

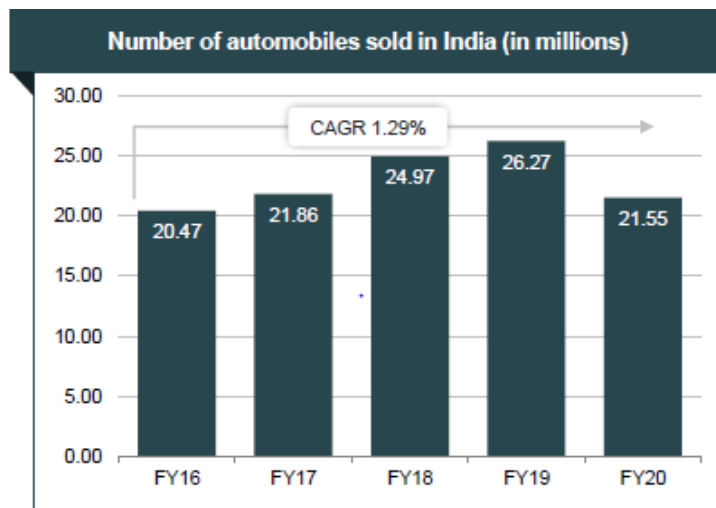


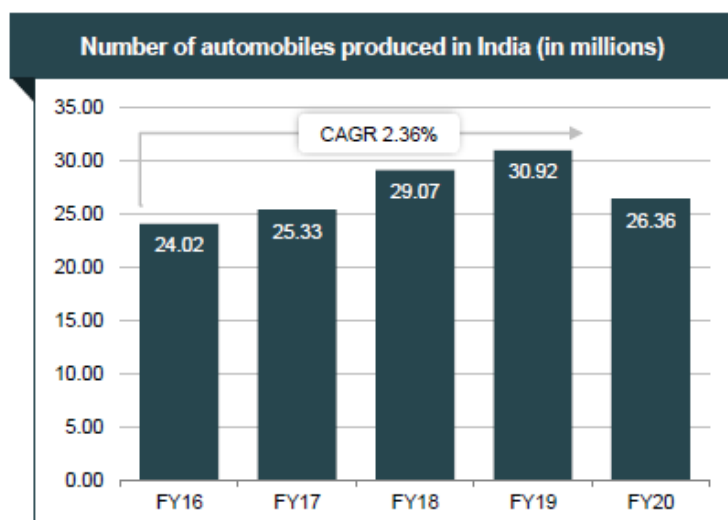
# CREDENCE CAPITAL

(Investment Club of IIM Lucknow)

## Automobile Industry

- The Indian automobile industry is the world's 5th largest auto market. It contributes 7% to GDP & 49% to manufacturing output
- The CAGR for past 5 years is only 1.29% which was driven by many factors ranging from demonetization, NBFC crisis, low GDP growth, GST implementation, increasing fuel costs. FY20 faced a 18% y-o-y decline in auto sales 18-21% decline expected in FY21. For the first time negative growth for two consecutive years
- Q1FY21 has seen pent up demand with numbers going back to 75-80% of Pre-Covid levels
- Automobile exports reached 4.77 million vehicles in FY20, growing at a CAGR of 6.94 per cent between FY16-FY20





## Key Stakeholders

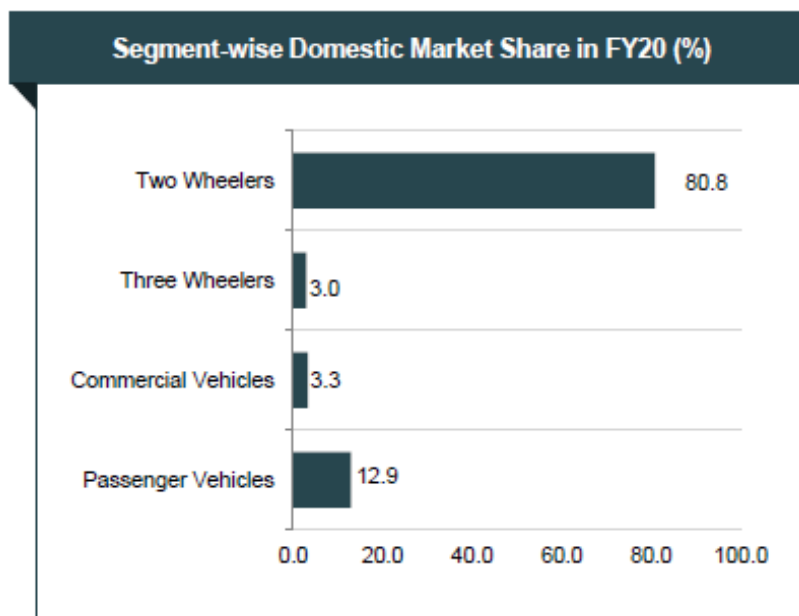
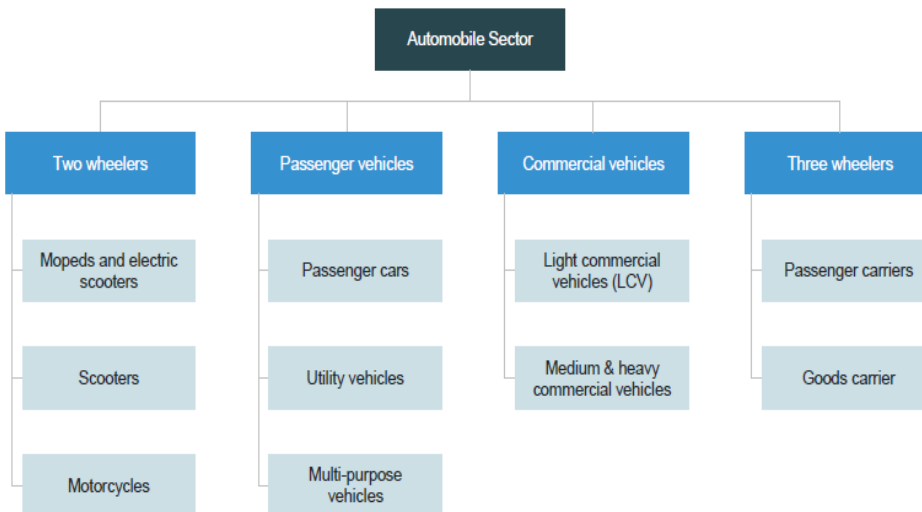
The automobile industry has a connected value chain with multiple stakeholders impacting the final production at different levels. Also called auto ancillary industries includes component manufacturers like BOSCH, Sundaram and tyre manufacturers like CEAT, MRF, Apollo

| <b>Raw Materials Suppliers</b>  | <b>Sub-Component Manufacture (Tier 2/3)</b>   | <b>Components Manufacturer (Tier-1)</b>   | <b>Original Equipment Manufacturer (OEMs)</b>  | <b>Dealers &amp; Service</b>   |
|---|---|---|--|--|
| Suppliers of steel, plastic, aluminium that are used for manufacturing parts down the value chain | -Generic manufacturers, ex: piston rings<br>- Thin Margins, dependent on volume<br>- Integrated with Tier-1 | - develop products specific to OEMs;<br>integration with OEM (ex: brake system, gear system)<br><br>- Major components for OEMs | - Final assemblers<br><br>- Few & specialized players, owners of brands like Maruti, Honda etc.<br><br>- drives innovation & efficiency throughout | Dealers: dedicated POS for each OEM, provide after sale support, face of the OEM<br><br>Service: major revenue source, defines success of new products |

## Major segments



It comprises of commercial vehicles, passenger cars, three & two-wheelers with the two-wheelers and passenger vehicles contributing to a majority of the domestic demand.



## Major reasons for decline

**COVID-19 led disruptions:** The fear of Novel Coronavirus had reduced the footfall in stores by 50%. Sales for April & May'20 was negligible due to nationwide lockdown. With almost all other industrial activities remaining closed resulting in low income realization private consumption



stayed muted with people postponing discretionary spends. Lockdown significantly impacted the supply as well with plants remaining closed for more than a month and even after resuming service localized lockdowns in some parts and safety norms by governments led to lower capacity utilization. The migration of workers to their hometown has also led to shortage in the ancillary industries.

**Financing options:** In India 70% of cars are sold on loan. The NBFC crisis resulting in less liquidity in economy made it very difficult for people to get loans. The financial institutions stopped giving loans to low credit score customers. Credit score is an indicator of the behavior of customer with respect to all his liabilities. To reduce the risk banks also reduced LTV (Loan to Value) ratio on automobiles which increased the down payments thus acquisition cost which also lead to reduced demand. The difficulty in getting finances also affected the dealers to purchase inventory.

**Confusion around BSVI Norms:** By April 2020, the BS6 emission norms were going to come into effect and all car manufacturers had to upgrade their engine offerings accordingly. Not all carmakers had clarified their position regarding the upcoming shift and how it will affect their product lineup that is offered to customers. As a result, certain buyers delayed their new car purchase until more details available regarding BS6-compliant model choices. Availability of BS6 fuel across the country was another uncertainty of the public.

**Waiting for deep discounts:** New buyers delayed purchases till BSVI deadlines to get the best deals. A similar situation had happened in 2017 when the sale of BS3 vehicles was banned. Certain manufacturers, particularly from the two-wheeler industry, were still hoping for an extension on the deadline for the sale of BS3 models. However, when the decision and date were finalized, manufacturers offered great discounts to get rid of their BS3 inventory.

**Increased cost:** Mandatory multi-year purchase of third-party insurance has pushed the cost of ownership of cars higher. Buyers now have to buy three-year insurance instead of one year.

**OLA/UBER Factor:** Heavy traffic congestion & lack of parking slot availability in tier-1 cities, expensive vehicle ownership cycle and reducing resale value are some of the reasons why more people are preferring ride-hailing platforms like Ola and Uber. In cities, people prefer taking taxis for commute rather than owning and driving themselves

## Government policies

### Vehicle Scrappage Policy

The scrappage policy is in final phase of approval and is expected to be rolled out in a month. The policy is expected to entail voluntary scrapping of old vehicles (>15 years) in exchange for some incentives for consumers. The vehicles would with an age greater than 15 years would



have to get fitness certificate after every 6 months from automated testing centres. If a vehicle fails the test thrice it might be subjected to mandatory scrapping. This can lead to reduction in raw material costs & increased demand

### **BS VI NORMS**

The Indian Government has mandated PAN India implementation of the BS6 emission norms from 1st April 2020 for all the vehicles with the objective to reduce automobile emissions by treating harmful pollutants like CO (Carbon monoxide), PM (particulate matter) and Nox (Nitrous Oxide). To treat these various pollutants, there are components to be added/modified in the current vehicle portfolio across asset classes in order to comply with the BS VI emission norms. Diesel platform which is more polluting and hence requires more components to treat the emissions as compared to petrol variants.

### **NATRiP (NATIONAL AUTOMOTIVE TESTING AND R&D INFRASTRUCTURE PROJECT)**

The project has been set up at a total cost of USD 573 Mn to enable the industry to adopt and implement global performance standards. It aims at converging India's unparalleled strengths in IT and electronics with automotive engineering sectors. The main area of focus is on providing low-cost manufacturing and product development solutions. It will provide the essential impetus to Indian auto industry which will help drive it to a position where it will cater not only to the ever-challenging and increasing indigenous demands but also it will be looked upon by the world to provide solutions for globally present challenges in the Auto Industry.

### **FAME-II**

The FAME India (Faster Adoption and Manufacture of (Hybrid and) Electric Vehicles) Scheme is an incentive scheme for the promotion of electric and hybrid vehicles in the country. Ultimate objective of the scheme is to promote electric mobility and the scheme gives financial incentives for enhancing electric vehicle production and creation of electric transportation infrastructure. Over 27,000 electric vehicles have been supported till September 10 this year by way of demand incentive amounting to about Rs 95 crore

## **Industry Growth Drivers**

**Growing Income & Young Population:** Demand in the automobile sector has been growing in the recent past. Specially, with the rising income level which has become 3X in past decade and is expected to grow more. Rising young population and the easy availability of financing opportunities, we see a rising demand of vehicles.



**Conducive Policies:** Recent policy changes have made it very evident that the Indian government wants to make India an auto manufacturing hub. Make in India, Automotive Mission Plan, NEMMP expected to give boost to the sector

**Focus on R&D:** India accounts for 40% of total \$31Bn of global engineering & R&D spend. Global suppliers are setting up R&D centers in India to increase local content in vehicles and at the same time leverage it as a global hub for design and technology. The strong education base of the country, growing English speaking population and comparative cost advantages are the major reasons why a lot of companies are planning to set up their R&D hubs in India. Government is also supporting the setting up of NATRIP centers to improve technology & efficiency.

**FDI Inflows:** The FDI inflows in automobile industry has shown a steady progress. In FY20 FDI equity inflows grew by 7%. A higher FDI inflow value is positively correlated with higher generation on employment and consequently, facilitates in improving competition within the industry while reducing costs and increasing productivity. FDI policy for automobile sectors allows 100% FDI.

## Key metrics for performance assessment of an automobile company

### COMPANY STRATEGY

- Number of new models introduced
- Response of consumers to the new models introduced
- Distribution Network
- Waiting time for consumers
- Is the company entering a new market in terms of design, cost etc. (For example; Introduction of motorcycle with high cc engine, when company is well known for low cc bikes and scooters)

### OPERATIONS

- Number of units produced and capacity utilization rate
- Manufacturing cycle time: It refers to the time taken to manufacture a single complete vehicle



- Labor union related issues like strikes (for example: Eicher Motors suffered significantly due to a strike at its Oragadam plant)

## FINANCIALS

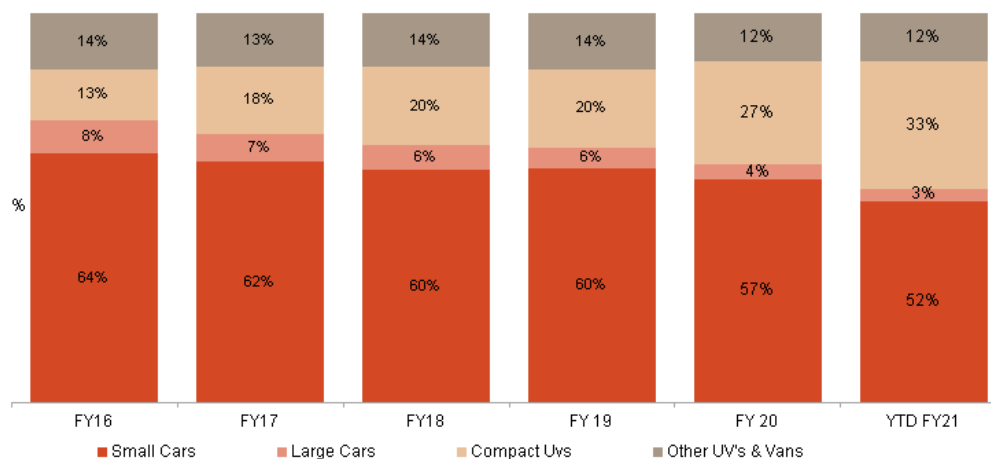
- Sales volume: The data is released on a monthly basis
- Market share
- EBITDA (Operating profit)
- Profitability ratios (since it is a 'product selling' company, margins are very important)
- Working capital (cash ratio)
- Debt-equity ratio as companies are capital intensive
- Price to Sales price multiple as sales for automobile companies cannot be manipulated as compared to earnings and book value

## Segment wise analysis

### Passenger Car & Utility Vehicles

Domestic demand for passenger vehicles declined by ~18% on-year for FY20

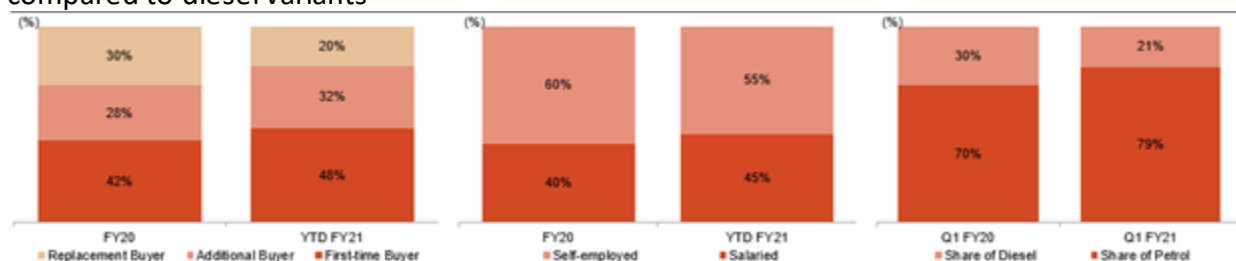
Increasing share of compact UVs



Maruti has remained undisputed market leader in this segment with other players like Hyundai, Renault, Ford trying to gain share. The traditional players are facing strong competition from new entrants like Korea's Kia Motors, China's MG Motors and upcoming Great Wall Motors and First Auto Works who are expected to launch models in the UV segment in fiscal 2021



**Change in Consumer Behavior:** Social distancing norms has resulted in higher share of first-time buyers, additionally as well as salaried buyer since financier wants higher income certainty; Share of replacement buyers have decline on account of postponement of purchasing decisions amid income uncertainty. Low-priced petrol variants share increased due to lower cost compared to diesel variants



**Raw materials** cost has softened due to current drop in commodity prices which has been led by the decreased demand due to major economies not recovering completely from COVID-19

**Traction for New Models:** New models have gained significant traction in fiscal 2020 leading to a high ~16% market share in FY20. New model launches have gained ~24% share in Q1 FY21. New launches to remain robust in FY21 with upcoming models like Kia Sonet, Nissan Magnite, Renault HBC and Toyota Urban Cruiser, S-Presso, Altroz & Aura

**Compact UV** launch in the less-than-Rs 10-12 lakhs price range (Maruti Suzuki's Brezza,





Renault's Duster, Ford's EcoSport, Tata Nexon and Mahindra's TUV and KUV, Kia Seltos) that are feature-laden at relatively competitive pricing have shifted the consumers' preference from large cars. The rising preference for compact UVs will continue to put pressure on large-car sales

**Decline in interest rates:** The RBI repo rate has declined by ~115 bps from ~5.15% in January 2020 to ~4% in May 2020. Reduction in interest rates (~70-90 bps) have been passed onto consumers in PVs.

**Low penetration:** India's car market is highly underpenetrated compared with most developed economies and some developing nations. As of FY2019, India had ~23 passenger vehicles per 1,000 people. This is significantly lower than both developed nations and even other nations in the BRIC block (Brazil, Russia, and China) when compared to GDP per capita.

**Electric Vehicles:** In order to curb pollution levels, electric vehicles are gaining global interest. In India as well, electric vehicles are gaining popularity as the government is extending support via FAME (Faster Adoption and Manufacturing of Hybrid and Electric vehicles) and tax rate cuts in order to give a boost to EV adoption. At current prices total cost for EV Personal car is higher due to low running whereas for taxi segments it is lesser. Taxi segment accounts for ~10-15% of sales within passenger cars and within taxi segment, cab aggregators are expected to lead adoption of Electric vehicles.

## Two Wheelers

The industry clocked a 7% CAGR from fiscal 2015 to fiscal 2019 which was pulled down by the decline in sales in fiscal 2020. In Q1 of fiscal 2021, domestic two-wheeler wholesale sales plunged by 74% on year, affected by both supply and demand factors. Demand sentiments in urban areas took a toll in April and May as people restricted movement. As a result, retail sales has plunged by ~70% during the first quarter.

The demand in two-wheeler segment is majorly dominated by motorcycles (~65% sales), scooters (~30%) and mopeds (~5%). Major players include market leader Hero MotorCorp, followed by Honda Motor & Scooters, TVS, Bajaj, Suzuki, Yamaha.



| Segment                      | 2019-20            |            |
|------------------------------|--------------------|------------|
|                              | Volumes (mn units) | growth (%) |
| Motorcycles                  | 11.2               | -18%       |
| Scooters                     | 5.6                | -17%       |
| Mopeds                       | 0.6                | -28%       |
| <b>Two-wheelers Domestic</b> | 17.4               | -18%       |
| Exports                      | 3.5                | 7%         |

In the urban areas, demand is expected to be aided from multiple ownership and increase in demand from Tier 2 cities.

On the rural front, rising penetration due to deeper distribution network and improving incomes of the farmer, with a good monsoon this season it is expected to support two-wheeler demand. Rural road connectivity plays an important role in driving two-wheeler sales. It acts as an income multiplier in the rural economy- aiding incomes while roads are constructed and enabling mobility and connectivity once the construction is over.

**Expansion of dealership network:** Manufacturers have expanded their dealership/service network into tier 3 cities and beyond, owing to rising demand in non-metro cities. Expansion across geographies is expected to push up competition

**Supply disruption** due to nation-wide lockdown for a month and workers returning to hometown and safety guidelines by government not allowing to operate in full capacity

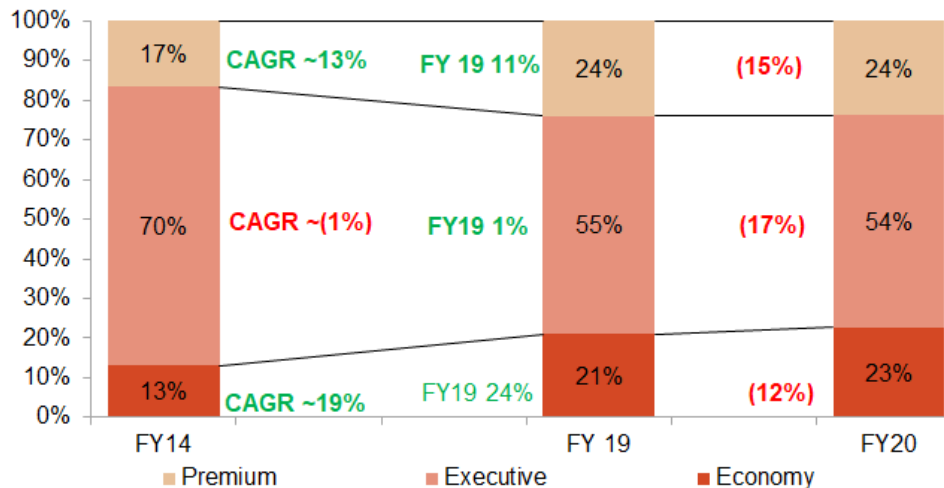
**Increased Cost:** Two wheelers witnessed a 10-15% price increase across models due to transition from BS IV to BS VI in fiscal 2021. This is expected to further weigh on retail demand during the year.

**Financing:** Cash transactions continue to dominate two wheelers sales, as compared with other automobile segments, given the industry's smaller ticket sizes, relatively lower-income profile of customers, high default rates, and difficulty in repossessing vehicles. New entrants are providing attracting options for the purchase thus lower acquisition cost & increasing demand

**Change in consumer preferences:** The premium segment's share has been steadily rising on the back of increased competition, affordability, better model launches, such as variants of Bajaj Pulsar series, Royal Enfield, TVS Apache, and Bajaj Avenger and it is eating into the executive



segment share. 125cc scooters demand increased by 6% during this period and that of 110cc declined by 20% during the period.

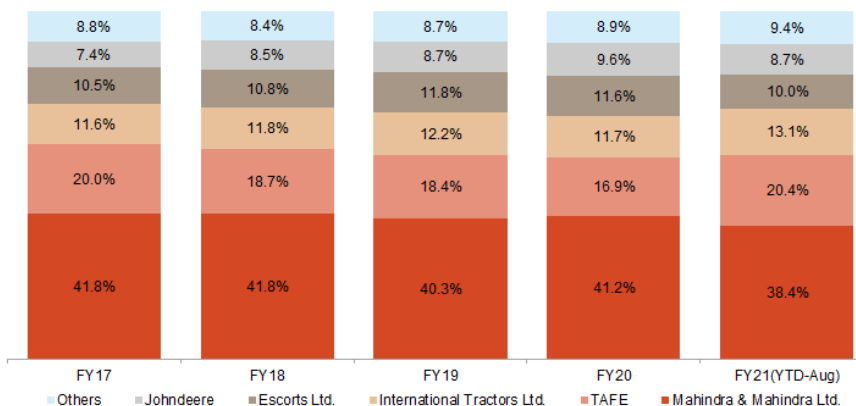


**Electric Vehicles:** In FY20 1.52 lakh units of e-TW were sold. The cost of ownership & acquisition of an electric two-wheeler is more favorable as compared to a traditional ICE scooter. Going forward cost of acquisition will be marginally more favorable for e-two wheelers due to lower battery costs. Subsidies as a part of government initiative FAME will also push up the demand.

## Tractor

Domestic sales fell by ~10% in fiscal 2020 after three years of robust growth where the industry grew by 19%, 22% and 8% in FY17, FY18 and FY19 respectively owing to poor commercial demand and uneven rainfall spread. Apart from their primary application in agriculture operations, tractors are also used to haul bricks, sand, and farm produce. Currently non-farm usage accounts for ~30% of total demand

Market is dominated Mahindra & Mahindra maintaining a market share of >40%





**Low Penetration:** The growth will be supported by low tractor penetration in India (3 tractors per 100-hectare area)

**Government Initiatives:** The government's objective of doubling farm income by 2022 via initiatives such as e-NAM (National Agriculture Market), expansion of crop insurance coverage, direct income support and improvement in land productivity via soil health cards. These measures should improve farmers' crop yields and affordability, and boost tractor penetration

**Irrigation investments** have risen considerably in past 10 years, resulting in a consistent increase in irrigation intensity. This, in turn, heightened cropping intensity and led to higher and stable farm incomes over the period. Irrigation intensity is expected to continue to improve over the medium term, supporting tractor sales.

**Non-farm use:** Tractor usage in non-farm activities has been increasing, with the government's focus on improving rural infrastructure. Tractors are used for carrying construction material such as bricks, cement and pipes. Tractors are also being looked at as a better alternative to commercial vehicles, as tractors are more economical, can carry heavy weight, and also can manoeuvre easily on rough, rural roads.

**Credit availability and affordable rates of finance:** LTVs to remain at a similar level of 70-75% due to lower exposure to financial risk. Repo rate cuts from RBI since last fiscal will lead to decline in the interest rates. Increased reach of companies providing financial services in rural areas which will also boost demand in long term.

## COMMERCIAL VEHICLES

Based on the product type, the commercial vehicles market in India can be segmented into Light Commercial Vehicles (LCVs) and Medium & Heavy Commercial Vehicles (M&HCV).

In FY 2020, the Light Commercial Vehicles segment accounted for ~68.7% of the total sales volume of commercial vehicles. M&HCVs contributed to ~31.3% of the overall commercial vehicle sales.

Tata Motors dominates the domestic commercial vehicle market across India with a share of about 44 percent followed by Mahindra & Mahindra (25%), Ashok Leyland (18%), VE Commercial (6%)

CV sales fell by ~85% in Q1 FY21

**Higher default rate** since due to low utilization fleet operators unable to pay EMI. This had two-fold impacts:

- Reduction in LTV therefore increasing financing cost



- Increased supply in secondary market i.e reselling/reprocessing of trucks who couldn't payback their loan this led to reduced price in secondary market and low demand for new trucks

**Low Freight Demand:** Due to COVID-19 all industry closed freight demand plummeted as GDP growth for the fiscal is expected to be below ~5% in FY20

**LCVs demand is expected to be better** than MHCVs with better financing options since e-retail is picking up and fall in private consumption is not as much as Industrial production

**Increased Cost:** BSVI vehicles are expected to be 10-15% costlier as due to already low volumes OEMs have taken complete price hikes

**Axle norm to lead to a shift from T-Trailers to MAVs** The Ministry of Road Transport and Highways had notified new axle load norms for commercial vehicles, which allow for an increase in the load-bearing capacity of trucks by ~20%. The new axle norms will be applicable to the entire lot of freight-moving trucks. This would also lead to lower truck purchases.

**Low infrastructure development:** With finances of the government stretched in tackling the COVID-19 outbreak, government's ability to push infrastructure is not expected to be significant, this poses a significant downside risk

**Demand from intercity, school, STU and tourist bus segment to be hit:** COVID-19 outbreak to impact tourism as even after the lockdown ends, tourists may be wary to venture out. Similarly intercity travel via large intercity coach buses will also be muted. STU had driven demand in FY20 with purchase of many BS-IV vehicles. However, with state budgets already stretched in tackling the outbreak, STU purchases will be limited. For school segment, demand has been hit significantly as schools continue to remain closed in Q1 FY21

## ELECTRIC VEHICLES

India represents the fourth largest automobile market in the world and the second largest two-wheeler market with ~20 mn units. It is also a country with massive dependency on oil imports, with a USD 112 bn oil import bill in FY19. Pollution in many Indian cities has reached alarming levels. All these factors put together make a strong case for EV adoption in India. Pricing and infrastructure, though, continue to remain a challenge.

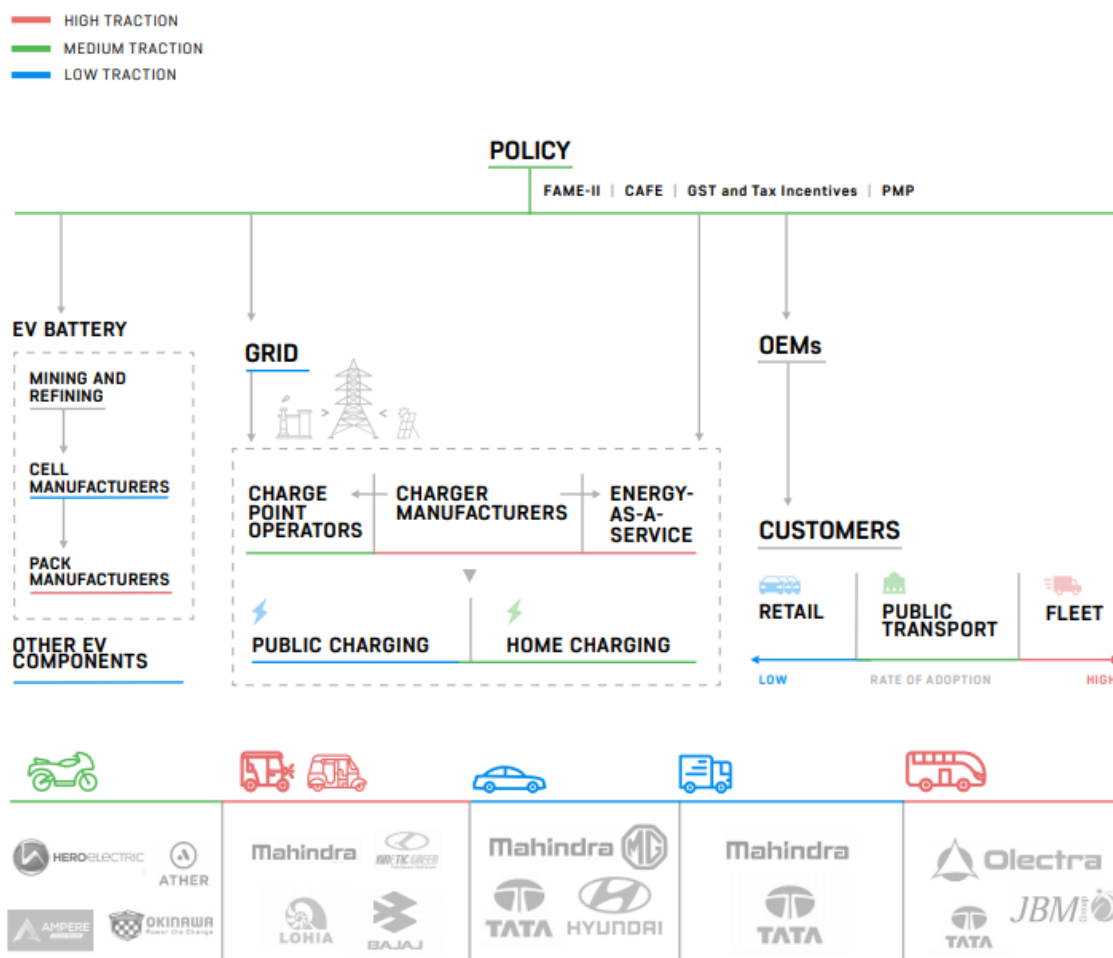
Global electric car parc (vehicles on road) crossed 7 million units in 2019 with annual sales crossing 2.2 million units.

- China has moved way ahead in the EV adoption race with a whopping 53% share of the global electric car sales in 2019.

- Europe and the USA are the next largest markets with 26% and 14% market share respectively.
- Norway, Iceland and Netherlands remain leaders in EV penetration with electric cars representing 56%, 25% and 14% respectively of their annual car sales.

Tesla leads the EV sales chart with 367K units sold in 2019 - a 50% growth over 2018. BYD is the second largest player with 229K unit sales. BAIC, BMW, and Nissan are the other leading OEMs in the EV space currently. Tesla's Model3 (13%), BAIC EU-Series (5%) and Nissan Leaf (3%) were the three top selling models of 2019.

## EVs Ecosystem



- **Policy:** The role of policy makers is central to the evolution of electric vehicles. China has taken a massive lead over the rest of the world in EV adoption, with strong backing from its New Electric Vehicle Policy. Lack of economic parity is a major hurdle in adoption of EVs today. Policy makers are trying to bridge this gap through subsidies to encourage EV adoption. Policy makers



need to simultaneously adopt other levers also to encourage EV adoption further. The Indian policy has taken a number of positive steps towards promoting EV adoption, and FAME II is a significant leap among those. Mandated adoption targets, localization of key components, clear guidelines on regulations and standards and EV adoption in public transport are some of the key levers that policy makers in India need to leverage.

- **Battery:** The battery not only constitutes 30-40% of the cost of the vehicle but is also the key to solving other hurdles like range anxiety, charge time reduction, safety of EVs, etc. Availability of battery's raw material is a critical hurdle for the Indian EV industry. India does not have any meaningful reserves of key raw materials like Lithium and Cobalt. Cell manufacturing is highly cost and R&D intensive and requires scale. For now, India is completely dependent on cell imports and the role of domestic industry in battery value chain is limited to battery pack assembly.
- **GRID:** There are two key considerations for the grid
  - Its ability to handle increase in the peak load
  - Its composition – Fossil fuel based vs renewable based

While the generation and transmission part of the grid is capable of handling the increase in peak electricity demand driven by EV adoption, the distribution part of the grid will have to undergo structural changes to handle peak loads at high EV adoption. Majority of households in India are connected through 200 kVA transformers which cannot handle more than 20 cars being simultaneously charged by a 7.4 kWh AC charger. Also, the composition of the grid must shift towards renewables for EVs to truly address the pollution problem. India's coal dependent grid is amongst the most inefficient ones in the world and that makes this shift even more important, as inefficient fossil fuel based power plants also mean higher carbon emissions.

- **OEMs:** OEMs have a strong influence on the future of EVs and they are the ultimate drivers of this disruption. The 2W segment has seen a lot of activity, with emergence of new players as well as increased activity by the incumbents. In case of 3W, the e-rick segment has grown rapidly and has even started to shift to Li-ion batteries. E-autos are expected to be launched soon. 4W market was largely being driven by Mahindra and Tata Motors with their fleet targeted variants. In 2019, Hyundai, MG Motors and Tata Motors came up with new EV models aimed at the retail segment. In CVs, the bus segment is seeing most action, mainly on account of public sector demand.
- **Infrastructure:** Charging infrastructure development in India is still slow, mainly because the adoption of EVs (especially 4Ws) has not gained enough momentum. Innovative business models have come up that offer energy-as-a-service (most of them are based on battery swapping). Home charging will be the primary method in the near term as public charging infrastructure will get developed in sync with the overall EV adoption.



- **Customers:** Finally, the most important stakeholder in the ecosystem – the end customer. Customers need economic parity and a good product. TCO parity is an imperative and the upfront cost differential needs to go down to attract customers to adopt EVs. Fleets and public transport systems are gaining traction rapidly but the retail customer is still slightly further away from EV adoption – especially in segments where the upfront cost differential is very high