

Tata Motors

BSE SENSEX

38,840

S&P CNX

11,449

TATA MOTORS

Stock Info

Bloomberg	TTMT IN
Equity Shares (m)	3,598
M.Cap.(INRb)/(USDb)	473.2 / 6.3
52-Week Range (INR)	202 / 64
1, 6, 12 Rel. Per (%)	14/26/13
12M Avg Val (INR M)	7660
Free float (%)	57.6

Financials & Valuations (INR b)

Y/E March	2020E	2021E	2022E
Net Sales	2,611	2,574	3,039
EBITDA	239.1	233.2	413.8
Adj. PAT	-90.9	-120.0	41.5
Adj. EPS (INR)	-25.3	-33.3	10.8
EPS Gr. (%)	480	32.0	-132.5
BV/Sh. (INR)	175.3	142.0	151.0

Ratios

Net D/E (x)	1.6	2.0	1.7
RoE (%)	-14.8	-21.0	7.6
RoCE (%)	3.7	2.3	7.6
Payout (%)	0.0	0.0	0.0

Valuations

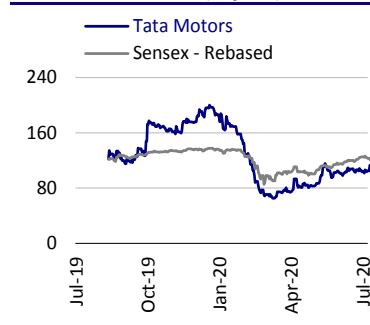
P/E (x)	-5.7	-4.3	13.2
P/BV (x)	0.8	1.0	0.9
EV/EBITDA (x)	4.2	5.1	2.6
Div. Yield (%)	0.0	0.0	0.0
FCF Yield (%)	-45.4	-0.5	21.9

Shareholding pattern (%)

As On	Jun-20	Mar-20	Jun-19
Promoter	42.4	42.4	38.4
DII	13.4	13.6	16.0
FII	15.6	16.8	19.5
Others	28.6	27.2	26.1

FII Includes depository receipts

Stock Performance (1-year)


CMP: INR143
TP: INR227(+58%)
Buy

Near net debt zero by FY24 pivoted on business recovery

JLR & India PV benefitting from strong demand recovery and new products

We had hosted Mr P B Balaji, CFO – Tata Motors (TTMT), for a meeting with a group of investors. Mr Balaji articulated their approach to achieving a near net debt zero target by FY24, primarily pivoted on: a) revenue improvement, b) cost-cutting, and c) capex control plans laid out for four key businesses (incl. NBFC). He discussed the business-wise roadmap to attaining positive FCF.

Near net debt zero by FY24

- The target to be near net debt zero by FY24 is built on three key pillars: a) business-level FCF generation, b) the monetization of non-core assets, and c) top-up equity (if required).
- Business-level FCF generation is the key part of the plan and pivoted on: a) revenue improvement, b) cost-cutting, and c) capex control plans laid out for four key businesses (incl. NBFC). Capex plans laid out for FY21 (GBP2.5b for JLR and INR15b for the India business) would not see any material change in the foreseeable future.
- The guiding principle for capex moves from 'willingness to invest' to 'ability to invest', i.e., capex would be supported by operating performance and would not be invested independent of operating performance.
- As the monetization of non-core assets begins with the Tata Technologies and Hitachi JV (construction equipment), it would look at other assets as well. However, currently it has no plans to monetize its stake in Tata Sons.
- The partnership between the PV segment and JLR is not the key part of its deleveraging strategy.

JLR – recovery underway; FCF-positive from FY22

- Demand recovery is visible across markets in the US, UK, EU, and China. Only RoW markets are yet to see recovery. JLR is seeing an additional boost from strong demand for the recently launched Evoque and Defender. This, coupled with a strong product pipeline, makes management positive on demand.
- The company is adopting a holistic approach to cutting both variable as well as fixed cost. For RM, cost reduction would be driven by reducing complexity, increasing commonality, and commercial negotiations. This, coupled with an improving mix and a higher share of new products, would drive a reduction in VME. This would lead to further lowering of the breakeven point by improving gross margins as well as reducing fixed costs.
- Capex for FY21 would be restricted to GBP2.5b and would remain at similar levels beyond FY21. Capex control would be driven by avoiding investing in non-core areas (such as testing, which could be outsourced), forging more partnerships (such as BMW), and prioritizing capex for new platforms/products and EVs.

Jinesh Gandhi - Research analyst (Jinesh@MotilalOswal.com)

Vipul Agrawal - Research analyst (Vipul.Agrawal@MotilalOswal.com)

Investors are advised to refer through important disclosures made at the last page of the Research Report.

Motilal Oswal research is available on www.motilaloswal.com/Institutional-Equities, Bloomberg, Thomson Reuters, Factset and S&P Capital.

- Hence, it is confident of turning FCF-positive from 2QFY21 (with FY22 to be entirely FCF-positive), driven by volume improvement, gross margin improvement, cost-cutting, and tight capex control.

India CV cycle turning, but does not expect FY19 peak for three years

- CV demand is recovering at a slower pace; SVC is back on the growth path, and ICV and LCV are also recovering well. While Tippers is seeing recovery, Cargo is yet to revive (it is weighed by low utilization and weak freight rates). The Bus segment has been completely decimated due to the adoption of the WFH business model and State Transport Units (STUs) having weak financing.
- Market share loss in SCV was attributable to supply-side issues. Capacity is still constrained due to zero inventory at the time of resumption and good demand. ACE Petroleum is seeing good traction, and there is no capacity currently.
- The financing situation has eased v/s the last two months. More clarity would emerge over the next few weeks depending on how collections play out post moratorium.
- For M&HCV, it does not see peak FY19 volumes returning for the next three years.

Plans for India PV to turn cash-neutral by FY23; partners for securing future

- Demand for the industry has been better than expected, and TTMT has fared even better. TTMT's conversion rate has increased as it has one of the most refreshed portfolios.
- With a strong product portfolio, the focus of the PV business is to improve the frontend, and this would require reimagining the frontend strategy.
- The PV business would achieve positive EBITDA in FY21 itself and turn FCF-positive from FY23.
- It is looking for a partner for the PV business with the objective of securing the future of this business. It is open to all types of partnerships and does not necessarily seek just an equity partner.

Other takeaways

- The key focus for JLR's new CEO, Mr Thierry Bolloré, would be on: a) devising a strategy to sustainably make the Jaguar brand profitable and b) growing the China business sustainably.
- JLR recently lost market share in China due to supply-side issues as SUVs 4 and 5 are imported from the Solihull facility, which was closed for two months due to lockdown.
- A no-deal Brexit could also impact the supply chain as it imports 35–40% of RM from the EU. Import duties would increase cost of sales in the UK. The further impact of a no-deal Brexit would depend on how the GBP reacts.
- **PHEVs in JLR:** There is good acceptance of Plug-in Hybrid EVs (PHEVs) in the EU. From a customer standpoint, there is a clear preference for PHEVs (rather than Battery EVs or BEVs) for heavy SUVs. This would help the Land Rover / Range Rover brand protect its future portfolio and comply with future emission norms. The 'flex' MLA architecture is fully capable of taking everything from Internal Combustion Engines (ICEs) to BEVs.

Valuation and view

- With good support from the China, EU, and US governments, demand recovery is expected to be underway from 2HFY21. JLR should also benefit from the new Defender and PHEV Evoque/Discovery Sport. We expect JLR's volumes (including the JV) to post an 8% CAGR over FY20–23E (after 4.4% decline over FY17–20). This, coupled with possible improvement in the mix and a reduction in variable marketing spends, should drive further improvement in realizations.
- JLR has several levers, both cyclical and structural, in the form of: a) targeted cost-cutting of GBP1.5–2b (incl. GBP300m savings in depreciation post impairment), b) mix improvement (growth in Land Rover and China), c) operating leverage, d) cost savings on the modular platform on full rollout of the modular strategy, and e) the low-cost Slovakia plant. The convergence of multiple factors stated above could drive recovery in EBIT margins and leave scope for surprises on profitability. We estimate JLR's EBIT margins at -0.8%/4.4%/5.8% for FY21/FY22/FY23E (v/s -0.1% in FY20).
- While TTMT's India CV business has bottomed out, although recovery is slow, the business is witnessing sharp recovery, supported by industry-level recovery as well as TTMT's new products. We estimate LCV/M&HCV/PV volume CAGR of 5.5%/4%/20% over FY20–23E and S/A EBIT margins of -8.4%/-0.9%/2.3% for FY21E/FY22E/FY23E.
- We estimate net debt (Auto) to decline to ~INR296b by FY23 from ~INR482b in FY20. This is not factoring any monetization in non-core assets, but factoring warrant conversion by the parent, resulting in the infusion of ~INR26b.
- We revise our estimate upward by ~84% on low base for FY22E, driven by volume upgrades in India CV/PV, and 130bp EBITDA margins for India and ~40bp EBIT margins for JLR. The stock trades at 2.7x FY22E EV/EBITDA and 1x P/BV. Maintain **Buy**, with TP of ~INR227 (Sep'22E-based SOTP).

Exhibit 1: Revised estimates

Key Assumptions	FY21E			FY22E		
	Rev	Old	Chg (%)	Rev	Old	Chg (%)
Consolidated						
Net Sales	2,574	2,553	0.8	3,039	2,986	1.8
EBITDA	233	229	2.0	414	395	4.7
EBITDA Margins (%)	9.1	9.0	10bp	13.6	13.2	40bp
Net Profit	-120	-124	-2.9	42	23	83.8
Cons EPS	-33.3	-34.4	-2.9	10.8	5.9	83.8
JLR (IFRS, GBP M)						
Volumes ('000 units) incl JV	500	500	0.0	572	572	0.0
EBITDA	1,845	1,845	0.0	3,240	3,171	2.2
EBITDA Margins (%)	8.5	8.5	0bp	13.0	12.7	30bp
Net Profit	-677	-677	0.0	660	597	10.6
Standalone						
Volumes ('000 units)	409	380	7.9	542	466	16.2
EBITDA	8	5	63.8	41	31	32.5
EBITDA Margins (%)	2.2	1.4	80bp	8.0	6.7	130bp
Net Profit	(46.6)	(49.3)	-5.5	(11.3)	(23.2)	-51.2

Source: Company, MOFSL

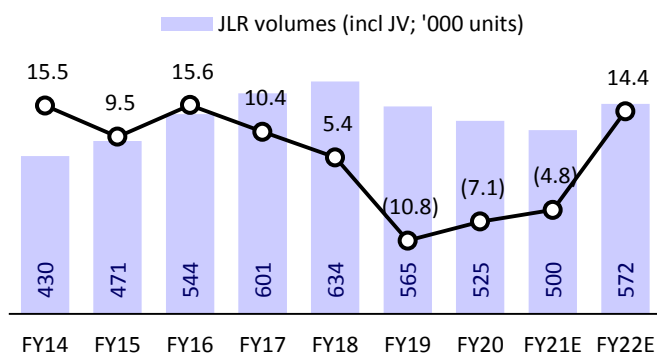
Exhibit 2: TATA MOTORS: Sum-of-the-Parts valuation

INR b	Valuation Parameter	Multiple (x)	FY22E	FY23E
SOTP Value				
Tata Motors - Standalone	EV/EBITDA	9	366	553
JLR (Adj. for R&D capitalization)	EV/EBITDA	2.0	539	654
JLR - Chery JV EBITDA Share	EV/EBITDA	2.0	35	42
Tata Motors Finance	P/BV	1	41	42
Total EV			981	1,292
Less: Net Debt (Ex-TMFL)			466	296
Tata Sons	50% discount		113	113
Total Equity Value			629	1,110
Fair Value (INR/Sh) – Ord Sh	Fully Diluted		164	290
<i>Upside (%)</i>			<i>14.6</i>	<i>102.3</i>

Source: MOFSL

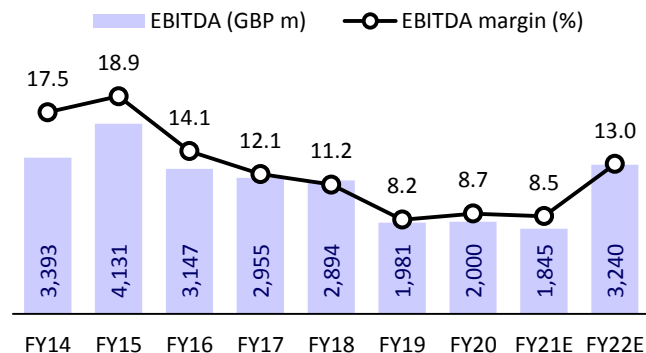
Tata Motors | Story in charts

Exhibit 3: JLR's volume growth trajectory



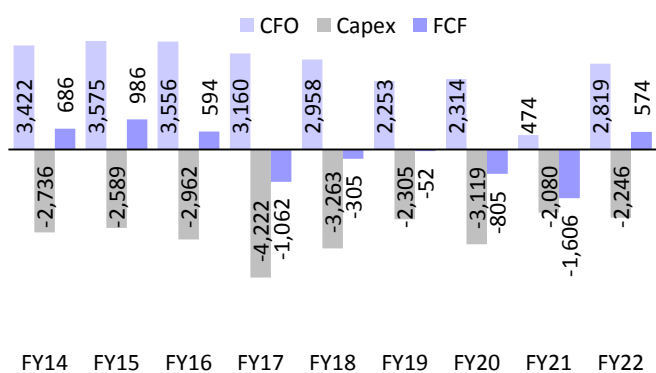
Source: Company, MOFSL

Exhibit 4: JLR's EBITDA and EBITDA margin trend



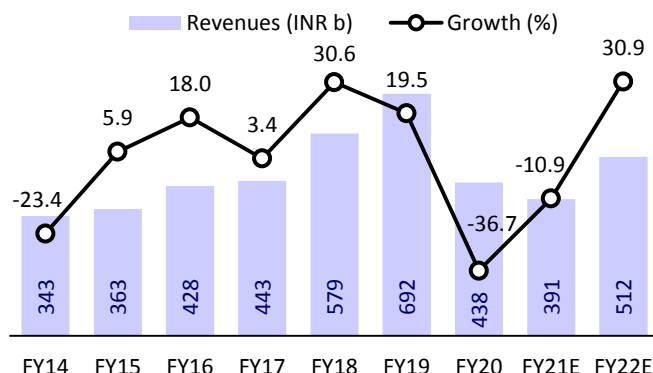
Source: Company, MOFSL

Exhibit 5: JLR's CFO/Capex/FCF trend (GBP m)



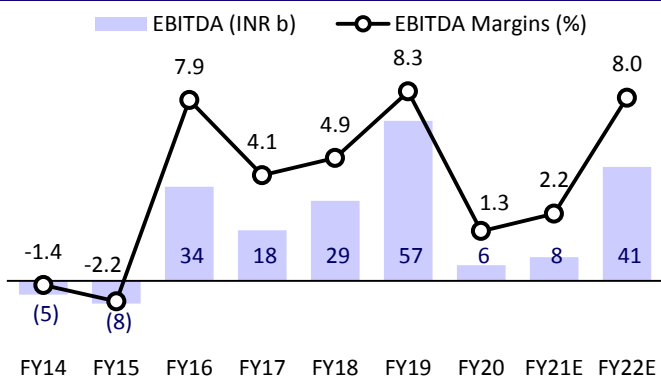
Source: Company, MOFSL

Exhibit 6: S/A business growth trajectory over FY19–21E



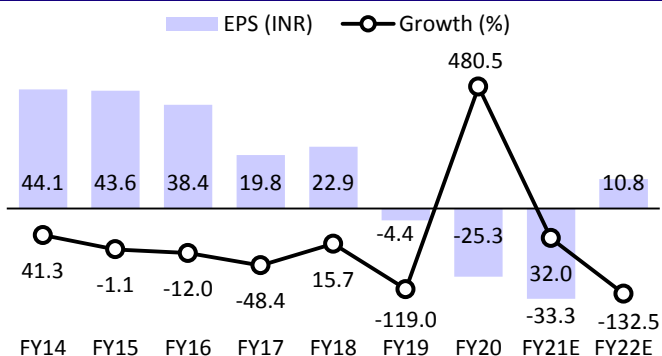
Source: Company, MOFSL

Exhibit 7: S/A EBITDA and margin trend



Source: Company, MOFSL

Exhibit 8: Consolidated earnings trajectory



Source: Company, MOFSL

Key operating metrics

Snapshot of Revenue model

'000 units	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21E	FY22E
JLR									
Jaguar	79	76	102	179	176	177	144	129	141
Growth (%)	37.2	-3.5	33.5	75.1	-1.4	0.7	-18.7	-10.9	9.7
% of Total JLR Vols	18.4	16.1	18.8	29.8	27.8	31.4	27.5	25.7	24.6
Land Rover	351	394	442	422	457	388	381	372	431
Growth (%)	11.6	12.4	12.2	-4.5	8.3	-15.2	-1.7	-2.5	16.0
% of Total JLR Vols	81.6	83.0	81.2	70.2	72.2	68.6	72.5	74.3	75.4
Total JLR Volumes (incl JV)	430	475	544	601	634	565	525	500	572
Growth (%)	15.5	10.4	14.6	10.4	5.4	-10.8	-7.1	-4.8	14.4
ASP (GBP '000/unit)	45	46	44	46	47	48	48	50	50
Growth (%)	6.3	3.0	-5.8	4.0	3.9	0.8	1.3	3.3	0.0
Net JLR Sales (GBP b)	19	22	22	24	26	24	23	22	25
Growth (%)	22.8	12.8	1.9	9.2	5.9	-6.1	-5.1	-5.4	14.5
INDIA									
MH&CVs	122	143	176	176	192	225	124	91	118
Growth (%)	-19.7	16.5	23.6	-0.3	9.2	17.1	-44.7	-26.9	29.3
LCVs	299	222	205	209	257	295	216	177	222
Growth (%)	-30.3	-25.8	-7.7	2.1	22.7	14.9	-26.7	-18.0	25.0
Total CVs	421	365	381	385	449	520	341	268	339
Growth (%)	-27.5	-13.5	4.6	1.0	16.6	15.9	-34.5	-21.3	26.5
Total PVs	145	138	152	157	190	211	133	141	203
Growth (%)	-36.5	-5.3	10.1	3.9	20.8	11.2	-37.3	6.4	43.7
Total Volumes	567	502	533	542	639	731	473	409	542
Growth (%)	-30.1	-11.4	6.1	1.8	17.8	14.5	-35.3	-13.5	32.4
ASP (INR 000/unit)	605	723	804	817	906	946	926	954	943
Net S/A Sales (INR b)	343	363	428	443	579	692	438	391	512
Growth (%)	-23.4	5.9	18.0	3.4	30.6	19.5	-36.7	-10.9	30.9

Financials and valuations

Income Statement (Consolidated)							(INR m)	
Y/E March	2015	2016	2017	2018	2019	2020	2021E	2022E
Total Income	2,631,590	2,730,456	2,696,925	2,915,505	3,019,384	2,610,680	2,574,084	3,039,400
Change (%)	13.0	3.8	-1.2	8.1	3.6	-13.5	-1.4	18.1
Expenditure	2,210,452	2,312,693	2,327,802	2,577,462	2,721,436	2,371,537	2,340,840	2,625,610
EBITDA	421,138	417,763	369,124	338,043	297,948	239,143	233,244	413,789
% of Net Sales	16.0	15.3	13.7	11.6	9.9	9.2	9.1	13.6
Depreciation	133,886	167,108	179,050	215,536	235,906	214,254	231,615	256,512
EBIT	287,252	250,655	190,074	122,507	62,042	24,889	1,630	157,277
Product Dev. Exp.	28,752	34,688	34,136	35,319	42,246	41,885	39,989	43,407
Interest	48,615	48,891	42,380	46,818	57,586	72,433	73,596	69,878
Other Income	8,987	8,854	7,545	39,576	29,653	29,732	26,752	21,700
EO Exp/(Inc)	930	18,504	-11,146	-19,751	296,516	28,714	0	0
Forex Gain/ (Loss)	-917	-16,169	-39,101	11,853	-9,059	-17,387	-9,427	-9,764
PBT	217,026	141,258	93,148	111,550	-313,712	-105,800	-94,630	55,929
Tax	76,429	30,251	32,512	43,419	-24,375	3,953	25,088	20,162
Effective Rate (%)	35.2	21.4	34.9	38.9	7.8	-3.7	-26.5	36.0
Reported PAT	140,597	111,007	60,636	68,131	-289,337	-109,752	-119,719	35,767
Change (%)	-0.3	-21.0	-45.4	12.4	-524.7	-62.1	9.1	-129.9
% of Net Sales	5.3	4.1	2.2	2.3	-9.6	-4.2	-4.7	1.2
Minority Interest	-868	-989	-1,022	-1,025	-1,020	-956	-153	-274
Share of profit of associate	134	5,775	14,930	22,783	2,095	-10,000	-126	6,047
Net Profit	139,863	115,793	74,544	89,889	-288,262	-120,709	-119,998	41,540
Adj. PAT	140,465	130,334	67,288	77,826	-14,785	-90,921	-119,998	41,540
Change (%)	-1.1	-7.2	-48.4	15.7	-119.0	515.0	32.0	-134.6

Balance Sheet (Cons.)

Y/E March	2015	2016	2017	2018	2019	2020	2021E	2022E
Share Capital	6,438	6,792	6,792	6,792	6,792	7,195	7,196	7,659
Reserves	556,181	782,732	573,827	947,487	595,003	623,590	503,592	570,694
Net Worth	562,619	789,524	580,619	954,279	601,795	630,785	510,788	578,353
Loans	692,115	619,612	744,891	779,944	911,239	996,782	996,782	996,782
Deferred Tax	-13,900	44,748	11,740	19,671	-36,601	-35,160	-35,160	-35,160
Capital Employed	1,245,167	1,458,212	1,341,781	1,759,144	1,481,664	1,600,542	1,480,698	1,548,537
Gross Fixed Assets	1,582,066	1,976,068	1,628,389	2,156,778	2,258,724	2,601,413	2,958,443	3,222,319
Less: Depreciation	744,241	911,348	675,681	917,952	1,153,858	1,368,113	1,599,727	1,856,239
Net Fixed Assets	837,825	1,064,720	952,708	1,238,826	1,104,866	1,233,301	1,358,716	1,366,080
Capital WIP	286,401	259,189	336,988	400,335	318,838	356,223	250,000	250,000
Goodwill	46,970	7,598	6,733	1,165	7,478	7,771	7,771	7,771
Investments	153,367	237,670	203,379	208,128	157,707	163,085	51,219	57,265
Curr.Assets	1,034,685	1,102,234	1,237,735	1,423,465	1,431,544	1,406,255	1,167,031	1,424,593
Inventory	292,723	326,557	350,853	421,377	390,137	374,569	282,091	349,739
Sundry Debtors	125,792	135,709	140,756	198,933	189,962	111,727	141,046	166,542
Cash & Bank Bal.	321,158	304,604	360,779	346,139	326,488	337,270	261,205	392,622
Loans & Advances	256,948	254,033	291,474	445,929	512,867	569,741	469,741	502,741
Current Liab. & Prov.	1,114,081	1,213,200	1,395,762	1,512,775	1,538,770	1,566,092	1,354,039	1,557,172
Sundry Creditors	574,073	615,618	625,326	769,398	716,907	663,982	648,810	749,441
Other Liabilities	328,305	460,226	622,314	538,766	601,347	651,452	528,921	599,553
Net Current Assets	-79,396	-110,965	-158,027	-89,309	-107,226	-159,837	-187,008	-132,579
Appl. of Funds	1,245,167	1,458,212	1,341,782	1,759,144	1,481,664	1,600,542	1,480,698	1,548,537

E: MOFSL Estimates

Financials and valuations

Ratios (Con.)

Y/E March	2015	2016	2017	2018	2019	2020	2021E	2022E
Basic (INR)								
EPS	43.6	38.4	19.8	22.9	-4.4	-25.3	-33.3	10.8
EPS Fully Diluted	43.6	38.4	19.8	22.9	-4.4	-25.3	-33.3	10.8
EPS Growth (%)	-1.1	-12.0	-48.4	15.7	-119.0	480.5	32.0	-132.5
Cash EPS	85.2	87.6	72.5	86.4	65.1	34.3	31.0	77.8
Book Value (INR/Share)	174.8	232.5	171.0	281.0	177.2	175.3	142.0	151.0
DPS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Payout (Incl. Div. Tax) %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Valuation (x)								
Consolidated P/E	2.6	3.0	5.8	5.0	-26.2	-5.7	-4.3	13.2
EV/EBITDA	1.4	1.1	1.5	1.8	2.7	4.2	5.1	2.6
EV/Sales	0.2	0.2	0.2	0.2	0.3	0.4	0.5	0.4
Price to Book Value	0.7	0.5	0.7	0.4	0.6	0.8	1.0	0.9
Dividend Yield (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Profitability Ratios (%)								
RoE	23.1	19.3	9.8	10.1	-1.9	-14.8	-21.0	7.6
RoCE	15.7	15.1	9.2	6.4	5.2	3.7	2.3	7.6
RoIC	39.2	34.5	22.6	12.0	7.7	3.6	0.2	11.4
Turnover Ratios								
Debtors (Days)	17	18	19	25	23	16	20	20
Inventory (Days)	41	44	47	53	47	52	40	42
Creditors (Days)	80	82	85	96	87	93	92	90
Asset Turnover (x)	2.1	1.9	2.0	1.7	2.0	1.6	1.7	2.0
Leverage Ratio								
Debt/Equity (x)	1.2	0.8	1.3	0.8	1.5	1.6	2.0	1.7

Cash Flow Statement

Y/E March	2015	2016	2017	2018	2019	2020	2021E	2022E
(INR m)								
OP/(Loss) before Tax	139,863	110,238	75,566	90,914	-287,242	-119,752	-119,998	41,540
Int/Div. Received	7,777	8,258	36,653	39,542	-4,413	-11,913	26,752	21,700
Depreciation	133,864	170,142	179,050	215,536	235,906	214,254	231,615	256,512
Direct Taxes Paid	-41,940	-19,939	-18,951	-30,212	-26,594	-17,489	-25,088	-20,162
(Inc)/Dec in WC	-36,718	25,515	32,542	-64,337	-72,123	50,636	-48,894	76,989
Other Items	136,570	96,855	8,954	23,333	64,994	125,105	153	274
CF from Op Activity	339,415	391,069	313,814	274,776	-89,472	240,841	64,538	376,852
Extra-ordinary Items	20,191	8,857	-11,822	-36,202	278,379	25,488	0	0
CF after EO Items	359,606	399,925	301,992	238,574	188,908	266,329	64,538	376,852
(Inc)/Dec in FA+CWIP	-315,396	-326,232	-304,135	-350,486	-352,363	-295,306	-250,807	-263,876
Free Cash Flow	44,210	73,693	-2,143	-111,912	-163,455	-28,976	-186,269	112,977
(Pur)/Sale of Invest.	-37,570	-68,134	-76,664	86,031	157,691	-46,397	111,866	-6,047
CF from Inv Activity	-352,966	-394,366	-380,799	-264,456	-194,672	-341,702	-138,941	-269,923
Issue of Shares	0	74,332	46	0	0	38,888	1	26,025
Inc/(Dec) in Debt	122,288	-47,483	116,583	75,183	159,302	81,318	0	0
Interest Paid	-63,070	-57,039	-53,363	-54,106	-70,051	-75,184	-73,596	-69,878
Dividends Paid	-7,204	-1,739	-1,212	-960	-947	-568	0	0
CF from Fin Activity	52,014	-31,930	62,053	20,117	88,304	44,453	-73,595	-43,853
Inc/(Dec) in Cash	58,655	-26,371	-16,754	-5,764	82,540	-30,920	-147,997	63,077
Add: Beginning Bal.	152,629	211,283	171,536	152,932	133,058	215,598	184,678	36,681
Closing Balance	211,283	184,913	154,782	147,167	215,598	184,678	36,681	99,757
E: MOFSL Estimates								

Explanation of Investment Rating	
Investment Rating	Expected return (over 12-month)
BUY	>=15%
SELL	< - 10%
NEUTRAL	< - 10 % to 15%
UNDER REVIEW	Rating may undergo a change
NOT RATED	We have forward looking estimates for the stock but we refrain from assigning recommendation

*In case the recommendation given by the Research Analyst is inconsistent with the investment rating legend for a continuous period of 30 days, the Research Analyst shall within following 30 days take appropriate measures to make the recommendation consistent with the investment rating legend.

Disclosures

The following Disclosures are being made in compliance with the SEBI Research Analyst Regulations 2014 (herein after referred to as the Regulations).

Motilal Oswal Financial Services Ltd. (MOFSL) is a SEBI Registered Research Analyst having registration no. INH000000412. MOFSL, the Research Entity (RE) as defined in the Regulations, is engaged in the business of providing Stock broking services, Investment Advisory Services, Depository participant services & distribution of various financial products. MOFSL is a subsidiary company of Passionate Investment Management Pvt. Ltd.. (PIMPL). MOFSL is a listed public company, the details in respect of which are available on www.motilaloswal.com. MOFSL (erstwhile Motilal Oswal Securities Limited - MOSL) is registered with the Securities & Exchange Board of India (SEBI) and is a registered Trading Member with National Stock Exchange of India Ltd. (NSE) and Bombay Stock Exchange Limited (BSE), Multi Commodity Exchange of India Limited (MCX) and National Commodity & Derivatives Exchange Limited (NCDEX) for its stock broking activities & is Depository participant with Central Depository Services Limited (CDSL) National Securities Depository Limited (NSDL), NERL, COMRIS and CCRL and is member of Association of Mutual Funds of India (AMFI) for distribution of financial products and Insurance Regulatory & Development Authority of India (IRDA) as Corporate Agent for insurance products. Details of associate entities of Motilal Oswal Financial Services Limited are available on the website at <http://onlinereports.motilaloswal.com/Dormant/documents/List%20of%20Associate%20companies.pdf>

MOFSL and its associate company(ies), their directors and Research Analyst and their relatives may; (a) from time to time, have a long or short position in, act as principal in, and buy or sell the securities or derivatives thereof of companies mentioned herein. (b) be engaged in any other transaction involving such securities and earn brokerage or other compensation or act as a market maker in the financial instruments of the company(ies) discussed herein or act as an advisor or lender/borrower to such company(ies) or may have any other potential conflict of interests with respect to any recommendation and other related information and opinions.; however the same shall have no bearing whatsoever on the specific recommendations made by the analyst(s), as the recommendations made by the analyst(s) are completely independent of the views of the associates of MOFSL even though there might exist an inherent conflict of interest in some of the stocks mentioned in the research report

MOFSL and / or its affiliates do and seek to do business including investment banking with companies covered in its research reports. As a result, the recipients of this report should be aware that MOFSL may have a potential conflict of interest that may affect the objectivity of this report. Compensation of Research Analysts is not based on any specific merchant banking, investment banking or brokerage service transactions. Details of pending Enquiry Proceedings of Motilal Oswal Financial Services Limited are available on the website at <https://galaxy.motilaloswal.com/ResearchAnalyst/PublishViewLitigation.aspx>

A graph of daily closing prices of securities is available at www.nseindia.com, www.bseindia.com. Research Analyst views on Subject Company may vary based on Fundamental research and Technical Research. Proprietary trading desk of MOFSL or its associates maintains arm's length distance with Research Team as all the activities are segregated from MOFSL research activity and therefore it can have an independent view with regards to Subject Company for which Research Team have expressed their views.

Regional Disclosures (outside India)

This report is not directed or intended for distribution to or use by any person or entity resident in a state, country or any jurisdiction, where such distribution, publication, availability or use would be contrary to law, regulation or which would subject MOFSL & its group companies to registration or licensing requirements within such jurisdictions.

For Hong Kong:

This report is distributed in Hong Kong by Motilal Oswal capital Markets (Hong Kong) Private Limited, a licensed corporation (CE AYY-301) licensed and regulated by the Hong Kong Securities and Futures Commission (SFC) pursuant to the Securities and Futures Ordinance (Chapter 571 of the Laws of Hong Kong) "SFO". As per SEBI (Research Analyst Regulations) 2014 Motilal Oswal Securities (SEBI Reg No. INH000000412) has an agreement with Motilal Oswal capital Markets (Hong Kong) Private Limited for distribution of research report in Hong Kong. This report is intended for distribution only to "Professional Investors" as defined in Part I of Schedule 1 to SFO. Any investment or investment activity to which this document relates is only available to professional investor and will be engaged only with professional investors." Nothing here is an offer or solicitation of these securities, products and services in any jurisdiction where their offer or sale is not qualified or exempt from registration. The Indian Analyst(s) who compile this report is/are not located in Hong Kong & are not conducting Research Analysis in Hong Kong.

For U.S.

Motilal Oswal Financial Services Limited (MOFSL) is not a registered broker - dealer under the U.S. Securities Exchange Act of 1934, as amended (the "1934 act") and under applicable state laws in the United States. In addition MOFSL is not a registered investment adviser under the U.S. Investment Advisers Act of 1940, as amended (the "Advisers Act") and together with the 1934 Act, the "Acts), and under applicable state laws in the United States. Accordingly, in the absence of specific exemption under the Acts, any brokerage and investment services provided by MOFSL, including the products and services described herein are not available to or intended for U.S. persons. This report is intended for distribution only to "Major Institutional Investors" as defined by Rule 15a-6(b)(4) of the Exchange Act and interpretations thereof by SEC (henceforth referred to as "major institutional investors"). This document must not be acted on or relied on by persons who are not major institutional investors. Any investment or investment activity to which this document relates is only available to major institutional investors and will be engaged in only with major institutional investors. In reliance on the exemption from registration provided by Rule 15a-6 of the U.S. Securities Exchange Act of 1934, as amended (the "Exchange Act") and interpretations thereof by the U.S. Securities and Exchange Commission ("SEC") in order to conduct business with Institutional Investors based in the U.S., MOFSL has entered into a chaperoning agreement with a U.S. registered broker-dealer, Motilal Oswal Securities International Private Limited. ("MOSIPL"). Any business interaction pursuant to this report will have to be executed within the provisions of this chaperoning agreement.

The Research Analysts contributing to the report may not be registered /qualified as research analyst with FINRA. Such research analyst may not be associated persons of the U.S. registered broker-dealer, MOSIPL, and therefore, may not be subject to NASD rule 2711 and NYSE Rule 472 restrictions on communication with a subject company, public appearances and trading securities held by a research analyst account.

For Singapore

In Singapore, this report is being distributed by Motilal Oswal Capital Markets Singapore Pte Ltd ("MOCMSPL") (Co.Reg. NO. 201129401Z) which is a holder of a capital markets services license and an exempt financial adviser in Singapore. As per the approved agreement under Paragraph 9 of Third Schedule of Securities and Futures Act (CAP 289) and Paragraph 11 of First Schedule of Financial Advisors Act (CAP 110) provided to MOCMSPL by Monetary Authority of Singapore. Persons in Singapore should contact MOCMSPL in respect of any matter arising from, or in connection with this report/publication/communication. This report is distributed solely to persons who qualify as "Institutional Investors", of which some of whom may consist of "accredited" institutional investors as defined in section 4A(1) of the Securities and Futures Act, Chapter 289 of Singapore ("the SFA"). Accordingly, if a Singapore person is not or ceases to be such an institutional investor, such Singapore Person must immediately discontinue any use of this Report and inform MOCMSPL.

Specific Disclosures

- 1 MOFSL, Research Analyst and/or his relatives does not have financial interest in the subject company, as they do not have equity holdings in the subject company.
- 2 MOFSL, Research Analyst and/or his relatives do not have actual/beneficial ownership of 1% or more securities in the subject company
- 3 MOFSL, Research Analyst and/or his relatives have not received compensation/other benefits from the subject company in the past 12 months
- 4 MOFSL, Research Analyst and/or his relatives do not have material conflict of interest in the subject company at the time of publication of research report
- 5 Research Analyst has not served as director/officer/employee in the subject company
- 6 MOFSL has not acted as a manager or co-manager of public offering of securities of the subject company in past 12 months
- 7 MOFSL has not received compensation for investment banking/ merchant banking/brokerage services from the subject company in the past 12 months
- 8 MOFSL has not received compensation for other than investment banking/merchant banking/brokerage services from the subject company in the past 12 months
- 9 MOFSL has not received any compensation or other benefits from third party in connection with the research report
- 10 MOFSL has not engaged in market making activity for the subject company

The associates of MOFSL may have:

- financial interest in the subject company
- actual/beneficial ownership of 1% or more securities in the subject company
- received compensation/other benefits from the subject company in the past 12 months
- other potential conflict of interests with respect to any recommendation and other related information and opinions.; however the same shall have no bearing whatsoever on the specific recommendations made by the analyst(s), as the recommendations made by the analyst(s) are completely independent of the views of the associates of MOFSL even though there might exist an inherent conflict of interest in some of the stocks mentioned in the research report.
- acted as a manager or co-manager of public offering of securities of the subject company in past 12 months
- be engaged in any other transaction involving such securities and earn brokerage or other compensation or act as a market maker in the financial instruments of the company(ies) discussed herein or act as an advisor or lender/borrower to such company(ies)
- received compensation from the subject company in the past 12 months for investment banking / merchant banking / brokerage services or from other than said services.

The associates of MOFSL has not received any compensation or other benefits from third party in connection with the research report

Above disclosures include beneficial holdings lying in demat account of MOFSL which are opened for proprietary investments only. While calculating beneficial holdings, It does not consider demat accounts which are opened in name of MOFSL for other purposes (i.e holding client securities, collaterals, error trades etc.). MOFSL also earns DP income from clients which are not considered in above disclosures.

Analyst Certification

The views expressed in this research report accurately reflect the personal views of the analyst(s) about the subject securities or issues, and no part of the compensation of the research analyst(s) was, is, or will be directly or indirectly related to the specific recommendations and views expressed by research analyst(s) in this report.

Terms & Conditions:

This report has been prepared by MOFSL and is meant for sole use by the recipient and not for circulation. The report and information contained herein is strictly confidential and may not be altered in any way, transmitted to, copied or distributed, in part or in whole, to any other person or to the media or reproduced in any form, without prior written consent of MOFSL. The report is based on the facts, figures and information that are considered true, correct, reliable and accurate. The intent of this report is not recommendatory in nature. The information is obtained from publicly available media or other sources believed to be reliable. Such information has not been independently verified and no guaranty, representation of warranty, express or implied, is made as to its accuracy, completeness or correctness. All such information and opinions are subject to change without notice. The report is prepared solely for informational purpose and does not constitute an offer document or solicitation of offer to buy or sell or subscribe for securities or other financial instruments for the clients. Though disseminated to all the customers simultaneously, not all customers may receive this report at the same time. MOFSL will not treat recipients as customers by virtue of their receiving this report.

Disclaimer:

The report and information contained herein is strictly confidential and meant solely for the selected recipient and may not be altered in any way, transmitted to, copied or distributed, in part or in whole, to any other person or to the media or reproduced in any form, without prior written consent. This report and information herein is solely for informational purpose and may not be used or considered as an offer document or solicitation of offer to buy or sell or subscribe for securities or other financial instruments. Nothing in this report constitutes investment, legal, accounting and tax advice or a representation that any investment or strategy is suitable or appropriate to your specific circumstances. The securities discussed and opinions expressed in this report may not be suitable for all investors, who must make their own investment decisions, based on their own investment objectives, financial positions and needs of specific recipient. This may not be taken in substitution for the exercise of independent judgment by any recipient. Each recipient of this document should make such investigations as it deems necessary to arrive at an independent evaluation of an investment in the securities of companies referred to in this document (including the merits and risks involved), and should consult its own advisors to determine the merits and risks of such an investment. The investment discussed or views expressed may not be suitable for all investors. Certain transactions -including those involving futures, options, another derivative products as well as non-investment grade securities - involve substantial risk and are not suitable for all investors. No representation or warranty, express or implied, is made as to the accuracy, completeness or fairness of the information and opinions contained in this document. The Disclosures of Interest Statement incorporated in this document is provided solely to enhance the transparency and should not be treated as endorsement of the views expressed in the report. This information is subject to change without any prior notice. The Company reserves the right to make modifications and alternations to this statement as may be required from time to time without any prior approval. MOFSL, its associates, their directors and the employees may from time to time, effect or have effected an own account transaction in, or deal as principal or agent in or for the securities mentioned in this document. They may perform or seek to perform investment banking or other services for, or solicit investment banking or other business from, any company referred to in this report. Each of these entities functions as a separate, distinct and independent of each other. The recipient should take this into account before interpreting the document. This report has been prepared on the basis of information that is already available in publicly accessible media or developed through analysis of MOFSL. The views expressed are those of the analyst, and the Company may or may not subscribe to all the views expressed therein. This document is being supplied to you solely for your information and may not be reproduced, redistributed or passed on, directly or indirectly, to any other person or published, copied, in whole or in part, for any purpose. This report is not directed or intended for distribution to, or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction, where such distribution, publication, availability or use would be contrary to law, regulation or which would subject MOFSL to any registration or licensing requirement within such jurisdiction. The securities described herein may or may not be eligible for sale in all jurisdictions or to certain category of investors. Persons in whose possession this document may come are required to inform themselves of and to observe such restriction. Neither the Firm, not its directors, employees, agents or representatives shall be liable for any damages whether direct or indirect, incidental, special or consequential including lost revenue or lost profits that may arise from or in connection with the use of the information. The person accessing this information specifically agrees to exempt MOFSL or any of its affiliates or employees from, any and all responsibility/liability arising from such misuse and agrees not to hold MOFSL or any of its affiliates or employees responsible for any such misuse and further agrees to hold MOFSL or any of its affiliates or employees free and harmless from all losses, costs, damages, expenses that may be suffered by the person accessing this information due to any errors and delays.

Registered Office Address: Motilal Oswal Tower, Rahimtullah Sayani Road, Opposite Parel ST Depot, Prabhadevi, Mumbai-400025; Tel No.: 022 71934200/ 022-71934263; Website www.motilaloswal.com CIN no.: L67190MH2005PLC153397. Correspondence Office Address: Palm Spring Centre, 2nd Floor, Palm Court Complex, New Link Road, Malad(West), Mumbai- 400 064. Tel No: 022 7188 1000.

Registration Nos.: Motilal Oswal Financial Services Limited (MOFSL)*: INZ000158836(BSE/NSE/MCX/NCDEX); CDSL and NSDL: IN-DP-16-2015; Research Analyst: INH000000412. AMFI: ARN - 146822; Investment Adviser: INA000007100; Insurance Corporate Agent: CA0579;PMS:INP000006712. Motilal Oswal Asset Management Company Ltd. (MOAMC): PMS (Registration No.: INP000000670); PMS and Mutual Funds are offered through MOAMC which is group company of MOFSL. Motilal Oswal Wealth Management Ltd. (MOWML): PMS (Registration No.: INP000004409) is offered through MOWML, which is a group company of MOFSL. Motilal Oswal Financial Services Limited is a distributor of Mutual Funds, PMS, Fixed Deposit, Bond, NCDs, Insurance Products and IPOs. Real Estate is offered through Motilal Oswal Real Estate Investment Advisors II Pvt. Ltd. which is a group company of MOFSL. Private Equity is offered through Motilal Oswal Private Equity Investment Advisors Pvt. Ltd which is a group company of MOFSL. Research & Advisory services is backed by proper research. Please read the Risk Disclosure Document prescribed by the Stock Exchanges carefully before investing. There is no assurance or guarantee of the returns. Investment in securities market is subject to market risk, read all the related documents carefully before investing. Details of Compliance Officer: Name: Neeraj Agarwal, Email ID: na@motilaloswal.com, Contact No.: 022-71881085.

* MOSL has been amalgamated with Motilal Oswal Financial Services Limited (MOFSL) w.e.f August 21, 2018 pursuant to order dated July 30, 2018 issued by Hon'ble National Company Law Tribunal, Mumbai Bench.