

Disruption from e-2Ws ahead, e-3Ws near an inflection point

Big opportunity for players with a weak Scooter franchise to make a mark

Higher cost of ownership due to regulatory factors, rising fuel prices, reduction in li-ion battery prices, and FAME-2/state government subsidies are factors resulting in narrowing of the price gap between ICE 2Ws and e-2Ws. Mainstream OEMs have finally entered the e-Scooter segment, which was so far dominated by startups. We believe that e-2Ws are ready for disruption, particularly urban focused Scooters are at risk of faster electrification. This has potential to change the competitive landscape of the Scooter segment (market of ~5.6m units, ~INR340b revenue and ~INR40.7b EBITDA pool). Similarly, e-3Ws are nearing an inflection point as it is almost at par with CNG 3Ws on a TCO basis. However, traction for e-3Ws would be a function of charging ecosystem as vehicle uptime is of paramount importance in the B2B segment.

“Over the next two years, we want to have a full spectrum of products for our consumers to choose from, not just here in India but across the world. We are also setting up our sales presence across the world. Sometime over the next 2-3 years, we will come out with our first 4W.”

Mr Bhavish Aggarwal,
Founder, Ola Electric

“We are hoping that these (supply side) issues will get ironed out over the next 2-3 months and we will get back to our agenda of not just servicing bookings in Pune and Bengaluru but we have a master plan of going to two dozen cities in India in the next financial year”

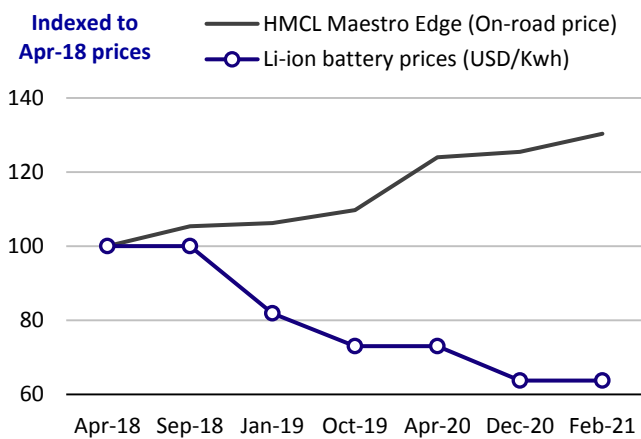
Mr Rakesh Sharma,
Executive Director, Bajaj Auto

- The 2W industry witnessed considerable price inflation due to regulatory changes. The cost to the customer has risen by ~25% till Jan-21 from Apr'18 levels. At the same time, the cost of a lithium ion battery continues to fall sharply, with an estimated decline of ~24% during the same period.
- This, coupled with an increase in subsidy under the FAME-2 scheme as well as some states offering subsidies on li-ion battery operated vehicles, has helped to further narrow the gap between ICE 2Ws and e-2Ws.
- On a TCO basis, our estimates suggest that e-Scooters offer 10-20% lower cost of ownership (on a per km basis) as compared to ICE Scooters (both 100cc and 125cc). e-Scooter launches from established brands like BJAUT and TVSL would also help establish the credentials of e-Scooters with customers.
- e-2Ws would be more relevant for urban markets due to: a) shorter driving distance (lesser anxiety around driving range), b) better power availability (from charging perspective), and c) lesser sensitivity to TCO. We believe electrification in 2Ws would first happen in Scooters.
- Within Scooters, we expect adoption to be faster in 125cc Scooter due to premium positioning, similar product attributes as EVs, and lesser pricing gap. However, 100cc Scooters would not be immune to electrification for too long.
- In 2Ws, Scooters are vulnerable to EVs. TVSL has the most exposure to scooters in the listed space, with over 30% of total volumes accruing from domestic Scooters.
- Changing technological landscape could cause changes in the competitive landscape of the Scooter segment, providing an opportunity for players with weak scooter presence (like BJAUT, HMCL) and a threat to incumbents (like HMSI). EIM won't be affected by EVs, at least for the time being.
- e-3Ws are nearing an inflection point to disrupt ICE 3Ws. However, adoption of e-3Ws would also be a function of charging infrastructure. On a TCO basis, our estimates suggest M&M Treo (post FAME-2 subsidy) is almost at par with CNG 3W. Considering BJAUT stronghold of 3Ws in the urban market, it could be at risk of either market share loss or dilution in profitability in this segment.

e-2Ws nearing an inflection point as ICE get expensive and li-ion get cheaper

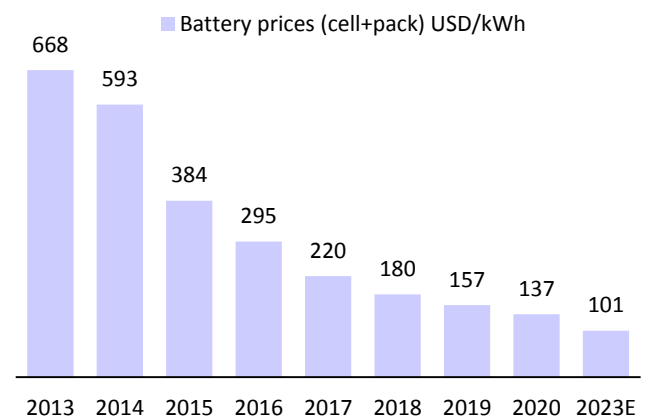
- The 2W industry has witnessed considerable price inflation at the customer level due to regulatory changes. The cost to the customer has risen by ~25% from Apr'18 levels (for mainstream 2Ws).
- At the same time, the cost of a lithium ion battery continues to fall sharply, with an estimated decline of ~24% during the same period.
- This, coupled with subsidy under the FAME-2 scheme of the Central government for li-ion battery operated vehicles, has helped to further narrow the gap between ICE 2Ws and e-2Ws. A few states like Delhi offers additional incentives, resulting in a further reduction in cost to customers.
- e-Scooter launches from established brands like BJAUT and TVSL would help establish the credentials of e-Scooters with customers (as compared to startup products).
- If battery prices trend down as widely expected, e-Scooters could attain parity with ICE Scooters (especially 125cc Scooters) in the next 2-3 years on an initial cost of ownership basis.

Exhibit 1: Sharp increase in ICE 2W prices, whereas lithium ion battery prices decline sharply...



Source: Industry, MOFSL

Exhibit 2: ...with a further fall expected in battery prices

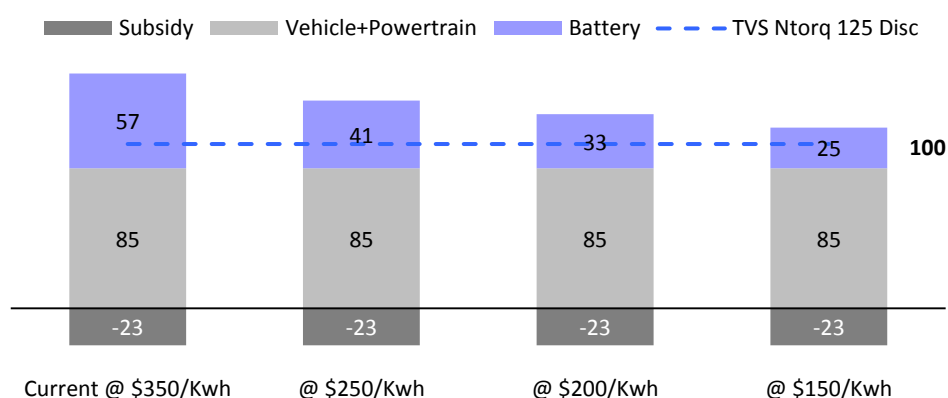


Source: BNEF, MOFSL

Exhibit 3: List of relevant electric 2Ws in the market and subsidy offered

Segment	OEM	Model	FAME-2 subsidy (INR'000)	Remarks
2W-Scooter	Ather	450	27	Personal usage only
2W-Scooter	Okinawa	Ridge+	17	
2W-Scooter	Okinawa	i-Praise+	30	
2W-Scooter	Okinawa	Praise Pro	19	
2W-Scooter	Ampere	Zeal	18	
2W-Scooter	Ampere	Magnus Pro	18	
2W-Motorcycle	Revolt Motors	RV-300	27	
2W-Motorcycle	Revolt Motors	RV-400	30	
2W-Scooter	Bajaj	Chetak Urbane	NA	
2W-Scooter	TVS	iQube	23	

Source: Department of Heavy Industry, MOSFL

Exhibit 4: TVS iQube on-road pricing sensitivity to li-ion battery prices (INR'000)

Note: Battery prices includes BMS and other associate components;

Source: Industry, MOFSL

Expect urban focused Scooters to gain faster acceptance, particularly in the 125cc Scooter segment...

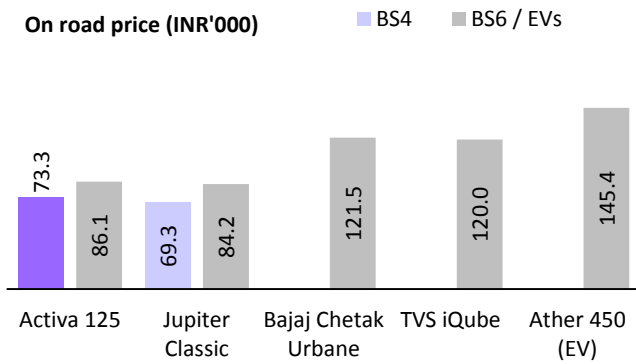
- e-2Ws would be more relevant for urban markets due to: a) shorter driving distance (lesser anxiety around driving range), b) better power availability (from charging perspective), and c) lesser sensitivity to TCO. We believe electrification in 2Ws would first happen in Scooters.
- Within Scooters, we expect adoption to be faster by targeted 125cc Scooter customers due to premium positioning, similar product attributes as EVs, and lesser pricing gap. We do believe that the 100cc Scooter would not be immune to electrification for too long.
- On a TCO basis, our estimates suggest that e-Scooters offer a 20-25% lower cost of ownership (on a per km basis) as compared to ICE scooters (both 100cc and 125cc).

Exhibit 5: Electric 2W product offerings – BJAUT and TVSL launched their products only in Jan'20

OEM	Model	Price (on-road, INR'000)	Battery size (kWh)	Battery detachable	Range (km)	Top speed (km/hour)	Cost of running (INR/km)
Ather	450	145	2.4	N	55-75	80	0.24
Ather	450x	165	2.9	N	85	80	0.20
Okinawa	Ridge+	68	1.75	Y	90-100	55	0.12
Okinawa	i-Praise+	102	3.3	Y	160	70	0.12
Okinawa	Praise Pro	76	2	Y	88-110	70	0.13
Ampere	Zeal	73	1.8	Y	75	55	0.14
Ampere	Magnus Pro	74	1.8	Y	75	55	0.14
Revolt Motors	RV-300	87	2.7	Y	180/110/80	25/45/65	0.15
Revolt Motors	RV-400	110	3.24	Y	150/100/80	45/65/80	0.19
Bajaj	Chetak Urbane	122	3	N	95	60	0.19
TVS	iQube	120	2.2	N	75	78	0.18

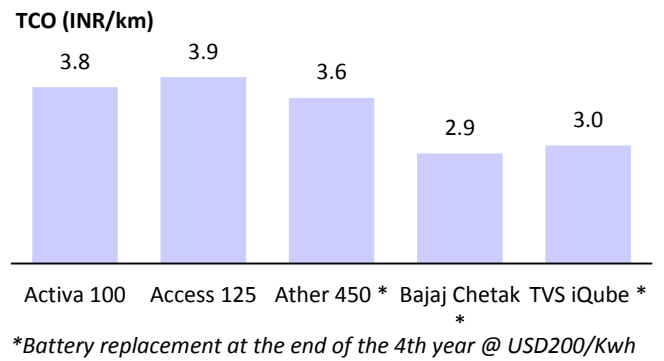
Okinawa and Revolt prices are for on-road Delhi and is after Delhi state subsidy of INR5,000/kWh of battery size; Source: Company, MOFSL

Exhibit 6: EV 2Ws | Initial cost of ownership narrowing post BS-VI...



Note: Bajaj Chetak doesn't yet qualify for FAME-2 subsidy

Exhibit 7: ...whereas on a TCO basis, EVs are already cheaper



*Battery replacement at the end of the 4th year @ USD200/Kwh

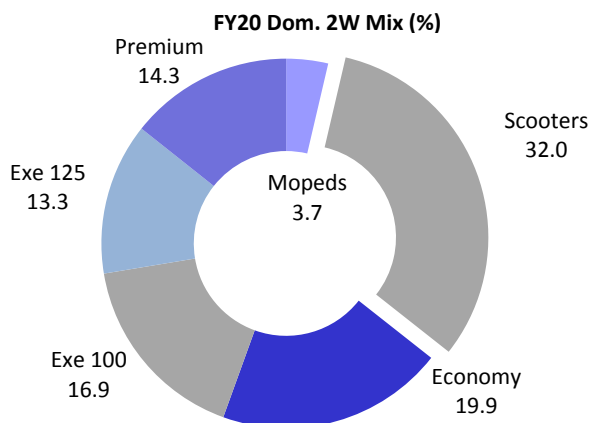
Source: Industry, MOFSL

Exhibit 8: State level subsidy can further help make e-2Ws more competitive

INR	TVS iQube (Bengaluru)	TVS iQube (Delhi)	TVS Ntorq Disc (Delhi)
Ex-showroom	136,077	136,077	74,555
Registration	300	0	6,530
Road tax	500	0	
Smart Card Fee	137	200	200
Insurance	4,987	4,987	5,461
Handling charges	500	500	900
Other charges			1,349
On-road (w/o subsidy)	142,501	141,764	88,995
FAME-2 Subsidy	22,500	22,500	
State govt. subsidy	0	11,250	
Effective on-road price	120,001	108,014	88,995

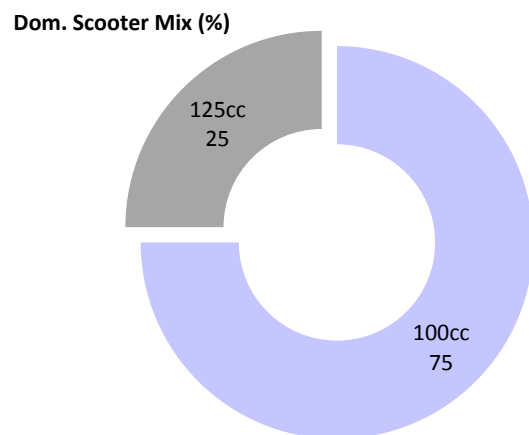
Source: Company, MOFSL

Exhibit 9: Within 2Ws, Scooters most vulnerable to electrification...



Source: SIAM, MOFSL

Exhibit 10: ...particularly fast growing 125cc Scooter segment

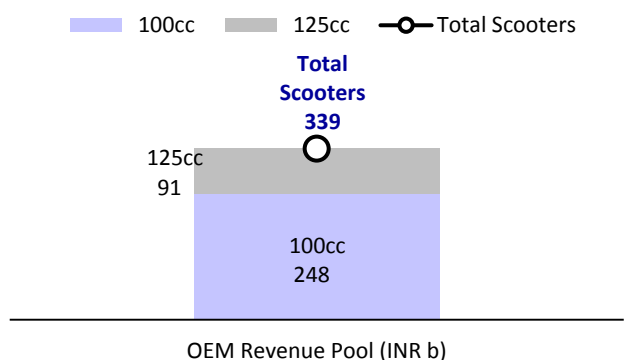


Source: SIAM, MOFSL

...providing an opportunity to OEMs with a weak Scooter franchise

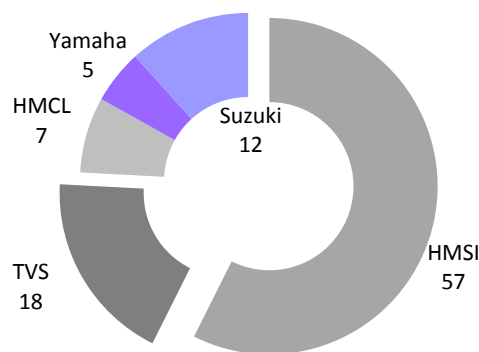
- Changing technological landscape could cause changes in the competitive landscape of the Scooter segment, providing an opportunity for weaker positioned players (like BJAUT, HMCL) and a threat to incumbents (like HMSI).
- MNC OEMs (HMSI, Suzuki, Yamaha) enjoy ~70% market share in the annual ~5.6m units Scooter volumes (or ~32% of domestic 2W volumes in FY20) or revenue pool of ~INR339b (at today's prices).
- Of the estimated profit pool (EBITDA) of ~INR40.7b for Scooters, unlisted MNC players control ~83% (higher margins due to scale and pricing power).
- BJAUT has leveraged its e-Scooter to make a comeback into Scooters - the segment which it had traded-off due to lack of a competitive advantage in the past.
- For HMCL, Scooters contribute just 6% to its volumes. It is a smaller player with a 7% market share in domestic Scooters. It has ~34% stake in Ather Energy, a startup focusing only on electric 2Ws.
- Going by anecdotal evidence, the first mover advantage could be of immense value in the e-Scooter segment. We believe BJAUT and TVSL have got a head start and now it would be important for them to get their 4Ps right (product, price, promotion, and place). Also, HMCL's two-pronged strategy for e-2Ws through Ather Energy as well as its direct play (yet to launch its own product) could give it an advantage of a higher and wider presence in this emerging segment.

Exhibit 11: Domestic Scooters represent an INR340b revenue pool...



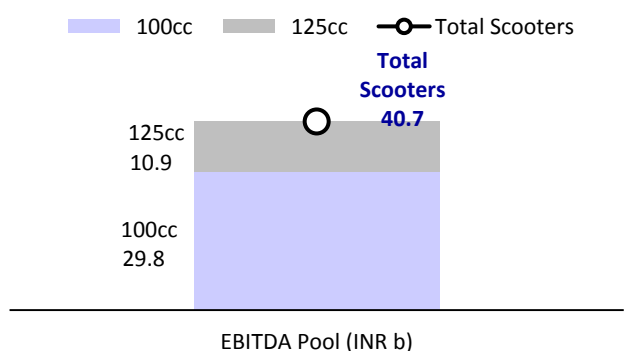
Source: SIAM, MOFSL

Exhibit 12: ...which is ~70% controlled by Japanese OEMs



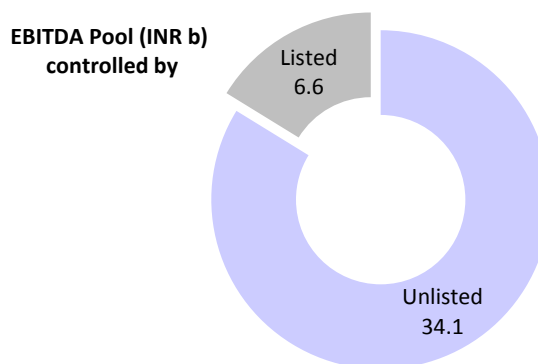
Source: SIAM, MOFSL

Exhibit 13: Estimate EBITDA pool ~INR40.7b...



Source: SIAM, MOFSL

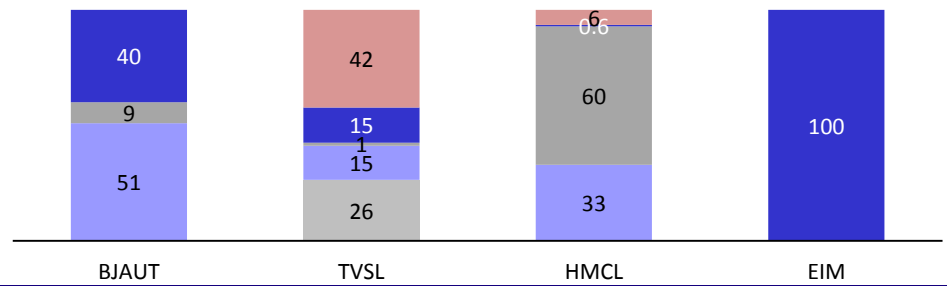
Exhibit 14: ...of which listed players control just ~INR6.6b



Source: SIAM, MOFSL

Exhibit 15: Electrification of Scooters can be an opportunity (for players like BJAUT) or a threat to incumbents (like HMSI, TVSL, etc.)

2W volume contribution (%) Mopeds Eco M/C Exe M/C Prem. M/C Scooters



Source: Company, MOSFL

Ola Electric has the most aggressive plans driving disruption

- Ola Electric has announced mega plans for the electric 2W segment, with a targeted capacity of 10m units and investments of INR24b (starting with 2m units from Jun’21) as against FY20 domestic scooter volumes of 5.6m.
- It plans to target not just the Indian market, but also cater to the international market of Europe, Asia, and Latin America.
- Earlier in May’20, it acquired Etergo BV, the Netherlands based electric scooter OEM. As per the media reports, Ola is further working on Etergo’s AppScooter to make it relevant to the India market.
- It is expected to launch its first e-scooter in Jun’21. It is planning to set-up an extensive charging and swapping network in India.
- Ola Electric is banking on scale, backward integration, and automation to gain a cost advantage. While we see merit in this strategy, it would be critical for it to get its 4Ps right to be successful.
- While Ola has the most aggressive plans among peers, the landscape in the e-2W segment would see fierce competition intensity and churn over the next 3-5 years before a clear leader emerges from this disruption.

Exhibit 16: Ola acquires Etergo in May’20, which manufactures AppScooter



Source: MOSFL

3Ws also nearing an inflection point for electrification, though there is a need to address the charging infrastructure challenge

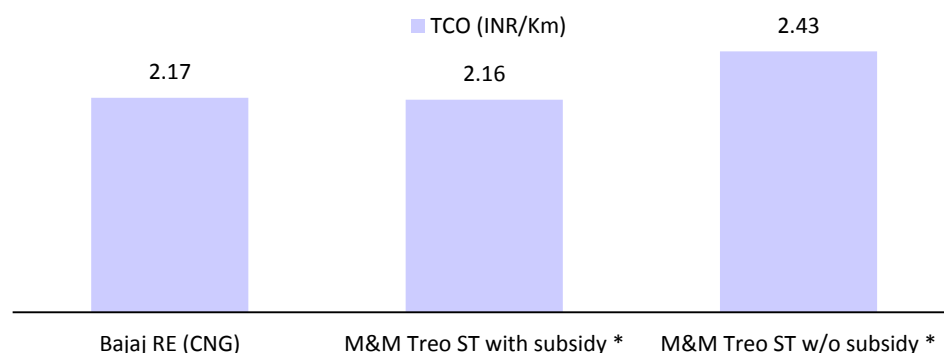
- We are yet to see meaningful launches in e-3Ws as there has been just two e-3Ws (li-ion based) launches in the market place from Mahindra Electric (Treo) and Piaggio (Ape Elektrik). On a TCO basis, our estimates suggest Treo (post FAME-2 subsidy) is almost at par with CNG 3Ws.
- This segment will see more launches from players like BJAUT, TVSL, Piaggio, etc. over the next 2-4 quarters. e-3Ws are nearing an inflection point to disrupt 3Ws. However, adoption of e-3Ws would also be a function of charging infrastructure.
- Considering BJAUT's stronghold of 3Ws in the urban market, it could be at risk of either market share loss or dilution in profitability. We estimate a 15-18% EBITDA (attributable to domestic 3Ws) risk from electrification of 3Ws. On the other hand, it would gain from a possible first mover advantage in e-Scooters.

Exhibit 17: Electric 3W product offerings – Mahindra Electric only OEM with a product on the ground

OEM	Model	Price (on-road, INR'000)	Battery size (kWh)	Battery detachable	Range (km)	Top speed (km/hour)	Cost of running (INR/km)	FAME-2 subsidy (INR'000)
Mahindra Electric 3W	Treo - SFT (D+3)	298	7.37	N	130	45	0.34	67
Mahindra Electric 3W	Treo Yaari - SFT (D+4)	188	3.69	N	85	24.5	0.26	37
Piaggio	Ape E-City	324	7.5	Y	110	45	0.41	69

Source: Company, MOFSL

Exhibit 18: e-3Ws almost at par with CNG 3Ws on a TCO basis



*Assuming battery replacement at the end of the 4th year @ USD200/Kwh; Source: Company, MOSFL

Valuation and view

- From a volume and margin recovery standpoint, we are just at the initial phase of a recovery, with FY22E being the first full-year of a volume recovery and margin improvement.
- In our estimate, we have built in a strong recovery in FY22E and beyond. For FY22E/FY23E, we estimate 2W growth at 22%/8%, PV at 33%/10%, CV at 42%/22%, and Tractors at 8%/7%.
- Based on our volume estimates, we would be nearing/crossing peak volumes of FY19 in FY23E for 2Ws/LCVs, PVs in FY22E and Tractors in FY21. The same for M&HCVs and 3Ws would still be materially lower in FY23E than its FY19 peak.
- Analysis of past cycles suggests that valuations expand as a cyclical recovery sustains, laying down the foundation for the next upcycle. Current valuations

largely reflect an early to mid-cycle recovery and has scope for further expansion if the growth in volumes sustains.

- Our preference is for companies with: a) higher visibility in terms of a demand recovery (higher rural exposure), b) strong competitive positioning, c) margin drivers, and d) balance sheet strength. We prefer plays on global PVs due to stronger recovery owing to support from governments. **MM** and **MSIL** are our top OEM picks. **ENDU** is our top pick among Auto Ancillaries.

Exhibit 19: Key operating indicators

	Volume/revenue growth (%)			EBITDA margin (%)			EPS (INR)			RoE (%)		
	FY21E	FY22E	FY23E	FY21E	FY22E	FY23E	FY21E	FY22E	FY23E	FY21E	FY22E	FY23E
Auto OEMs												
Bajaj Auto	-13.5	27.7	8.0	17.8	17.8	17.7	164.1	203.0	215.3	23.6	28.5	29.5
Hero MotoCorp	-9.7	20.0	7.1	13.7	12.8	13.7	145.8	186.6	210.6	20.0	23.8	24.8
TVS Motor	-6.4	21.2	9.1	8.2	8.2	9.5	11.8	21.7	27.5	14.8	23.5	24.6
Eicher Motors	-11.3	45.6	10.7	24.0	21.0	25.7	51.3	97.9	122.8	13.4	22.1	22.9
Maruti Suzuki	-6.3	29.9	7.0	9.7	8.1	10.5	164.5	265.9	323.1	9.6	13.8	15.1
M&M	-8.7	20.9	12.6	14.2	15.4	14.2	34.7	40.8	50.2	11.5	12.7	14.0
Tata Motors	2.6	44.6	19.1	9.2	12.7	14.0	-8.8	23.2	32.5	-8.8	23.2	32.5
Ashok Leyland	-18.0	59.7	22.8	6.7	3.8	9.5	-0.8	3.7	6.7	-3.1	14.7	23.2
Escorts	24.0	8.0	5.0	11.4	16.7	16.0	86.6	92.7	99.0	21.6	17.3	15.8
Auto Ancillaries												
Bharat Forge	-13.9	23.9	16.0	13.5	11.5	17.7	4.4	16.3	26.5	3.9	13.3	19.1
Exide Industries	0.7	16.2	11.5	13.8	13.3	13.1	8.6	10.6	13.0	10.9	12.4	13.7
Amara Raja	2.2	14.9	12.3	16.1	15.9	15.8	37.4	42.5	47.9	16.5	16.8	16.9
BOSCH	-3.9	24.5	11.8	15.1	10.5	14.7	291.0	469.7	558.7	9.1	13.8	14.8
Endurance Tech.	-8.3	23.0	11.7	15.9	15.8	17.4	33.1	51.1	62.3	14.7	20.0	21.2
Motherson Sumi	-2.8	19.6	12.5	8.2	8.4	11.3	2.8	7.1	9.3	7.5	17.8	20.4
Mahindra CIE	-23.5	24.1	12.0	12.2	8.3	12.5	2.8	11.4	14.4	2.2	8.4	9.7
Ceat	10.8	15.3	11.6	10.7	13.6	13.5	99.5	113.0	131.3	13.1	13.3	13.7

*Volume growth for OEMs, revenue growth for Auto Ancillaries; MOFSL estimates

Source: Company, MOSFL

Exhibit 20: Comparative valuations

	Rating	M-cap (INR b)	CMP (INR)	TP (INR)	P/E (x)		EV-to- EBITDA (x)		P/B (x)		FY23E yield (%)		EPS CAGR (%)
					FY22E	FY23E	FY22E	FY23E	FY22E	FY23E	Dividend	FCF	FY20-23E
Auto OEMs													
Bajaj Auto	Neutral	1,060	3,663	3,875	18.0	17.0	13.3	12.2	5.1	5.0	5.2	5.4	6.1
Hero MotoCorp	Buy	622	3,108	3,955	16.7	14.8	10.2	8.9	3.8	3.5	4.5	6.4	11.2
TVS Motor	Neutral	271	571	602	26.3	20.8	14.3	11.7	5.7	4.7	0.8	4.8	28.3
Eicher Motors	Buy	727	2,664	3,286	27.2	21.7	20.9	17.4	5.5	4.5	0.6	4.6	22.4
Maruti Suzuki	Buy	2,149	7,114	8,721	27.1	22.3	18.4	14.8	3.8	3.4	1.7	2.8	19.8
M&M	Buy	1,009	845	1,015	20.7	16.9	14.0	11.8	1.3	1.2	1.2	6.3	18.7
Tata Motors	Buy	1,175	307	395	13.3	9.4	4.0	3.1	2.1	1.7	0.3	11.9	#NUM!
Ashok Leyland	Buy	332	113	153	30.6	16.9	15.0	9.6	4.3	3.6	1.8	8.3	79.0
Escorts	Neutral	162	1,318	1,484	14.2	13.3	10.8	10.8	2.3	2.0	0.5	4.8	35.4
Auto Ancillaries													
Bharat Forge	Buy	273	587	742	36.0	22.2	19.4	13.5	4.6	4.0	1.1	4.9	42.2
Exide Industries	Buy	160	188	233	17.8	14.5	9.8	8.1	2.2	2.0	1.7	5.8	9.4
Amara Raja	Neutral	147	862	957	20.3	18.0	11.5	9.8	3.2	2.9	1.9	2.7	7.3
BOSCH	Neutral	420	14,243	15,650	30.3	25.5	22.2	17.7	4.0	3.6	0.8	2.7	10.1
Endurance Tech.	Buy	200	1,419	1,750	27.8	22.8	14.1	11.7	5.2	4.5	1.1	3.4	17.9
Motherson Sumi	Buy	682	216	225	30.3	23.1	8.4	6.5	5.1	4.4	1.2	6.4	36.1
Mahindra CIE	Buy	63	166	223	14.6	11.5	8.0	6.4	1.2	1.1	0.0	6.5	23.6
CEAT	Buy	62	1,523	1,575	13.5	11.6	7.0	6.2	1.7	1.5	0.8	4.6	51.7

Source: Company, MOSFL

NOTES

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