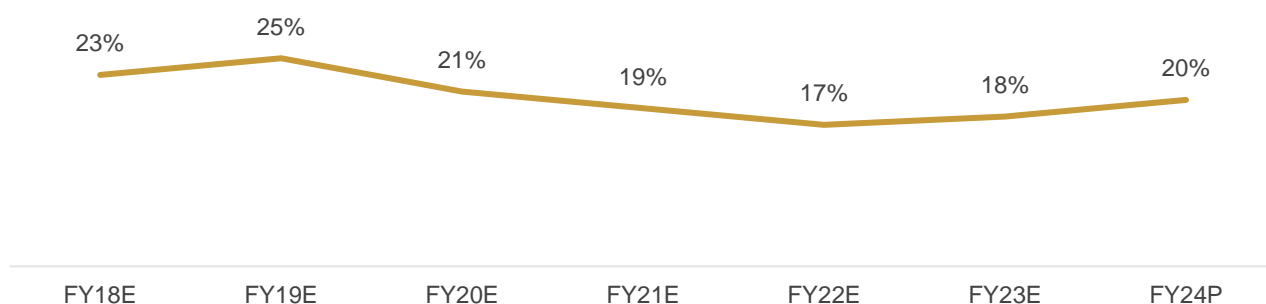
**Mechanisation**

Although farm mechanisation is on the rise in India, its progress across states varies widely. The northern states of Punjab, Haryana and Uttar Pradesh have already achieved high levels of mechanisation and are driven mostly by replacement demand. Additionally, mechanisation has increased in the western state of Gujarat and southern states such as certain areas of Tamil Nadu and Andhra Pradesh, driven by an increase in irrigational areas and growing awareness among farmers. On the contrary, the pace of mechanisation is slower in the eastern states.

**Increasing non-farm usage of tractors**

Farmers primarily purchase tractors for agricultural operations, but also use them for commercial purposes. Considering the short period that tractors are used on the farm, farmers look for alternate uses such as renting it out to other farmers or rural contractors involved in construction activities. Currently, non-farm usage accounts for 30% to 35% of domestic tractor demand. As tractors are used only for limited periods on farming activities, it is not economically viable for farmers to deploy them solely for farming. In the future, tractors would be widely used for agriculture, rural construction and transportation purposes.

**Figure 45: Commercial demand expected to rise**



Source: CRISIL MI&A

Commercial demand for tractors accounts for 18% to 23% of overall tractor demand. Tractors are also used to haul bricks, sand and farm produce in addition to agriculture operations. During poor crop years and months when there is no agricultural activity, renting out tractors for commercial purposes provides farmers an alternate source of income, thereby proving to be a good hedge. Some tractors are designed specifically for haulage operations and used exclusively in commercial activities. Based on our industry interactions, tractors are also used as an alternative to pickups for haulage purposes.

In fiscal 2024, commercial demand will rise due to anticipated increased in construction activities and sandmining activities. In eastern states during fiscal 2023, with slower retail momentum coupled with a complete ban on sandmining activities, commercial demand is expected to remain rangebound. Illegal mining activities have stopped in states such as Bihar, Jharkhand and Uttar Pradesh, which had earlier negatively impacted commercial demand in the last two fiscals.

### **Rental models and low-cost tractors key to penetrating fragmented land holdings in India**

Despite the huge potential of the total arable land, the fragmented land-holding pattern in India remains a hurdle. With more than 80% of land holdings being small and marginal (less than two ha), most farmers cannot afford tractors. They depend on renting tractors or buying small tractors to improve productivity, a trend that is rapidly gaining hold.

Custom Hiring Centres (CHC) are a major component of the government's Sub-Mission on Agricultural Mechanisation (SMAM) policy. These centres maintain farm equipment and machinery, which can be rented out, especially to small and marginal farmers who cannot afford them. The Karnataka, Andhra Pradesh, Madhya Pradesh, Telangana, Odisha and Punjab governments have been promoting CHCs on public-private partnership (PPP) basis through training, demonstration and financial incentives. Private sector participation via unique business models is also improving farm mechanisation.

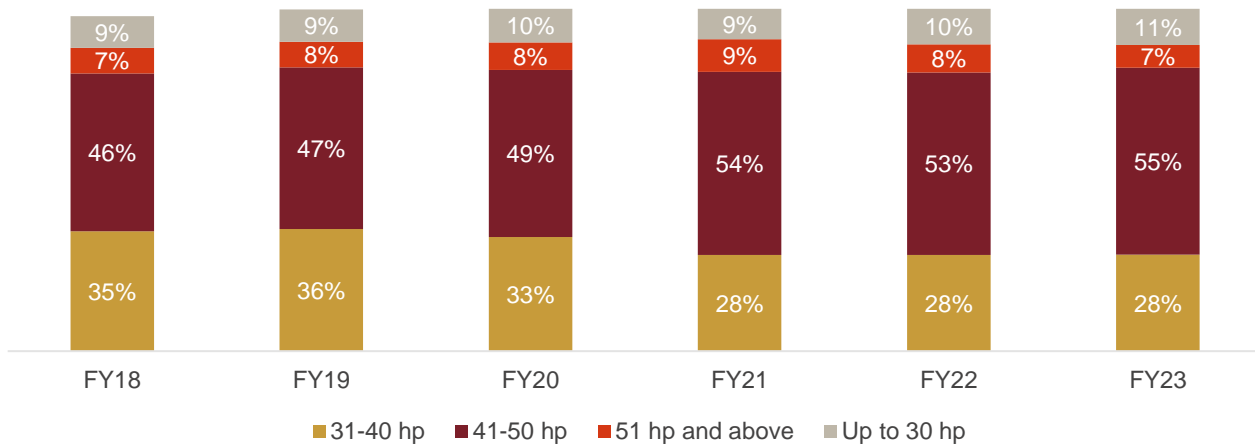
- EM3, a new entrant in the farm machinery industry, is creating a pan-India network of Samadhan Kendras, which operate as CHCs focusing currently on Madhya Pradesh, Rajasthan and Uttar Pradesh
- Zamindara Farm Solutions uses a combination of library and radio taxi models to provide farm equipment services, with Punjab as its major operations hub.
- OLAM India is using CHC in collaboration with agricultural technology service providers for sugarcane harvesting in Madhya Pradesh
- India's agriculture ministry has developed a farm equipment rental application for Indian farmers to allow them to hire tractors, rotavator and other farm-related machinery with flexible tenures
- The highest number of CHCs are found in Punjab, Uttar Pradesh, Tamil Nadu and Andhra Pradesh, followed by Haryana and Odisha. Under SMAM, ~13 lakh of agricultural machinery have been distributed while ~15,180 CHCs have been established.

CHCs face challenges such as lack of consumer awareness about farm equipment usage, availability issues, high initial investment cost, maintenance of farm machinery and customised equipment for local cropping patterns. Monitoring of CHCs remains a major challenge. However, involvement of key stakeholders and introduction of favourable schemes and policies can make CHCs successful in India.

### **Segment-wise tractor sales show shift towards higher horsepower**

The 41-50 horsepower (hp) tractor segment has continued to maintain its dominant share because of multiple applications in agriculture and haulage. A bulk of the implements available are also better suited for 41-50 hp tractors.

Figure 46: Segment-wise share



Source: TMA, CRISIL MI&A

The move towards 51 hp and above has declined over the last few years, as these are less amenable to multi-purpose applications, unlike the 41-50 hp tractors. Moreover, there is a considerable, ~Rs 1 lakh price differential between a 40 hp and a 55-60 hp tractor.

However, since fiscal 2021, a sudden shift towards higher hp tractors was observed mainly due to increased use of implements requiring such tractors to operate and increased affordability of farmers on the back of government support and lack of any other investment opportunities in the absence of social events amid the Covid-19 pandemic. Tractors in the sub-20 hp category target specific applications such as orchard farming and inter-cultivation. However, owing to economic and functional considerations, these tractors also find favour among farmers with 0.8 to 2.0 ha land.

In the last six years we can see a clear trend of farmers moving towards the >41 hp segment. The up to 30 hp tractors share has also increased with higher demand for compact tractors meant for orchards and vineyards.

**The four major factors that cumulatively influence hp demand are:**

- Irrigation: Higher irrigation leads to increased and stable income streams to purchase higher hp tractors. For instance, Punjab and Haryana (despite soft alluvial soil) have migrated to higher hp tractors
- Soil type: Extremely hard soil necessitates use of higher hp tractors. Western Maharashtra, for example, has hard black cotton soil, where 41-50 hp tractor is preferred. However, some pockets of Vidarbha have soft red soil and small farm size, where 31-40 hp tractor is preferred
- Farm size: States having more marginal and fragmented land holdings drive sales of lower hp tractors
- Commercial usage: High commercial usage of tractors in eastern and southern states also hikes demand for relatively higher hp tractors



## 8. Overview of the tyre industry in India

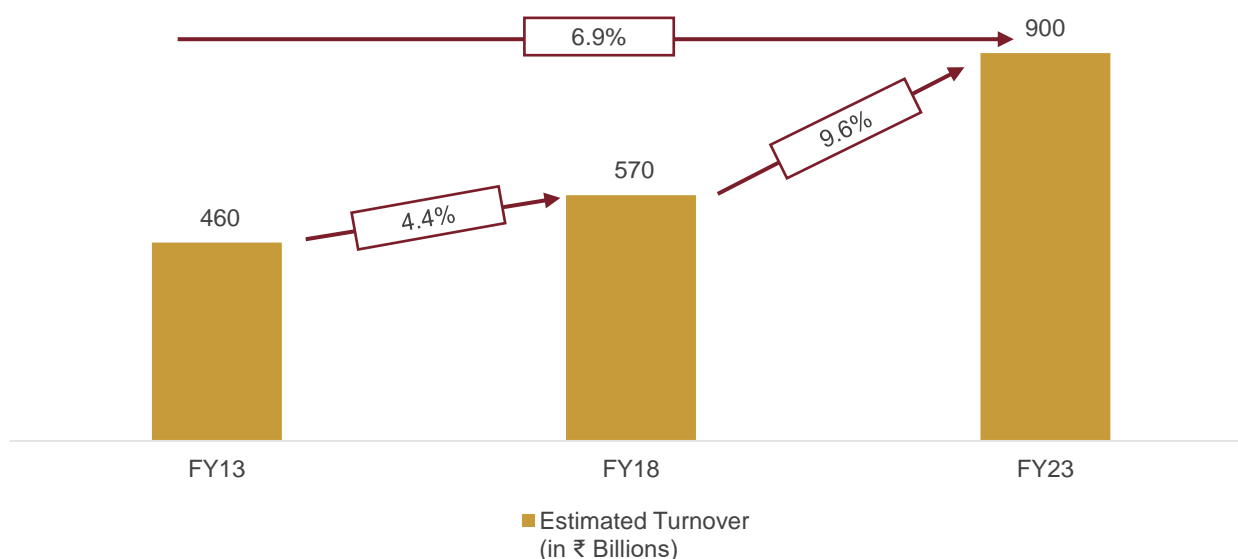
### 8.1. Industry turnover

The growing turnover of the Indian tyre industry in recent years can be attributed to increasing demand for vehicles, rising disposable incomes, increasing premiumisation of vehicles and tyres, the industry venturing into the luxury segment, growth in exports and reduction in import of tyres. The turnover has doubled in a decade from Rs 46,000 crore in fiscal 2013 to Rs 90,000 crore in fiscal 2023.

The domestic tyre industry is dominated by major players such as Apollo Tyres, Balakrishna Industries, Bridgestone, Ceat, JK Tyres, MRF and TVS Srichakra. These companies account for more than 80% of the tyre market in terms of revenue.

Global companies such as Michelin, Bridgestone, Goodyear and Maxxis have set up their manufacturing units in India. However, their share in the overall Indian tyre market continues to be low with customers being price sensitive.

**Figure 47: Tyre industry turnover (Rs billions)**



Source: ATMA

### 8.2. Tyre exports

Tyre exports from India have increased significantly this year because of rising demand from the US and Europe and the growing acceptability of Indian tyres in international markets. The global economy's challenges from recessionary conditions, rising interest rates, political upheaval, and a weakening of external demand impacted the growth momentum of Indian tyre exports.

India's tyre exports increased 9% on-year to an all-time high of Rs 23,125 crore in fiscal 2023 from Rs 21,178 crore in fiscal 2022.

In fiscal 2023, the top five export markets for Indian tyres were the US, Germany, Brazil, France, Italy, Netherlands, UAE, UK, and Canada. The US continues to be the largest market for Indian tyres, accounting for 22% of the total tyres exported from the country during the year.

Increased performance and better durability at affordable prices in addition to China de-risking strategy adopted by companies across the globe bodes well for increasing tyre exports from India. The presence of multiple manufacturing units of Indian OEMs outside the country is increasing traction for Indian tyres in global markets as well.

The curb on import of tyres has helped the industry increase size and scale of production and integrate with the global supply chains.

In value terms, Farm/ Agri tyres carved a share of over 40% in the tyre exports pie followed by OTR/ Industrial tyres at 22%.

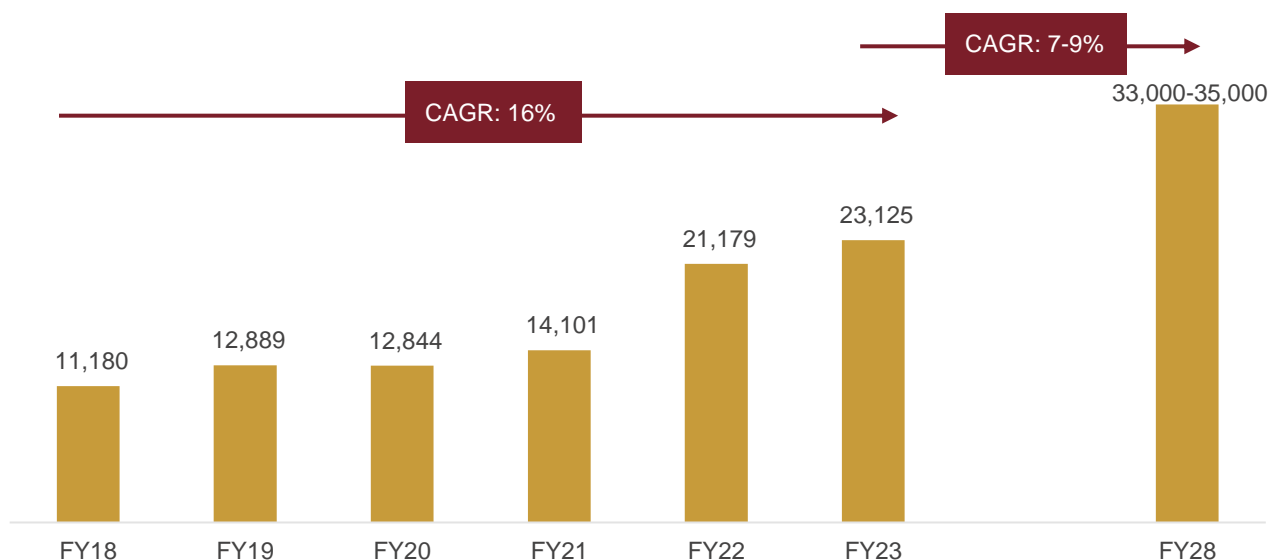
In volume terms, Trucks and bus radial tyre exports stood marginally lower in fiscal 2023, 3,037 thousand units against the previous year's 3,095 thousand units. The US continues to be a major recipient of TBR tyres from India, nearly one fourth of TBR tyre exports from India were destined for US.

In passenger tyre car exports in volume terms, witnessed a marginal fall of 5% from 6,386 thousand units in fiscal 2022 to 6,095 units in fiscal 2023. The Netherlands with as share of 22%, Brazil (16%) and USA (10%) are the three largest importing countries of PCR tyres from India.

In motorcycle tyre exports in volume terms, stood 16% lower cumulatively during fiscal 2023 from 4,666 thousand units in fiscal 2022 to 3,938 in fiscal 2023. Bangladesh (15%), Colombia (11%), and Kenya (10%) were the largest importing countries for Indian manufactured Motorcycle tyres in fiscal 2023.

The Farm/ Agri tyre exports from India stood 17% lower in fiscal 2023 from 6,984 thousand units in fiscal 2022 to 5,765 in fiscal 2023. USA (26%) and Germany (10%) are the dominant export markets for Indian manufactured Farm/Agri tyres.

**Figure 48: Tyre exports (Rs crores)**



Source: ATMA, CRISIL MI&A Consulting

In fiscal 2022, the top five export markets for Indian tyres were the US, Germany, Brazil, Netherlands, United Kingdom, France, Italy and United Arab Emirates. The US continues to be the largest market for Indian tyres, accounting for 17.8% of the total tyres exported from the country during the year. The tyre industry is hopeful for increased exports and OEMs continue to target new markets.

**Figure 49: Region-wise tyre exports from India (Rs Lakhs)**

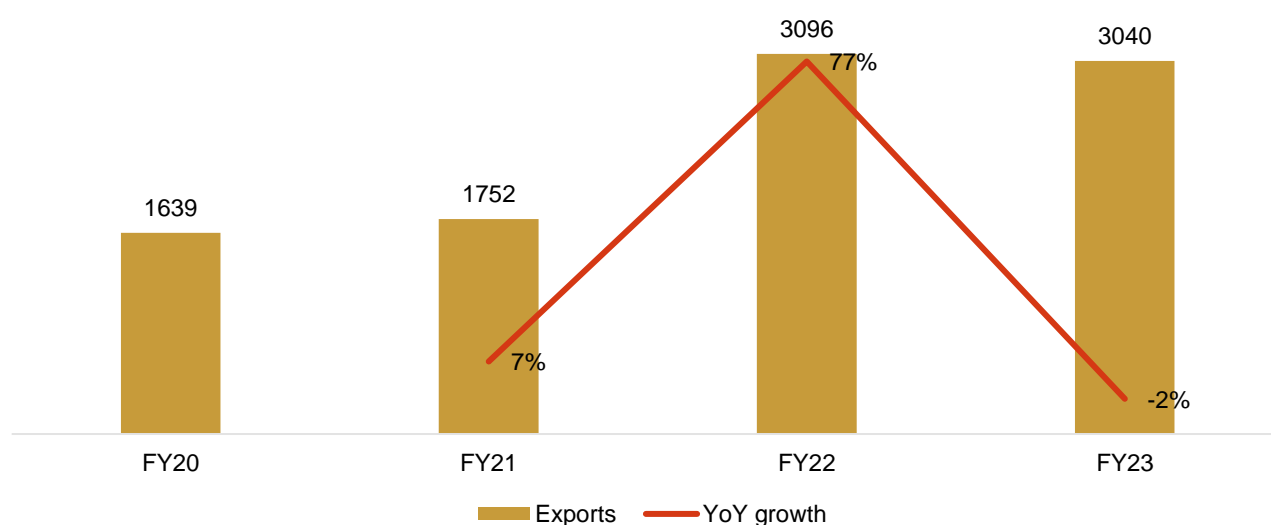
Region	FY18	FY19	FY20	FY21	FY22	FY23
Europe	3,74,585	4,25,153	4,00,776	5,15,249	7,73,320	7,53,342
North America	1,65,130	2,18,533	2,33,893	2,73,402	4,37,837	5,65,085
Asia	2,44,286	2,71,070	2,58,630	2,35,257	3,18,347	3,20,104
Latin America	1,03,433	1,05,548	1,11,330	1,16,090	2,20,146	2,59,008
Middle East	1,09,376	1,26,367	1,42,978	1,26,369	1,74,598	2,22,016
Africa	96,783	1,12,892	1,13,018	1,12,771	1,54,885	1,49,469
Others	24,365	29,324	23,749	30,935	38,783	43,469

Source: ATMA, CRISIL MI&A Consulting

### Radial Truck & Bus (TBR) Tyre

The exports of commercial vehicles (CV) segment declined 13% on a high base due to softening overseas demand in fiscal 2023. In fiscal 2023, truck and bus tyre exports declined 13% on-year after ~83% on-year growth in fiscal 2022. The decline in exports was majorly due to lower imports from developing nations such as Nepal, Brazil and Bangladesh, which witnessed 29%, 14% and 20% decline in their medium and heavy CV tyre imports, respectively.

**Figure 50: Radial Truck & Bus (TBR) Tyre Exports ('000 units)**

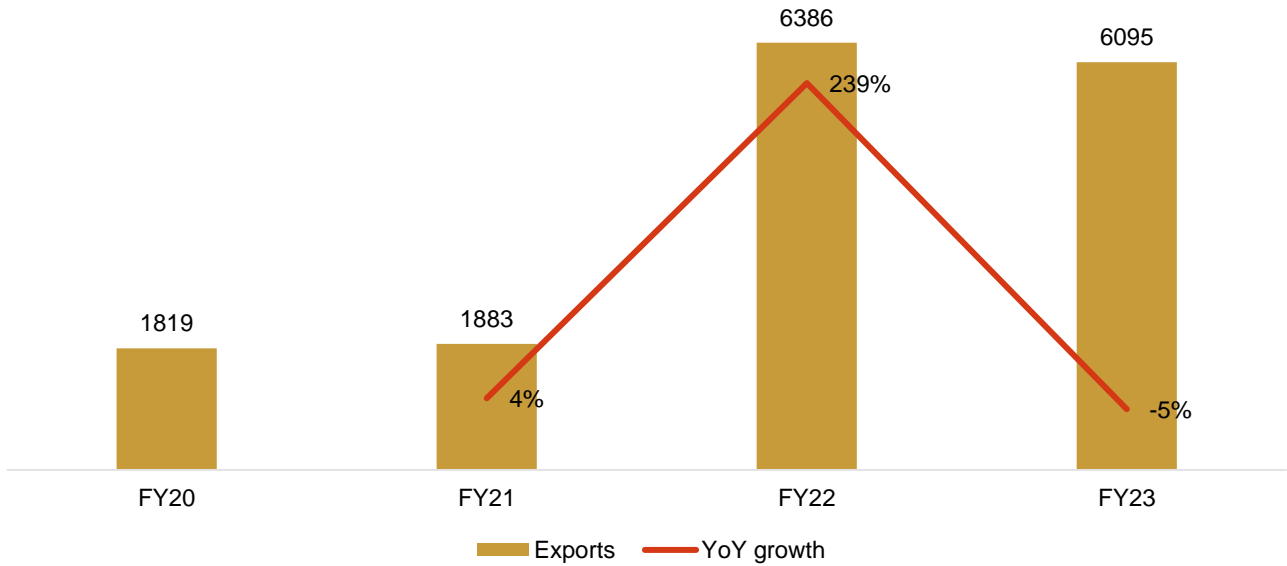


Source: DGFT, CRISIL MI&A Consulting

**Passenger Car (PCR) Tyre**

Passenger Car Radial (PCR) tyres declined 5% in fiscal 2023 after witnessing 239% growth in fiscal 2022 owing to better durability at economical price. The exports were led by demand from countries such as the Netherlands, Brazil and US.

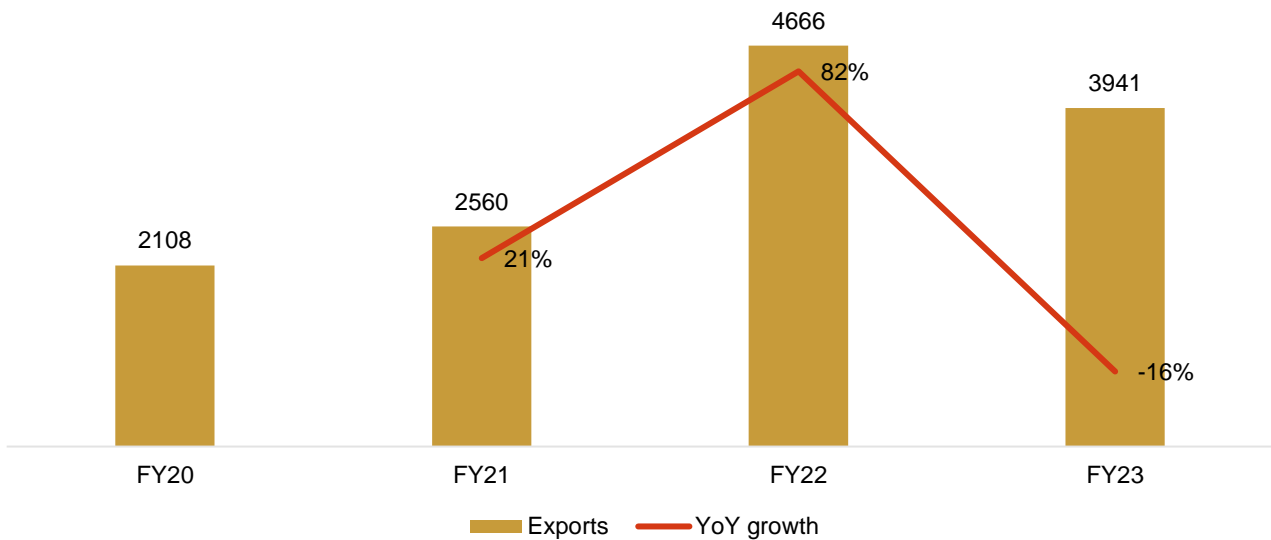
**Figure 51: Passenger Car (PCR) Tyre Exports ('000 no.)**



Source: DGFT, CRISIL MI&A Consulting

**Motorcycle Tyre Exports**

Motorcycle tyre exports declined by 16% in fiscal 2023. The industry had witnessed ~82% growth in fiscal 2022. The moderate growth is due to subdued demand from low-income nations such as Bangladesh and Nepal amidst global recession fears.

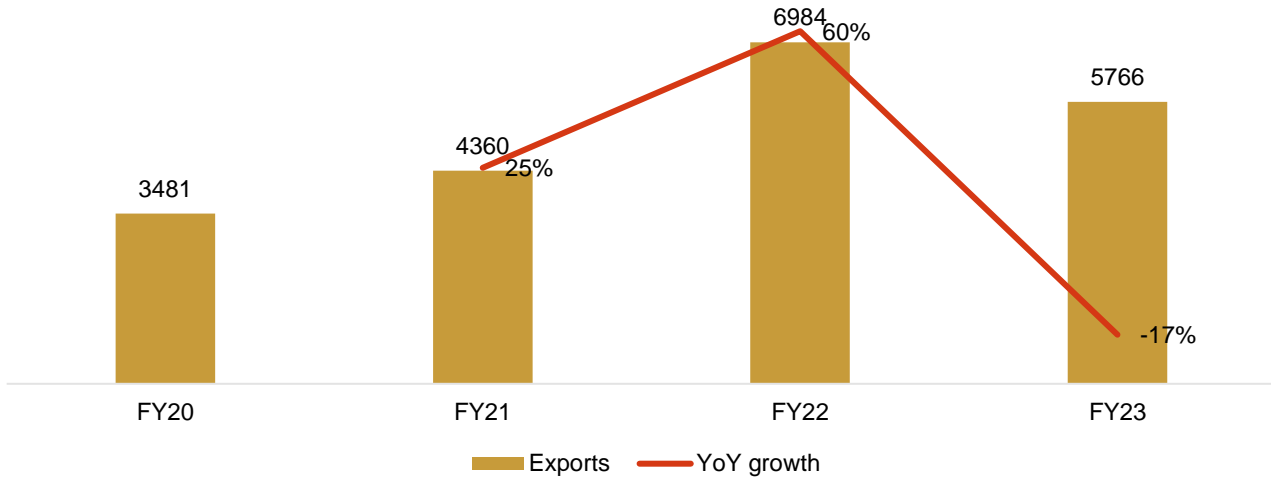


Source: DGFT, CRISIL MI&A Consulting

**Agriculture (Tractor Front, Rear & Trailer) Tyre Exports**

Farm/agricultural tyre exports also witnessed a decline of ~17% on-year in fiscal 2023 led by decreased demand from Europe and US. USA and some of the European countries account for the largest share in Farm/Agri tyre exports from India.

**Figure 52: Farm/Agri Tyre Exports ('000 no.)**



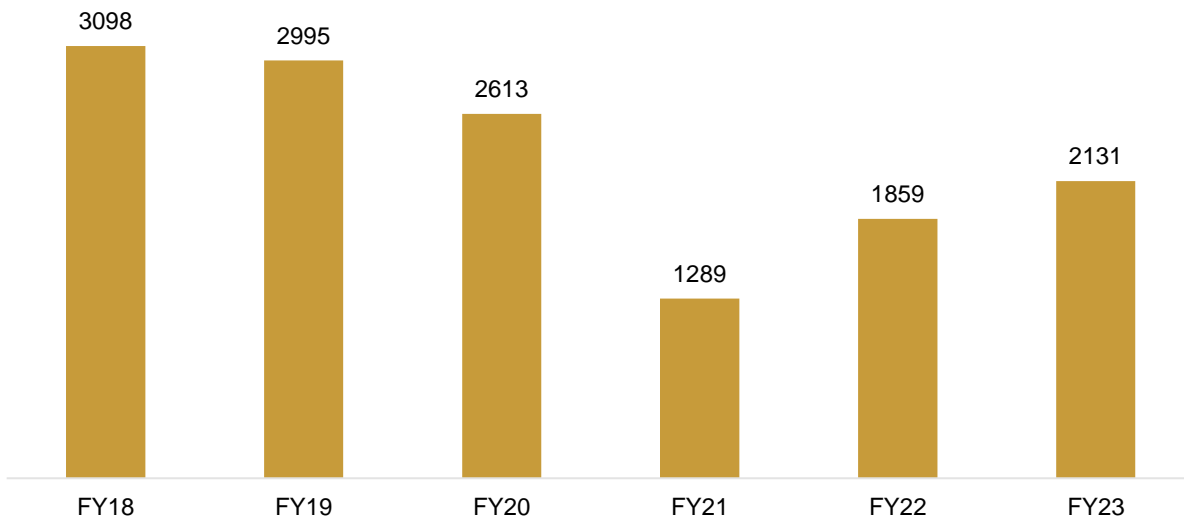
Source: DGFT, CRISIL MI&A Consulting

**8.3. Tyre imports**

Tyre imports are declining on the back of government regulations that favour domestic players.

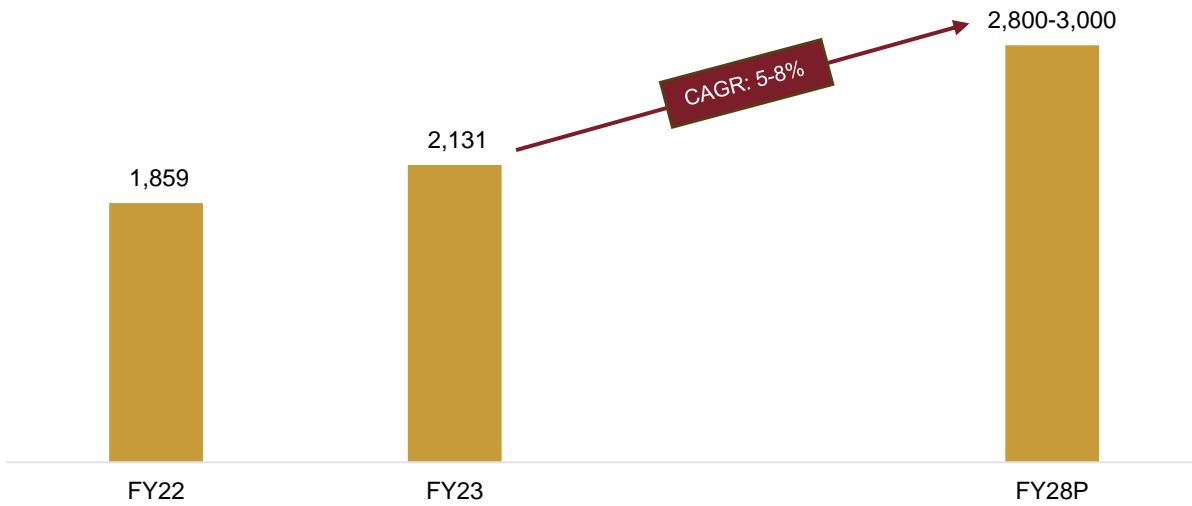
In fiscal 2023, tyres worth Rs 2,131 crore were imported into the country. In volume as well as value terms, PCR tyres accounted for the largest share.

**Figure 53: Tyre imports (Rs crores)**



Source: ATMA, CRISIL MI&A

Figure 54: Projections on tyre imports (Rs. crores)



Source: ATMA, CRISIL MI&A

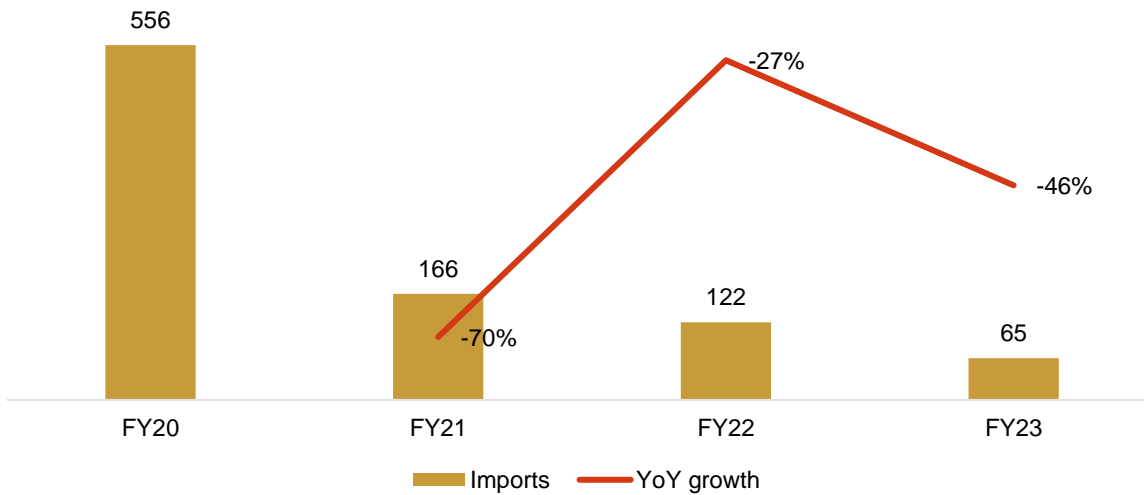
In September 2017, anti-dumping duty (ADD) to the tune of \$245.35-\$452.33 per tonne was imposed on pneumatic radial tyres above 16-inch in size, mainly affecting the truck and bus radial (TBR) and PCR segments for five years. In June 2019, countervailing duty (CVD) to the tune of 9.12-17.5% was imposed on Chinese pneumatic radial tyres above 16-inch in size for five years. Further, in June 2020, the government put tyre imports under the restricted category, which severely impacted imports, potentially benefitting domestic players in the replacement segment. Additionally, in September 2020, tyres were removed from the Duty-Free Import Authorisation list. Accordingly, share of tyre imports from China, Vietnam and Thailand declined considerably across segments, resulting in a significant dip in total imports.

PCR tyre imports continued to remain positive in the past due to demand for high-end tyres as well as imports by multinational corporations such as Michelin, Pirelli, Hankook and Falken. However, with import restrictions in place, the import of PCR tyres will remain a key monitorable soon.

**Commercial vehicles**

The truck and bus tyre segment continues its downward trajectory with 46% decline in tyre imports in fiscal 2023. The rate of decline in commercial tyre imports almost doubled in fiscal 2023 due to the imposition of heavy ADD. In the TBR segment, share of imports from China reduced from 89% in fiscal 2018 to 0.7% in fiscal 2023, share of imports from Thailand and Vietnam increased from almost negligible in 2018 to 73% and 10%, respectively, in fiscal 2023.

Figure 55: TBR Tyre imports ('000 no.)

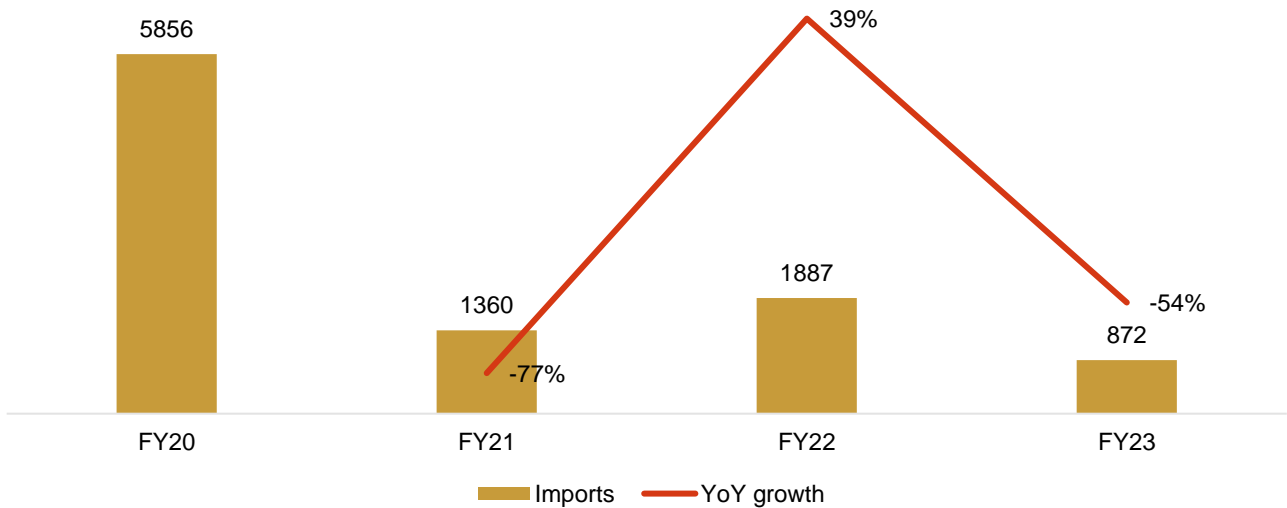


Source: DGFT, CRISIL MI&A Consulting

**Passenger Car (PCR) Tyres**

The passenger vehicle tyre imports declined ~54% in fiscal 2023. In fiscal 2022, it recorded an optical growth of 39% in PCRs due to demand for cheaper tyres with a reviving economy. Thailand continues to account for the largest share in PCR tyre imports in India followed by China.

Figure 56: PCR tyre imports ('000 no.)

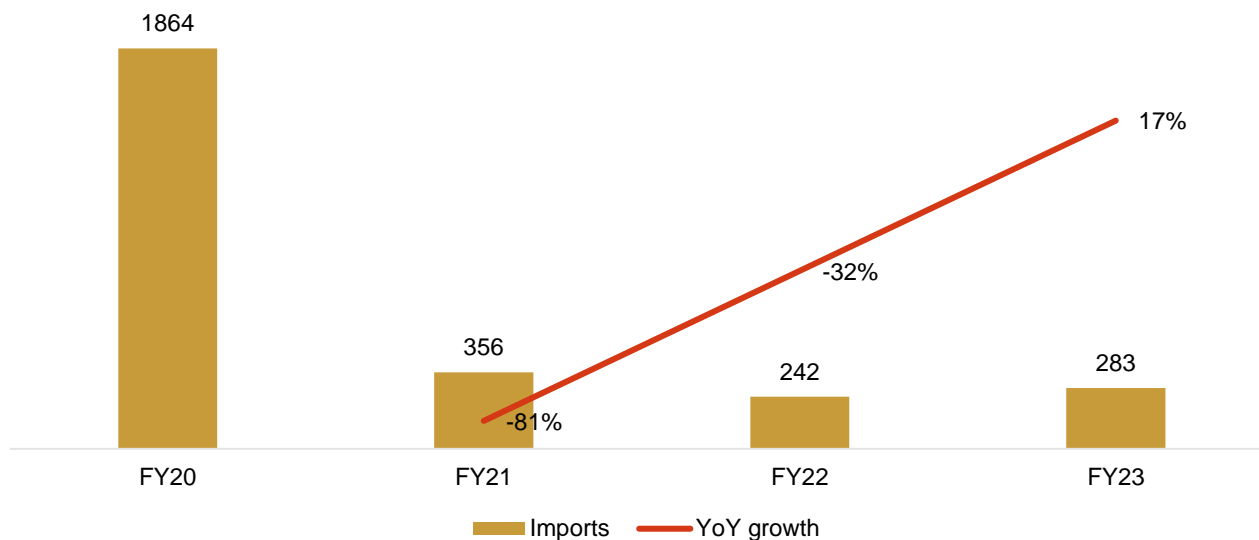


Source: DGFT, CRISIL MI&A Consulting

**Motorcycle Tyres Imports**

Motorcycle tyre imports jumped by 17% in fiscal 2023 compared to 32% decline in fiscal 2022. Thailand continuous to be the major exporter of motorcycle tyres to India followed by China.

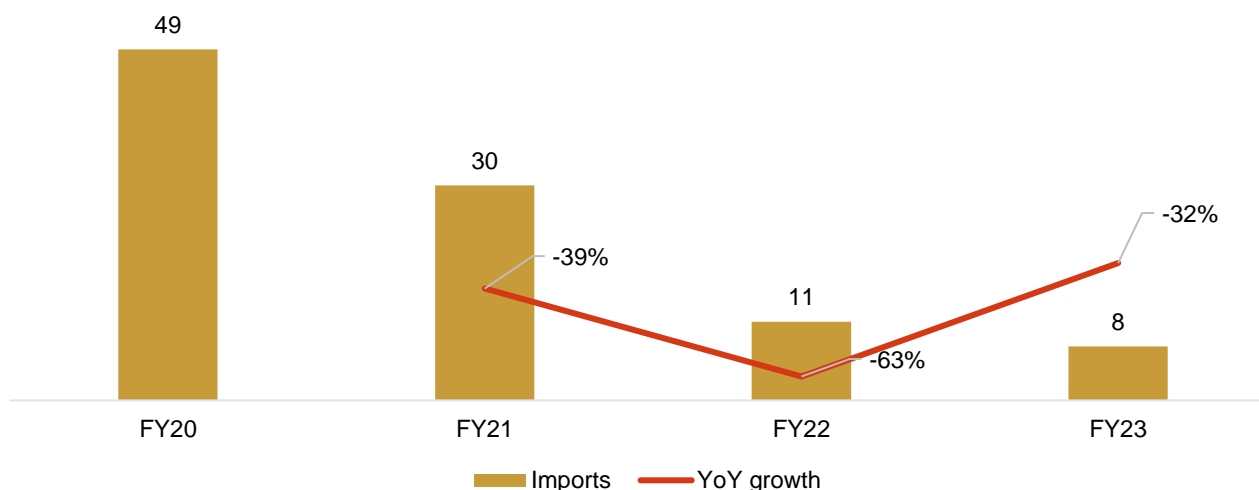
Figure 57: Motorcycle Tyre Imports ('000 no.)



#### Agriculture (Tractor Front, Rear & Trailer) Tyre Imports

The overall tractor tyre imports continue to witness a decline for the fifth continuous fiscal due to heavy imports restrictions. As in fiscal 2023, China continues to be the largest source of Farm/Agri tyres import in India.

Figure 58: Farm/Agri Tyre Imports ('000 no.)



Source: DGFT, CRISIL MI&A Consulting

## 8.4. Radialisation in tyre industry

With the improvement of road infrastructure and launch of multi-axle vehicles, the radialisation in truck & bus tyres has gained momentum, the usage of radial tyres in Heavy Commercial Vehicle segment is likely to reach 65-70% in the next few years. Presently, in LCV segment, the radialisation levels are around 40-45%.



The radialisation in passenger vehicles segment is around 99%. In 2W and 3W, more than 90% of the tyres are bias and the radialisation levels are low as compared to other segments.

## 8.5. OEM-replacement mix

### OEM demand drives tyre industry growth

The tyre industry is estimated to have grown 9-11% (tonnage terms) last fiscal supported by robust demand from OEMs (demand for tyres also comes from the replacement market). While OEM demand typically mirrors the trends in vehicle production, the replacement market demand is linked to usage characteristics and replacement cycles. In fiscal 2022, the share of OEM demand stood at 32%. The replacement market accounted for the balance.

This fiscal, CRISIL expects overall tyre demand to grow 8-10% with demand from OEMs continuing on a high base and the from the replacement segment also improving. Tyre demand from OEMs is estimated to grow 9-11% on-year (tonnage terms) this fiscal led by the passenger and commercial vehicle segments. The growth is expected to be mostly led by MHCVs and LCVs on account of increased commercial activity owing to increased capex and improvement in mining and industrial activity. Passenger vehicles are also expected to see robust growth this fiscal because of sustained vehicle demand attributable to traction of new models and several existing models continuing to perform well. Improving urban sentiments, owing to improvement in overall workplace and public mobility is expected to support sentiments in the two-wheeler segment as well. However, demand from the farm segment is expected to remain muted on account of elevated inventory levels and negative farmer sentiments.

The replacement tyre market is poised for a 7-9% on-year growth in tonnage this fiscal attributable to several factors, including the economic revival, softening inflation, improvement in income sentiments, pickup in industrial activity and the government's thrust on infrastructure development, mining and road construction. Demand from the car, UV and LCV segments is also expected to drive replacement growth this fiscal as commuters prefer personal mobility owing to the pandemic-induced health concerns and because of e-commerce expansion that boosts first- and last-mile deliveries.

The tyre industry saw a 9-11% on-year growth last fiscal driven by demand from OEMs, which saw an estimated growth rate of 23-25%. The increased sales of PVs and CVs played a significant role, with growth rates of 27% and 34%, respectively. However, the demand for replacement tyres remained subdued, with an overall estimated growth of 2-4%. The replacement demand from commercial vehicles was particularly delayed as their utilisation improved only in the second half of fiscal 2022. Additionally, the sentiments in the low-income segment were dampened, further impacting the overall replacement growth in the industry.

Tyre demand is projected to increase a healthy 7-9% CAGR between fiscals 2023 and 2028 driven by economic expansion, increased consumer spending, infrastructure development and changing consumer preferences. A growing middle class and preference for personal vehicles will boost the demand for cars, UVs and two-wheelers, which will, in turn, help tyre demand growth. The expansion of e-commerce and last-mile delivery services will also fuel the demand for CVs and, in turn, CV tyres.

Commissioning of the dedicated freight corridors, which are expected to have impacted the road freight movement from fiscal 2023 onwards, would exert pressure on MHCV tyre demand. Also, higher radialisation is expected to enhance tyre life and lengthen the tyre replacement cycle, thereby hampering tyre replacement demand in the long run.

## 8.6. Outlook for tyre industry

The domestic tyre industry is expected to expand in the coming years owing to higher demand for vehicles. The sector’s planned spending is aimed at adding manufacturing capacity, modernisation, technology upgrade and research and development (R&D).

With the automobile sector growing, demand for replacement tyres is also increasing.

Moreover, increasing acceptance of Indian tyres in the overseas markets is leading to a sharp growth in tyre exports from India to destinations such as the US and Europe.

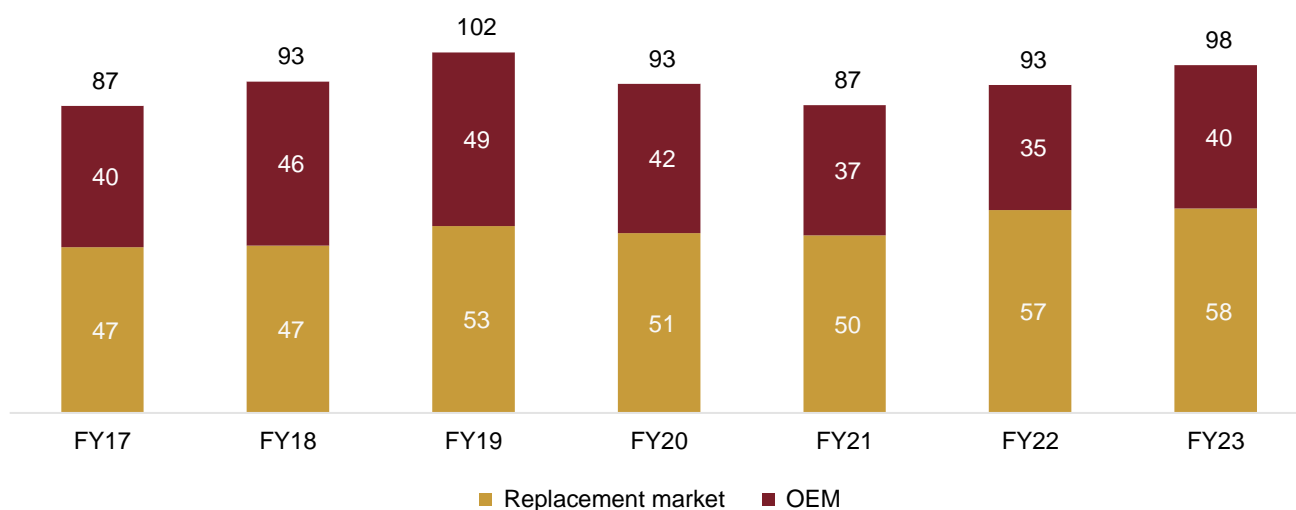
The creation of high-speed corridors and the government’s infrastructure efforts will lead to an increase in the use of radial tyres. The shift towards radialisation will provide a further growth opportunity for the industry. The incorporation of Industry 4.0 and automation in the tyre industry is also expected to improve productivity and quality.

### 8.6.1. Two-wheeler tyres: Review and outlook

Improving urban sentiments owing to a pick-up in overall public mobility, with resumption of work-from-office and physical classes in educational institutions, and positive rural sentiment backed by an anticipated normal monsoon, are expected to support two-wheeler sales this fiscal.

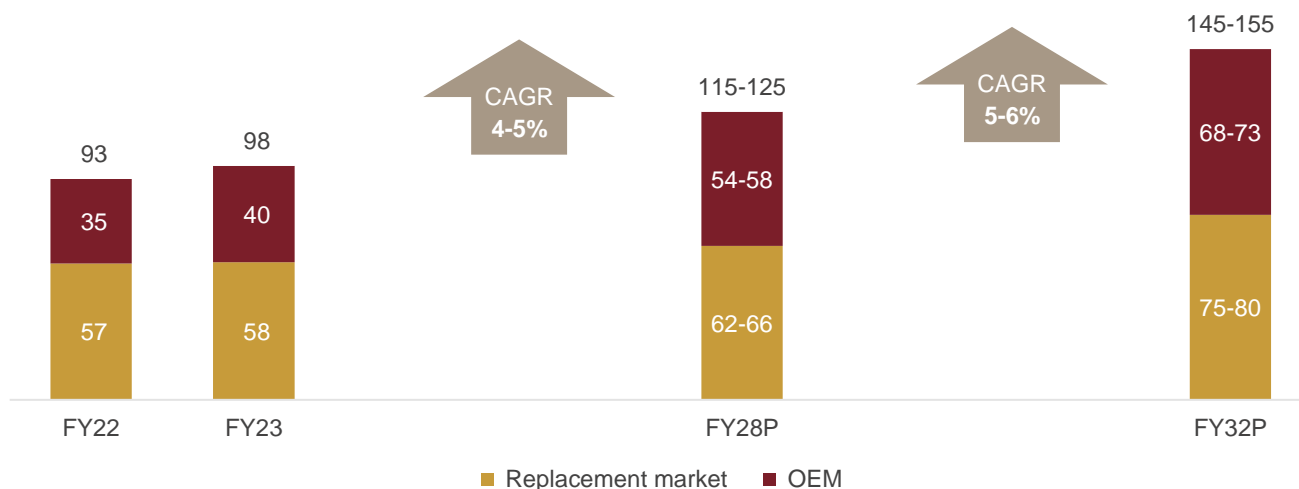
New model launches in the 125cc scooter segment and premium motorcycles, along with better product positioning, are expected to drive up two-wheeler volume in the long term. Improving rural productivity, low penetration, rising affordability and the government’s income support schemes and structural measures such as Pradhan Mantri Kisan Samman Nidhi (PM-Kisan) and PMFBY are expected to aid rural income, resulting in higher two-wheeler demand in the long run.

**Figure 59: Two-wheeler tyre demand over fiscals 2018-2023 (million units)**



Source: CRISIL MI&A Consulting

Figure 60: Outlook for demand for two-wheeler tyres (million units)

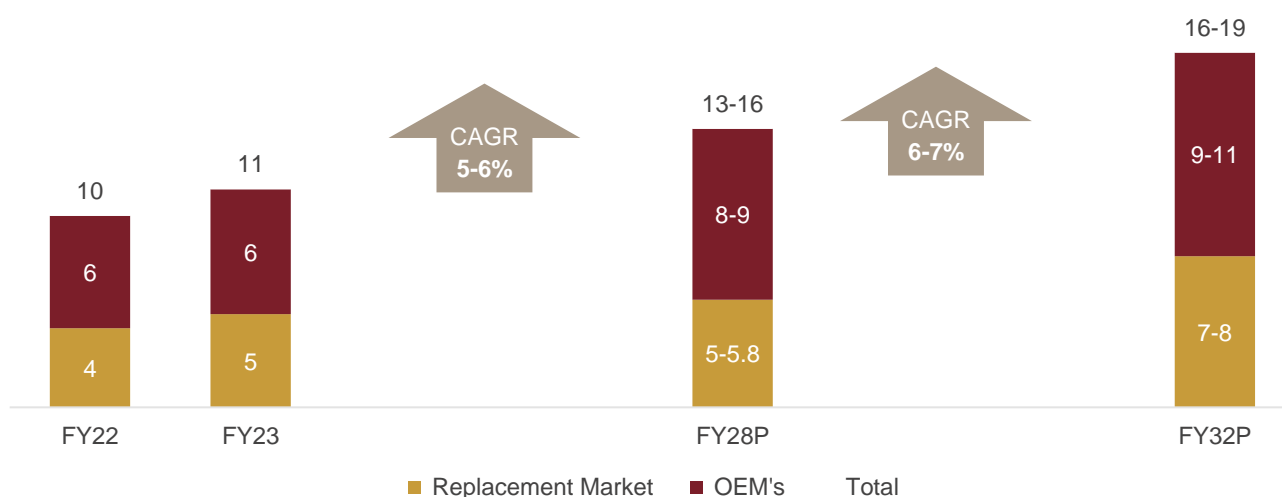


Source: CRISIL MI&A Consulting

### 8.6.2. Three-wheeler tyres: Review and outlook

The need for cost-effective and efficient modes of transportation remains strong, thereby driving the demand for tyres. A larger number of operational three-wheelers would result in a higher demand for replacement tyres. The government regulations related to vehicle maintenance and safety can influence the demand for replacement tyres as they are required to adhere to certain standards.

Figure 61: Outlook for three-wheeler tyre demand (million units)

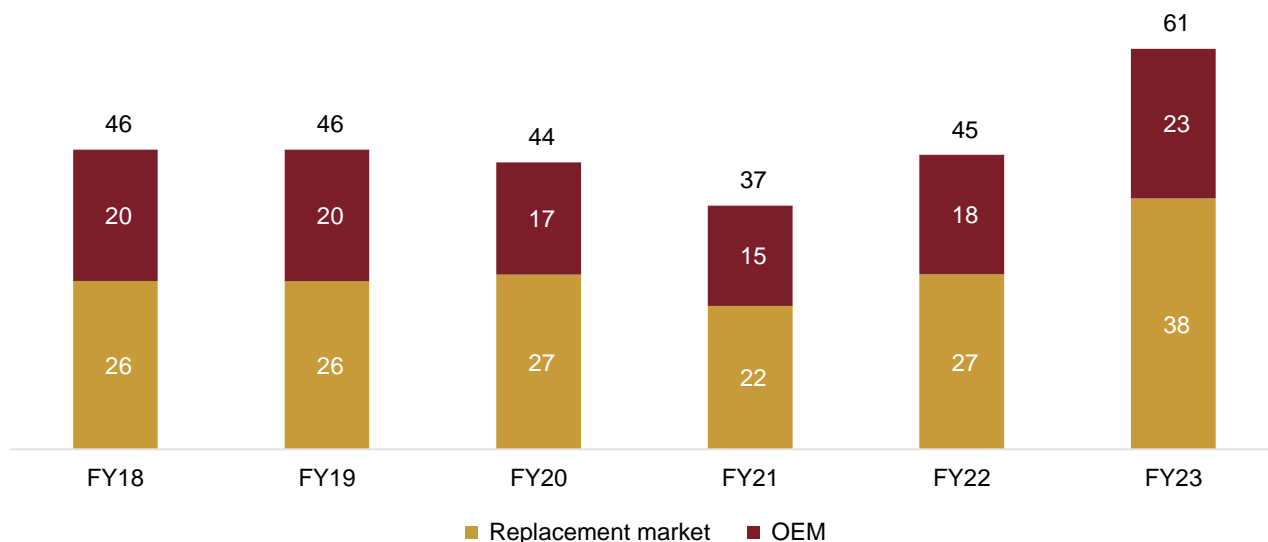


Source: CRISIL MI&A Consulting

### 8.6.3. Passenger vehicle tyres: Review and outlook

Passenger vehicle sales are expected to be driven by the expansion in the addressable market, urbanisation, low penetration, modest increase in the cost of acquisition and fast-paced infrastructure development. We also expect automobile manufacturers to focus on rural markets and expand their distribution network in semi-urban and rural areas.

Figure 62: PV tyre demand over fiscals 2018-2023 (million units)

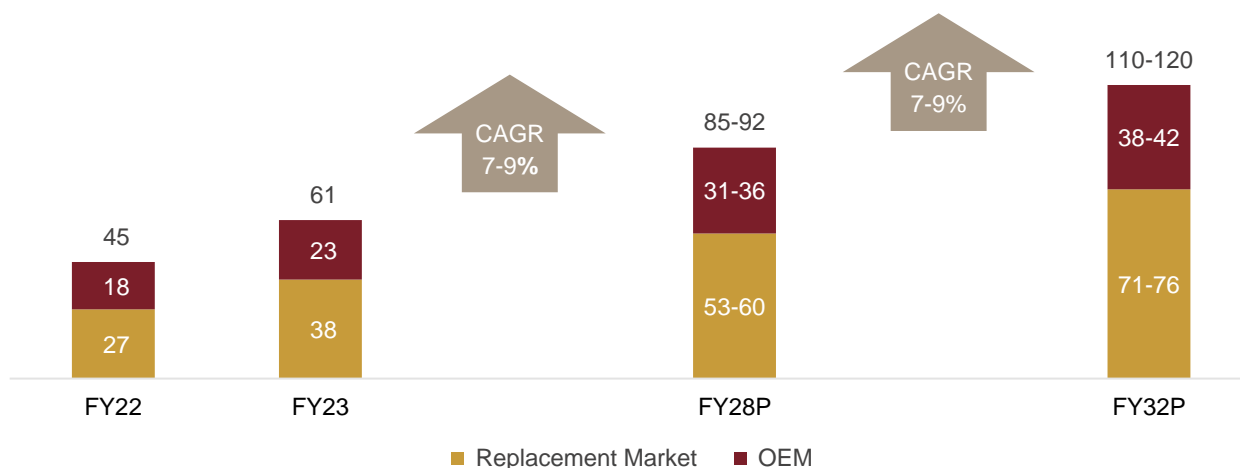


Source: CRISIL MI&A Consulting

The growth is also expected to be robust this fiscal owing to improving supply-chain conditions supported by strong pent-up demand as customers postponed purchases. After registering a strong 28-30% growth fiscal 2022, tyre demand from PV OEMs is estimated to grow 23-25% in fiscal 2023 amid improving supply of semiconductors, pent-up demand and multiple model launches. In fiscal 2022, tyre demand from PV OEMs had increased a robust 20-22% on-year as customers preferred personal mobility because of concerns about Covid-19 spread and owing to import substitution (passenger car tyres accounted for ~60% of imports by volume in fiscals 2018 and 2019).

Better financial conditions, increase in the launch of higher end UV models and improving demand sentiment will support the growth going forward. Higher sales in the fleet and cab aggregator segments in fiscals 2017 and 2018 is expected to have resulted in replacement demand in fiscal 2023 (considering the pandemic-induced delay in fiscal 2021 and replacement cycle of 3-4 years). Postponement of tyre purchases during the pandemic helped clock 24-26% growth in the PV replacement market in fiscal 2022 and 38-42% growth in fiscal 2023.

Figure 63: Outlook for PV tyre demand (million units)

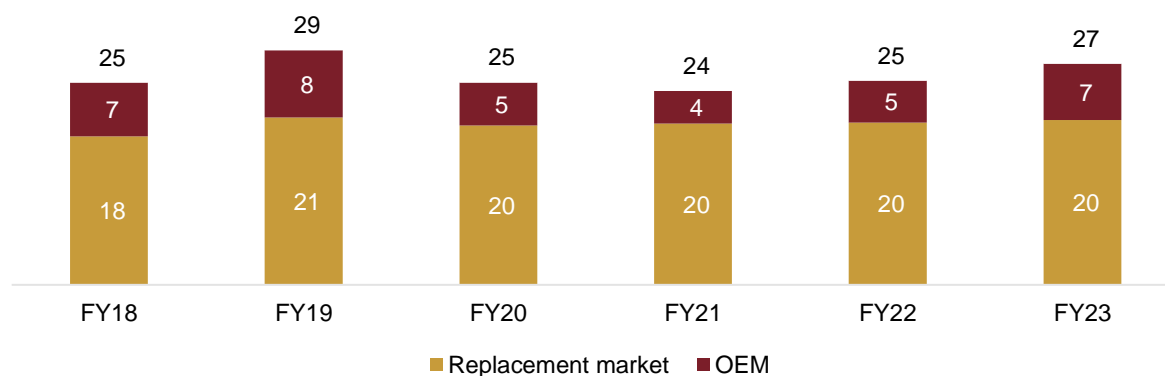


Source: CRISIL MI&A Consulting

### 8.6.4. Commercial vehicle tyres: Review and outlook

Growth in tyre demand from the CV segment is expected to be led by MHCVs and LCVs on account of the economic revival and increased commercial activity.

**Figure 64: CV tyre demand over fiscals 2018-2023 (million units)**



Source: CRISIL MI&A Consulting

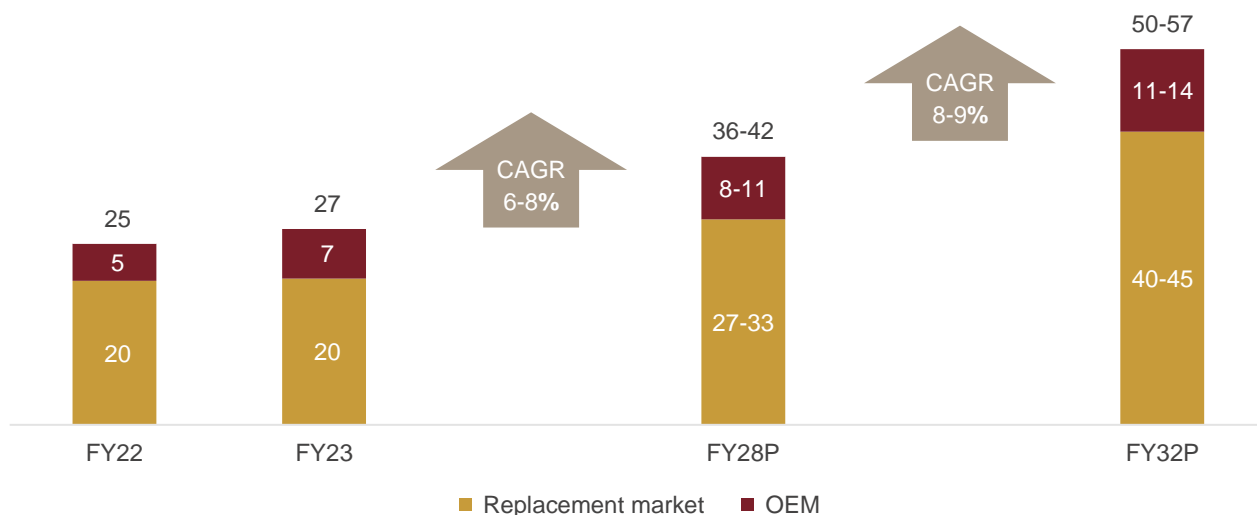
Tyre demand from MHCV OEMs is expected to grow in fiscal 2023 owing to higher vehicle production driven by ICVs and MAVs amid pick-up in commercial activities, steady agricultural output and the government’s focus on infrastructure. With gradual opening of schools and corporate offices and relaxation of mobility restrictions, bus volume is estimated to have grown 121-123% in fiscal 2023. In fiscal 2022, the MHCV segment had witnessed an optical growth of 46-48% on a low base owing to reopening of the economy.

Tyre demand from LCV OEMs is estimated to have grown at 5-9% in fiscal 2023 and was supported by opening of urban centres resulting in an increase in last-mile delivery of items such as milk, LPG cylinders and water cans backed by improvement in commercial delivery services because of e-commerce growth.

Growth in industrial activity and the government’s thrust on infrastructure development typically boost MHCV sales.

Replacement demand for LCV tyres is estimated to have grown by 4-7% in fiscal 2023. The lower projected growth can be attributed to supply constraints on account of import restrictions and higher running of vehicles led by increased availability of redistribution freight. Reopening of schools is also expected to support minibus sales.

Figure 65: Outlook for CV tyre demand (million units)



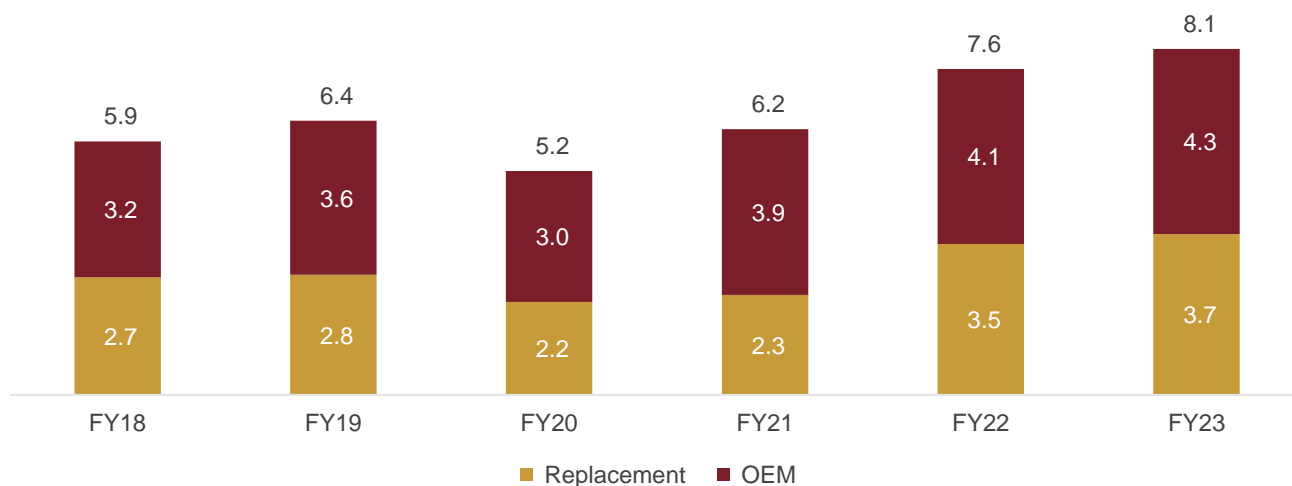
Source: CRISIL MI&A Consulting

### 8.6.5. Tractor tyres: Review and outlook

Tractor sales are expected to improve with higher expected agriculture output backed by healthy reservoir levels due to above-normal monsoons, good moisture content, and higher minimum support price announcement.

Tyre demand from tractor OEMs is estimated to have grown by 11% in fiscal 2023.

Figure 66: Tractor tyre demand over fiscals 2018-2023 (million units)



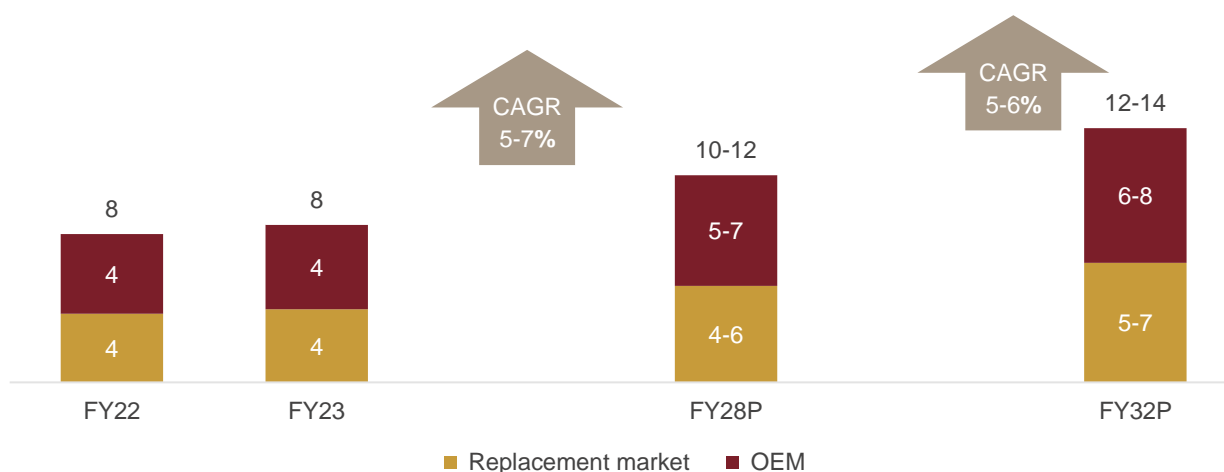
Source: CRISIL MI&A Consulting

Tyre demand from the tractor segment is expected to be stable in the long run as the government has set a target to augment farm incomes, provides direct income support to farmers and owing to improvement in land productivity through issuance of soil health cards. The government's renewed thrust on enhancing irrigation intensity is

expected to support tractor growth and increase mechanisation. Tractor manufacturers have started offering rental services via mobile applications, which will also prop up demand for tractors in the long term.

Tyre replacement demand from the tractor segment is estimated to have grown by 6-10% fiscal 2023 after growing 6-8% in fiscal 2022. The growth this fiscal will be on account of improved crop profitability and higher government support. Additionally, increasing haulage in this segment for activities such as road construction is also expected to drive replacement of the rear tyre demand in the near term.

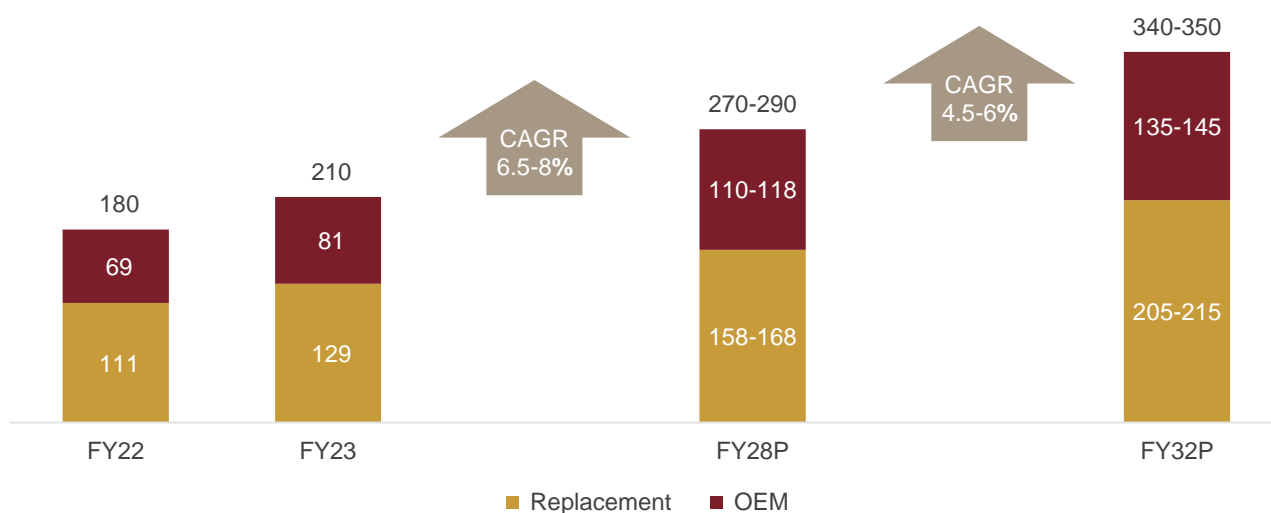
**Figure 67: Outlook for tractor tyre demand (million units)**



Source: CRISIL MI&A Consulting

**Overall tyre demand (million units)**

**Figure 68: Overall tyre demand (million units)**



Source: CRISIL MI&A Consulting

Note: Overall tyre demand includes 2W, 3W, PV, CV, Tractor and OTR; OTR contributes <2% of overall demand

## 9. Key competitors in retreading tyre market

Table 6: Competitive benchmarking of players for fiscal 2023 —

Companies	Operating income	Operating EBITDA	PAT	Operating EBITDA margin	PAT margin	ROCE	ROE	Debt to equity
	(Rs million)			(%)				Times
Tolins Tyres Limited*	1133.6	60.1	5.5	5.3	0.5	8.6	5.7	4.8
Eastern Treads Limited	646.7	-28.8	-72.3	-4.5	-11.2	-16.2	0.0	-3.0
Indag Rubber Limited	2438.6	136.8	132.4	5.6	5.4	8.3	6.3	0.0
Midas Treads (India) Private Limited	913.6	7.9	-2.9	0.9	-0.3	-0.8	-0.6	0.0
Elgi Rubber Company Limited	2236	332	148.2	14.8	6.6	8.5	5.1	0.5

Source: Annual reports, CRISIL MI&A

Note: The financial statements for Tolins tyre are of fiscal 2022; Standalone financial statements are considered for the companies.

Table 7: Competitive benchmarking of players for fiscal 2023 -

Companies	Operating income	Operating EBITDA	PAT	Operating EBITDA margin	PAT margin	ROCE	ROE	Debt to equity
	(Rs million)			(%)				Times
JK Tyre & Industries Ltd	1,46,449	12,978	2,631	8.9	1.8	10.5	8.8	1.5
Apollo Tyres Ltd	2,45,240	32,889	10,751	13.4	4.4	10.7	9.5	0.5
CEAT Ltd	1,13,149	9,719	1,824	8.6	1.6	8.4	5.6	0.7
MRF Ltd	2,30,485	24,447	7,690	10.6	3.3	8.0	5.4	0.2

Source: Annual reports, CRISIL MI&A; Consolidated financial statements are considered for the companies

### 9.1. Brief profiles of key players

#### Tolins Tyres

Tolins Tyres Private Limited was incorporated on 10<sup>th</sup> July 2003. The company is successfully managed by Dr. Kalamparambil Varkey Tolin. The family started operations initially as an SSI unit in 1982 as proprietorship manufacturing tread rubber concern. Tolins Tyres is a leading player in the industry with all India presence with a diverse product range. Tolins Tyres is one of the companies that are present in both verticals – manufacturing of new tyres and tread rubber. The company has established itself as a major tyre retreading solutions provider across India and exported to 40 foreign countries, including the Middle East, East Africa, Jordan, Kenya and Egypt. The major products of the company include two-wheeler, three- wheelers, light commercial vehicle and agricultural tyres, precured tread rubber and other accessories including bonding gum, tyre flap, vulcanizing solutions, etc.

#### Eastern Treads

Eastern Treads was incorporated on 2 July 1993 as a private limited company under the Companies Act, 1956. It was later converted into a public limited company on 17 February 1995. The company developed a vast marketing network comprising dealers and depot, making its products available along the length and breadth of the country. It launched the new Diamond Quality Tyre Re-treads, which offers better mileage on diverse road conditions. It has



diverse product offerings such as precured tread rubber, hot rubber slab & camel back treads, black vulcanising cement, bonding gum and repair patches. It has a plant in Kerala.

### **Indag Rubber**

Indag Rubber was incorporated in July 1978 as a joint venture between the Khemka Group and M/s Bandag Incorporated, USA, one of the biggest players in the US retreading industry. The company is promoted by Nand Khemka. It uses cold cure technique to manufacture retreading material. It provides retreading material ranging from precured tread rubber, unvulcanised rubber strip gum, universal spray cement and tyre envelopes for the tyre retreading segment. Its manufacturing facility is at Nalagarh, Himachal Pradesh.

### **ELGI Rubber Company (ELGI)**

ELGI was incorporated in October 2006 under the name of ELGI Aviation Tyres Ltd and was renamed as ELGI effective 7 April 2011. ELGI manufactures reclaim rubber, tread rubber, bonding gum and other rubber products used in the rubber industry, predominantly in the tyre sector. It also provides retreading services through a franchisee network. ELGI has nine manufacturing units spread across Tamil Nadu and Kerala. The company has seven wholly owned subsidiaries and five retreading units. It is headquartered in India and has subsidiaries in Australia, Brazil, Kenya, the Netherlands, Sri Lanka and the United States. The company is listed on the National Stock Exchange (NSE). ELGI's products are sold under the brands Jet, Pincott, Carbrasive, Midwest Rubber, CRS, Armonas, Western Weld, Kooltread and Ecorr.

### **Midas Treads (India) Pvt Ltd (MTIPL)**

The Midas Treads group manufactures precured tread rubber under the Midas Mileage brand and other raw materials required for tyre re-treading. It is based in Kottayam, Kerala. The company provides retreading material ranging from precured tread rubber, conventional (hot) rubber, bonding gum, curing bag, envelope, tyre flap, orbi thread, black compounds, rope rubber and vulcanising solution.

### **JK Tyre and Industries Limited**

JKTI, the flagship company of the JK group, is headed by Dr R P Singhanian as its chairman and managing director. It is one of the leading tyre manufacturers in India with a wide range of products catering to diverse business segments including, truck/bus, light commercial vehicles (LCV), passenger cars, multi-utility vehicles (MUV), tractors and one of the few companies to have a multi-tier product approach. It has grown to be one of the largest manufacturers of PCT in India as of fiscal 2023 and is also one of the few Indian companies to have developed PCR tyre with high sustainable, recycled and renewable material. JK Tyre, in April 2016, acquired Cavendish Industries Limited in Haridwar, UKD. Cavendish Industries Limited is one of the leading manufacturers of branded two and three-wheeler tyres in terms of revenue from operations as of fiscal 2023.

JK Tyre has a significant global presence and is present in around 100 countries with over 230 Global distributors. The Company has 12 globally-benchmarked 'sustainable' manufacturing facilities - 9 in India and 3 in Mexico – that collectively has manufacturing capacity of around 34 million tyres annually. The Company also has a strong network of over 6000 dealers and 700 dedicated Brand shops called as Steel Wheels and Xpress Wheels.

### **Apollo Tyres Limited**

Apollo, established in 1972, manufactures automotive bias and radial tyres, and tubes. It has plants in Kochi (Kerala), Vadodara (Gujarat), Pune (Maharashtra), Chennai (Tamil Nadu) and Chittoor (Andhra Pradesh). The product profile includes prominent tyre brands in the two-wheeler, truck and bus, light truck, passenger vehicle and farm vehicle segments in India, catering to both original equipment manufacturers and the replacement market. Apollo tyres is present in 100+ countries and has 7 manufacturing facilities across India and Europe. The company

has 2 global R&D centres. In May 2009, Apollo acquired Vredestein, a subsidiary of Amtel-Vredestein NV, incorporated in the Netherlands, for EUR 40 million. Vredestein has one manufacturing unit in Enschede near Amsterdam, with capacity of 55 lakh tyre per annum. It produces premium, high-speed PCRs, collapsible passenger car tyres, and agricultural tyres.

## **CEAT Ltd**

Established in 1958, CEAT is flagship entity under the RPG group (Rama Prasad Goenka Group) which acquired the company in 1982. CEAT is engaged in the manufacturing of tyres, tubes and flaps and it is one of the leading tyre manufacturers in the domestic market. The product profile includes tyres for scooter, bike, 3-wheeler, car, bus, LCV, trucks, and tractors. They have a presence in more than 110+ countries, It caters to demand from both OEMs and replacement market. In India, CEAT operates with six manufacturing units located at Bhandup, Nagpur, Nasik, Ambarnath (Maharashtra), Halol (Gujarat), Chennai (Tamil Nadu). Further, they have 17 outsourcing units to manufacture tyres, tubes and flaps.

## **MRF Limited**

MRF Ltd (MRF), was incorporated as a private limited company in 1960 to take over the business of a partnership firm 'The Madras Rubber Factory', started by the late K M Mammen Mapillai. Over the years, the company has established a country-wide dealer network. MRF has manufacturing plants spread across nine locations in Tamil Nadu, Kerala, Andhra Pradesh, Gujarat and Goa. It also has strong R&D support and a marketing team with a wide distribution network. Other business operations of the company consist of manufacturing pre-cured treads, tread rubber, specialty paints, etc.

## 10. Overview of the treads industry in India

### 10.1. Treads industry in India

The treads industry in India is a thriving sector that caters to the growing demand for tyres in the country. Driven by factors such as increasing vehicle ownership, improvement in road infrastructure and rising disposable income, the industry is expected to witness steady growth in the coming years.

In addition to the major players, there are several small and medium-sized enterprises (SMEs) that operate in the industry. These SMEs play a vital role in meeting the demand for specialised treads and cater to niche markets.

### 10.2. Key growth drivers in India

In the Indian retreading industry, several important parameters contribute to the growth:

- **Cost efficiency:** Retreading tyres are more cost-effective than buying new ones, which helps reduce operating expenses of commercial vehicle operators
- **Technological advancements:** Technological and procedural developments in retreading have enhanced the longevity and functionality of retreaded tyres, increasing their consumer appeal
- **Environmental awareness:** Retreading is a sustainable practice, as it helps reduce the environmental impact of tyre disposal and the need for new tyre production
- **Government regulations:** The expansion of the retreading sector can be fuelled by laws such as ELT (Extended Life of Tyres) which place limitations on the disposal of old tyres
- **Collaboration with tyre manufacturers:** Partnerships between retreaders and tyre manufacturers can lead to the development of high-quality retreaded tyres
- **Expansion of commercial vehicle fleet:** Retreaded tyres are mostly used by commercial vehicles, which are prevalent in India and contribute to the expansion of the business
- **Infrastructure development:** Tyre longevity can be increased and the need for retreading services can rise with improved road infrastructure

#### Trends

The Indian treads market is anticipated to expand over the next few years. There is an increasing need for treads that can offer better handling and grip. Tyre manufacturers are using new materials, such as silica and nanocomposites, to develop treads that are more durable and fuel-efficient. With growing focus on sustainability, tyre manufacturers are developing treads that are more environmentally friendly and recyclable.

### 10.3. Retreading

Retreading is the process of replacing the worn tread on a tyre with a new one. This can be done multiple times, depending on the condition of the tyre casing. Retreading is a more cost-effective and sustainable option than purchasing a new tyre.

The following are the main retreading trends in India across all vehicle segments:

- **Commercial vehicles:** In India, buses and trucks that are used for business purposes are the main consumers of retreaded tyres. This is because retreading significantly reduces tyre costs for fleet operators
- **Passenger vehicles:** Retreading is also gaining popularity in India among drivers of passenger vehicles. This is brought on by the rising price of new tyres and the growing understanding of the advantages of retreading for the environment

## Materials used in retreading

### Bonding gum

Bonding gum is an adhesive applied as a layer on the casing before the new tread is attached. It ensures a strong bond between the casing and the new tread rubber. Made from superior polymer formulated with technology, it increases the tackiness and offers better shell life.

### Vulcanising solution

Vulcanising solution is a liquid that acts as glue, chemically bonding the various rubber components together during the curing process. It is available in different curing temperatures, which ensures high adhesive strength and long-lasting durability. Vulcanising agents, such as sulphur, are used in the curing process to chemically bond the rubber materials together and give the retreaded tire its final form and properties.

### Rope rubber

It is the material used for patching or plugging punctures and damages in tires. It can be used in both hot and cold retreading as well as in repairs to fill up the injured area.

## Process of retreading

There are four important steps in retreading of tyres:

- **Inspection:** Carefully inspected worn-out tyres (known as casings) are used for retreading
- **Buffing:** The process of shaving off the worn-out tread from the tyre. Tyre buffing is the technique of cutting a piece of the tread off a tyre to improve traction on dry roads. This primarily works by reducing tread 'blocks', which are patches of rubber between tread grooves. When the tyre heats up, these tread blocks expand, reducing the surface area of the tyre that contacts the road (and, in turn, traction). Tread blocks also heat up faster, reducing traction
- **Re-capping:** New tread is wrapped and bonded around the freshly buffed surface using heat and pressure with computer-aided quality inspection to ensure high performance
- **Quality control:** Following re-capping, quality control tests ensure the tyre's performance, dependability and grip on the road

## Classification

Retreaders can be classified into two categories:

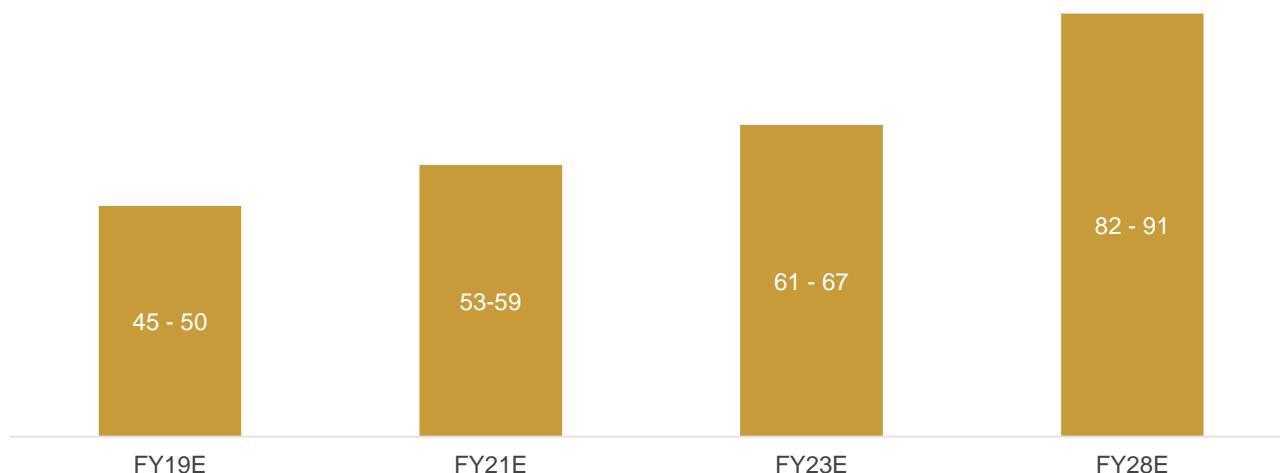
- **Factories with organised process:** When it comes to serviceability of tyres, organised retread process stand out for better mileage
- **Small plants with unorganised process:** Although service offered in this instance would be reasonably priced, the reliability of the retreaded tyre would be a problem. Transporters with small and medium-sized fleets frequently use an unorganised retreading method to reduce expenses

### Advantages

Some of the notable advantages of retreading of tyres are:

- **Low investment and long lasting:** Retreading is more affordable alternative to buying new tyres. Retreaded tyres cost 30-40% less than new ones and provide comparable efficiency and performance
- **Safety:** Retreaded tyres have stringent performance testing criteria to ensure same safety standards as new tyres and that it is not compromised by any means
- **Environment friendly:** Tyre retreading entails changing the tyre's top layer of rubber that is worn out. In a new tyre, 60-70% of the materials are recycled. Saving majority of the casing materials and only replacing the rubber keeps those additional tyre materials out of landfills, reusing them instead of disposing of them when purchasing newly manufactured tyres

**Figure 69: Market size of retreading industry in India (Rs billion)**



Source: CRISIL MI&A

Note: Categories considered in the estimation of market size include trucks and buses, tractors, tillers and STUs

Over the past 25 years, the retreading business in India has undergone significant changes. Beginning with the conventional hot-cure method, the market evolved embracing the precure retread method and establishing the standard for the initial wave of modernisation.

Majority of the Indian retreading industry is still unorganised. With the advent of the established players, the industry has seen advancements in R&D which resulted in the introduction of new tread compounds and bonding materials. The new materials have improved the performance and durability of retreaded tyres.

Retreaders have adopted modern quality control procedures, such as statistical process control and failure analysis, which has helped reduce the number of defects in retreaded tyres. The growing awareness about the benefits of retreading, such as cost savings and environmental benefits, is boosting demand for retreaded tyres.

Thus, with a strong backing of technology-oriented processes and increase in arrival of new and established players, the domestic retreading industry is estimated to be valued about Rs 6,100-6,700 crore as of fiscal 2023. It is expected to increase to Rs 8,200-9,100 crore by fiscal 2028, supported by increasing customer awareness about the benefits of retreading.

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