

Ashok Leyland

Estimate change



TP change



Rating change



Motilal Oswal values your support in the Asiamoney Brokers Poll 2020 for India Research, Sales and Trading team. We [request your ballot](#).



Bloomberg	AL IN
Equity Shares (m)	2,927
M.Cap.(INRb)/(USDb)	153.7 / 2.1
52-Week Range (INR)	91 / 34
1, 6, 12 Rel. Per (%)	5/-20/-28
12M Avg Val (INR M)	2120

Financials & Valuations (INR b)

Y/E March	2020	2021E	2022E
Sales	174.7	169.1	210.1
EBITDA	11.7	8.6	17.4
Adj. PAT	3.4	0.0	6.3
Adj. EPS (INR)	1.2	0.0	2.2
EPS Gr. (%)	-83.1	-98.5	NA
BV/Sh. (INR)	24.7	24.8	25.7

Ratios

RoE (%)	4.4	0.1	8.6
ROCE (%)	4.2	2.6	7.3
Payout (%)	51.5	0.0	55.6

Valuations

P/E (x)	44.8	NA	24.2
P/BV (x)	2.1	2.1	2.0
EV/EBITDA (x)	14.6	20.4	9.8
Div. Yield (%)	1.0	0.0	1.9
FCF Yield (%)	-2.3	2.6	6.9

Shareholding pattern (%)

As On	Mar-20	Dec-19	Mar-19
Promoter	51.1	51.1	51.1
DII	14.9	12.4	10.1
FII	17.6	19.2	19.1
Others	16.3	17.3	19.7

FII Includes depository receipts

CMP: INR52
TP: INR65 (+25%)
Buy
Above est.; Better mix drives beat; ICDs to group not a new practice
Focus on cost-cutting / cash conservation, along with LCV/MBP launch

- 4QFY20 performance was better than expected, led by a better mix. While the FY21 outlook is unclear, expansion in LCVs would reduce the pain. Net debt is inching up, but stands comfortable.
- We lower our FY21/FY22E EPS by 96%/20% to factor low volumes, adverse operating leverage, and increased gearing. We maintain our **Buy** rating in anticipation of recovery 2HFY21 onward.

Low volumes, op. deleverage lead net loss after 23 quarters

- 4QFY20 revenue/EBITDA declined ~57%/81% to ~INR38.4b/INR1.83b, with recurring loss of INR118m. FY20 revenue/EBITDA/PAT declined 40%/63%/83%.
- Volumes declined ~57% YoY (-18% QoQ) to ~25.5k units. Net realization improved 1.3% YoY (17% QoQ) to INR1,505k (est.: INR1,357k), led by a better mix and lower discounts.
- As a result, gross margins improved ~160bp YoY (+240bp QoQ) to 28.9% (est.: 27%). EBITDA margins declined ~630bp YoY (-80bp QoQ) to 4.8% (est.: 2.6%) due to higher staff cost and adverse operating leverage.
- EBITDA declined ~81% YoY (-19% QoQ) to INR1.83b (est.: INR0.88b). This, coupled with higher depreciation / interest cost, resulted in recurring loss of ~INR118m (est.: loss of INR379m).

Highlights from management commentary

- ICDs:** These are only given to group companies and are callable/liquid. No incremental ICDs were reported in 1QFY21. The strategy of giving ICDs is to earn a 3–4pp spread on treasury.
- Capex:** The major capex cycle is over for now, except M/CE capex. Investments in subs would be largely for Optare (UK-based bus manufacturer).
- With the AVTR launch (modular platform), AL is focusing on selling value to the consumer (best TCO due to best fluid economy) and not on discount selling.
- LCV under Project Phoenix would be launched in the next three months. Additional products in the LCV portfolio would give the dealer more headroom to grow in the existing product (Dost) itself.
- Net debt:** This stood at INR20b as of Mar'20 v/s INR7.15b in cash in Mar'19. May'20-end net debt was at ~INR40b as the company completed payments to its vendors. Gross debt as of Mar'20 stood at INR31b.
- Cash burn of INR1.5–1.7b per month was witnessed in lockdown.
- Cost-cutting:** A pan-company program was introduced for cutting cost in every aspect. Program K54-2 delivered savings of ~INR5.4b in FY20.

Valuation and view

- Valuations at 9.8x FY22 EV/EBITDA and 2x FY22 P/BV are in an early recovery cycle and do not fully reflect AL's focus on adding new revenue and profit pools.
- Maintain **Buy**, with TP of ~INR65 [INR8/sh of HLFL + 10x Jun'22 EV/EBITDA v/s ~11x 10-year median EV/EBITDA].

Jinesh Gandhi - Research analyst (Jinesh@MotilalOswal.com); +91 22 6129 1524

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.

Quarterly Performance (S/A)

(INR m)

	FY19				FY20				FY19	FY20	FY20
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q			4QE
Net operating revenues	62,627	76,211	63,252	88,459	56,839	39,295	40,157	38,385	290,550	174,675	34,595
Change (%)	47.1	25.4	-12.0	0.7	-9.2	-48.4	-36.5	-56.6	10.2	-39.9	-60.9
RM/sales %	68.9	72.1	70.1	72.7	69.9	69.0	73.5	71.1	71.2	70.8	73.0
Staff/sales %	8.0	6.9	7.9	6.5	8.8	11.0	6.8	10.7	7.2	9.2	10.1
Other exp/sales %	12.4	10.1	11.7	9.7	11.8	14.1	14.1	13.5	10.8	13.2	14.4
EBITDA	6,716	8,290	6,496	9,854	5,370	2,286	2,252	1,830	31,357	11,737	884
EBITDA Margins(%)	10.7	10.9	10.3	11.1	9.4	5.8	5.6	4.8	10.8	6.7	2.6
Interest	142	204	192	166	126	301	337	331	704	1,095	96
Other Income	525	276	208	91	211	455	223	344	1,099	1,233	236
Depreciation	1,525	1,481	1,607	1,598	1,646	1,600	1,575	1,877	6,210	6,698	1,666
PBT after EO	5,360	6,708	4,836	8,065	3,607	191	542	-721	24,968	3,619	-641
Effective Tax Rate (%)	21.3	21.3	21.2	19.0	36.2	-103.5	48.8	20.5	20.6	33.8	40.9
Adj PAT	4,358	5,430	3,857	6,623	2,435	818	292	-118	20,268	3,426	-379
Change (%)	262.2	62.5	-20.8	-11.3	-44.1	-84.9	-92.4	-101.8	16.4	-83.1	-105.7

E: MOFSL Estimates

Key Performance Indicators

Y/E March	FY19				FY20				FY19	FY20	FY20
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q			4QE
M&HCV	30,647	38,387	29,805	44,019	26,719	16,815	18,122	16,953	142,858	78,594	16,953
Dom. M&HCV Mkt sh (%)	30.2	35.0	31.9	37.0	34.1	30.5	30.3	31.3	33.8	31.8	
LCV	11,481	13,572	13,953	15,502	12,889	12,123	13,083	8,551	54,508	46,573	8,551
Dom. LCV Mkt sh (%)	8.3	8.9	9.6	9.1	10.0	10.2	9.3	8.5	9.0	9.5	
Total Volumes (nos)	42,128	51,959	43,758	59,521	39,608	28,938	31,205	25,504	197,366	125,253	25,504
AL's CV Market Sh (%)	16.9	18.6	17.3	19.8	13.2	16.1	15.3	15.3	18.3	14.7	
Realizations (INR '000)	1,487	1,467	1,446	1,486	1,435	1,358	1,287	1,505	1,472	1,395	1,357
Growth %	-0.5	-1.1	-6.3	-0.5	-3.5	-7.4	-11.0	1.3	5.6	-14.2	-9
Cost Break-up											
RM Cost (% of sales)	68.9	72.1	70.1	72.7	69.9	69.0	73.5	71.1	70.8	73.0	73.0
Staff Cost (% of sales)	8.0	6.9	7.9	6.5	8.8	11.0	6.8	10.7	9.2	10.1	10.1
Other Cost (% of sales)	12.4	10.1	11.7	9.7	11.8	14.1	14.1	13.5	13.2	14.4	14.4
Gross Margin (%)	31.1	27.9	29.9	27.3	30.1	31.0	26.5	28.9	28.8	29.2	27.0
EBITDA Margins (%)	10.7	10.9	10.3	11.1	9.4	5.8	5.6	4.8	10.8	6.7	2.6
EBIT Margins (%)	8.3	8.9	7.7	9.3	6.6	1.7	1.7	-0.1	8.7	2.9	-2.3

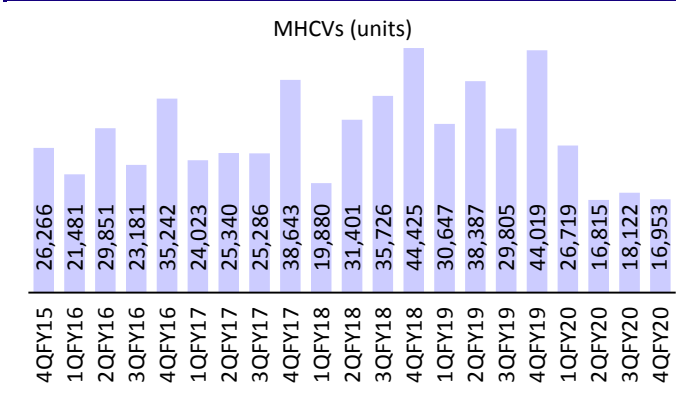
E: MOFSL Estimates

Key takeaways from management commentary

- **FY21 outlook:** FY21 is expected to be tough; 3Q onwards, some recovery is expected with an increase in economic activity.
- **ICDs:** These are only given to group companies and are callable. No incremental ICDs were witnessed in 1QFY21. The strategy of giving ICDs is to earn a 3–4pp spread on treasury.
- **Capex:** The major capex cycle is over for now, (toward the M&HCV AVTR and LCV Phoenix platforms), except M/CE capex. Investments in subs would be largely for Optare (UK-based bus manufacturer).
- **Net debt:** This stood at INR20b v/s INR7.15b in cash in Mar'19. May'20-end net debt was at ~INR40b as the company completed various vendor payments.
- **Realization and gross margins:** The mix improved in terms of: a) higher tonnage trucks, b) higher defense, and c) lower discount drove realizations. This, coupled with year-end discounts from suppliers, boosted gross margins.
- With the AVTR launch (modular platform), AL is focusing on selling value to the consumer (best TCO due to best fluid economy) and not on discount selling.

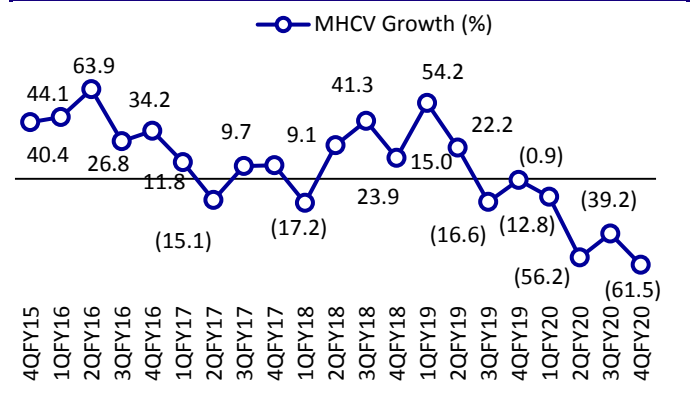
- LCV under Project Phoenix would be launched in the next three months. Additional products in the portfolio would give the dealer more headroom to grow in the existing platform.
- Cash burn of INR1.5–1.7b per month was reported in lockdown.
- Cost-cutting: A pan-company program was introduced for cutting cost in every aspect. Program K54-2 delivered savings of ~INR5.4b in FY20.
- The company incurred impairment cost of INR1b on investments in subsidiary Optare.
- State transport buses (BS6 buses) would have a common style and look, but interiors could be modified as per the need.

Exhibit 1: M&HCV sales trend



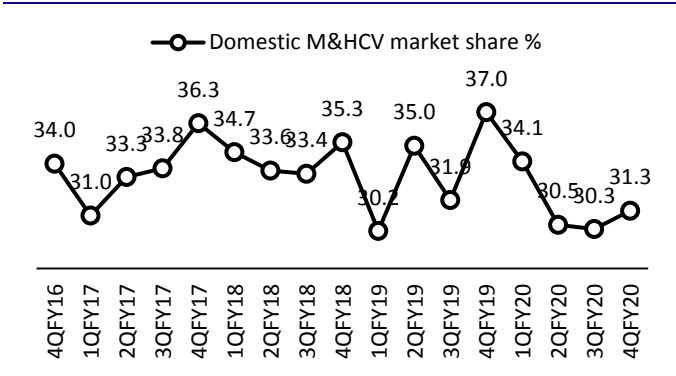
Source: Company, MOFSL

Exhibit 2: Growth trend in M&HCVs



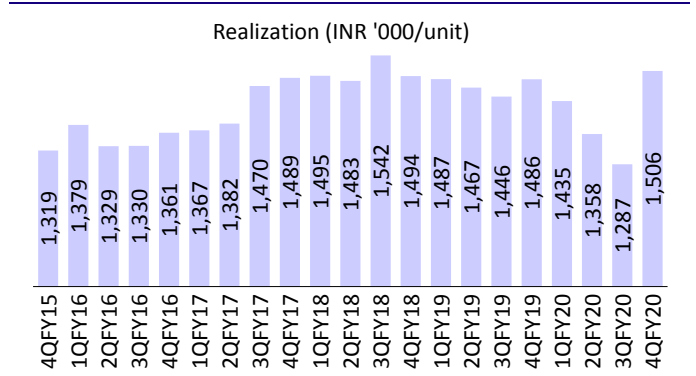
Source: Company, MOFSL

Exhibit 3: Domestic M&HCV market share trend



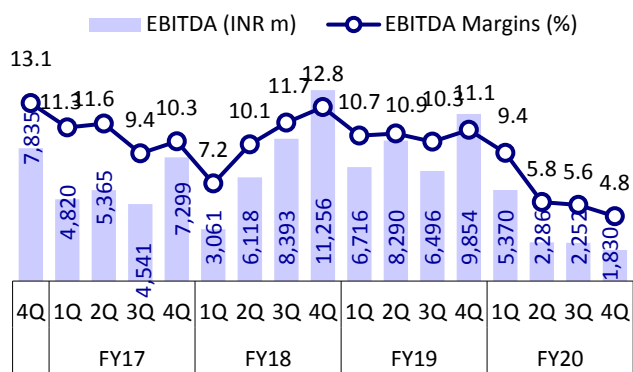
Source: Company, MOFSL

Exhibit 4: Realizations trend



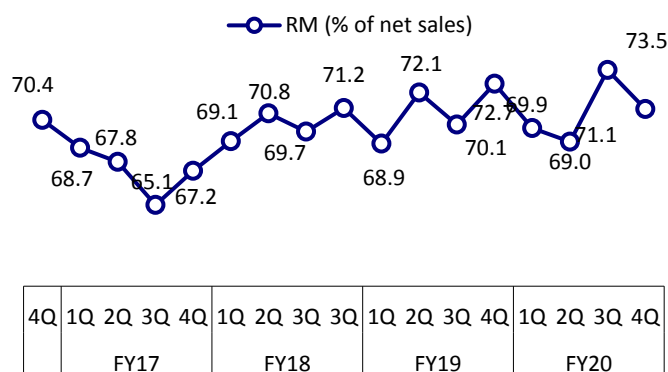
Source: Company, MOFSL

Exhibit 5: Trend in EBITDA and EBITDA margins



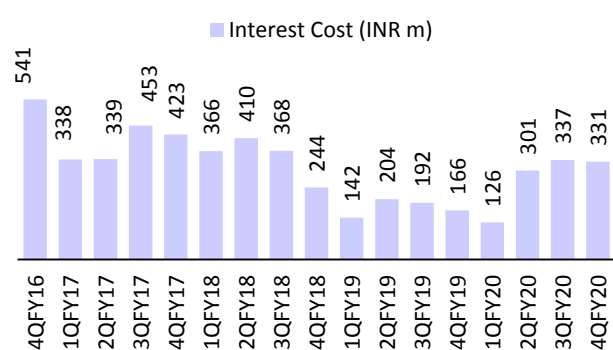
Source: Company, MOFSL

Exhibit 6: Trend in RM cost



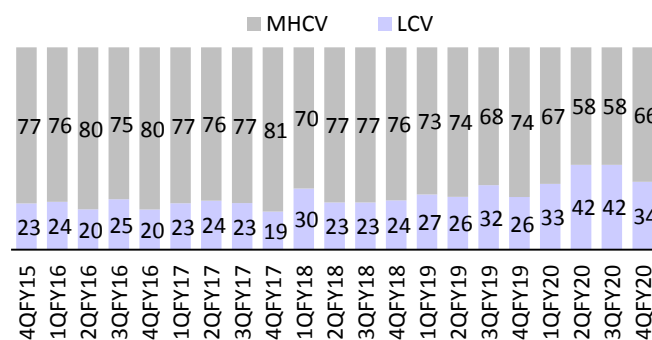
Source: Company, MOFSL

Exhibit 7: Trend in interest cost



Source: Company, MOFSL

Exhibit 8: M&HCV and LCV contribution in sales mix



Source: SIAM, MOFSL

Valuation and view

- New platforms AVTR for M&HCVs / Phoenix for LCVs (launch expected in Q2FY21) to drive market share for AL:** Unlike PVs, the modular strategy is not common in M&HCVs globally due to the very high number of SKUs as well as deeper changes required in the normal way of doing business. This could be an important driver of market share gains for AL as it improves its response time as well as a better application fit for the customer. This, coupled with upcoming LCV launches, would expand AL’s addressable market in India (in LCVs by 2x) and globally (by offering a very wide range of products, from LCVs to M&HCVs).
- Domestic M&HCV to grow at 4% CAGR over FY20–23E:** We expect CV demand to remain under pressure in 1HFY21. However, on a low base of FY20, we estimate domestic M&HCV volumes to grow at a CAGR of ~4% over FY20–23E; although, FY22E volumes would still be ~38% lower than the peak of FY19. The mandatory scrapping of trucks (if announced) should benefit CV demand.
- Focus on creating and expanding profit/revenue pool:** AL is focused on expanding and creating new revenue and profit pools. The de-risking of the M&HCV business, coupled with expansion in the nascent business – such as spares (9% of FY20 sales), exports (9% of sales), LCV (12% of sales), and defense (1% of sales) – is the key focus area. Moreover, AL has set up a new business vertical, Customer Solutions, to target a higher share of the customer wallet across the life cycle in areas such as Finance, Spares, and Fuel.
- Expect decent recovery from lows of FY20:** AL’s revenue / EBITDA / adj. PAT is estimated to grow at a CAGR of 11%/23%/40% over FY20–23E on a low base of

FY20. In the long term, AL's focus on expanding and creating new profit/revenue pools is likely to de-risk the business, with the share of domestic trucks in revenue likely to shrink to 43–45% by FY22E (v/s 68% in FY19). Due to cyclical downturn and the impact of COVID-19, our EPS estimates for FY22 would be ~69% lower than the peak of FY19.

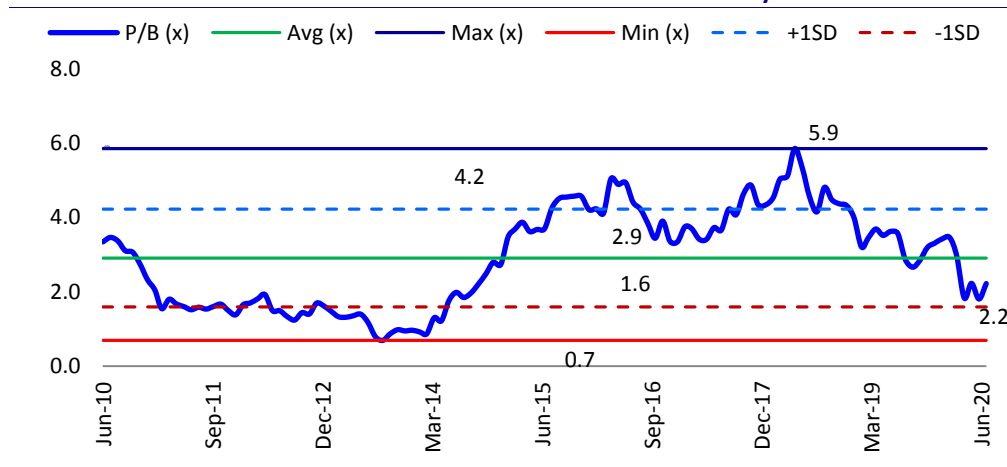
- Valuation and view:** We lower our FY21/FY22E EPS by 96%/20% to factor a weak demand scenario, the impact of operating leverage, and an increase in financial gearing. Unlike in the previous cycles, AL is on a very strong footing (lean cost structure and negligible debt) and is focused on adding new revenue/profit pools. Valuations at 9.8x FY22 EV/EBITDA and 2x FY22 P/BV are in an early recovery cycle and do not fully reflect AL's focus on adding new revenue/profit pools. While near-term challenges are deep, AL seems better positioned to come out stronger and grow faster than the industry in two to three years. Maintain **Buy**, with TP of ~ INR65 [INR8/sh of HLFL + 10x Jun'22 EV/EBITDA v/s ~11x 10-year median EV/EBITDA].
- Key risks:** These comprise: a) risk to road share for freight movement from upcoming DFCC; b) increasing competitive intensity, resulting in loss of market share and shrinking margins.

Exhibit 9: Revised forecast

(INR M)	FY21E			FY22E		
	Rev	Old	Chg (%)	Rev	Old	Chg (%)
Volumes (units)	121,318	123,246	-1.6	148,951	145,206	2.6
Net Sales	169,067	170,018	-0.6	210,061	204,000	3.0
EBITDA	8,552	8,273	3.4	17,404	17,757	-2.0
EBITDA margins (%)	5.1	4.9	20bp	8.3	8.7	-40bp
Net Profit	50	1,309	-96.2	6,348	7,903	-19.7
EPS (INR)	0.0	0.4	-96.2	2.2	2.7	-19.7

Source: MOFSL

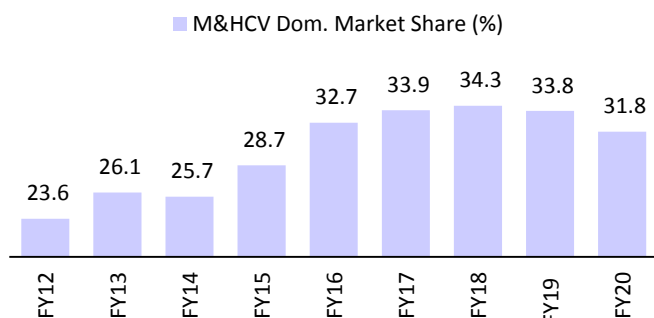
Exhibit 10: Recent valuation contraction reflects demand uncertainty



Source: MOFSL

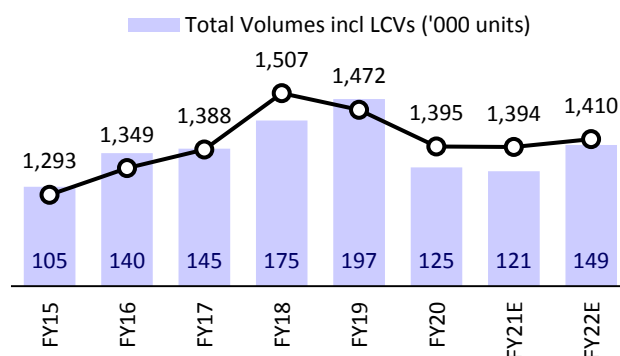
Ashok Leyland | Story in Charts: Better prepared for recovery

Exhibit 1: AL's market share trend



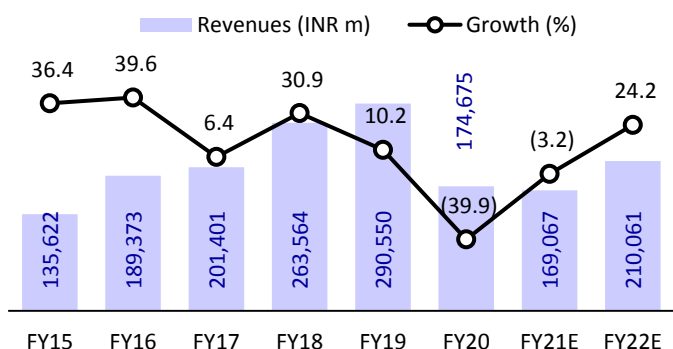
Source: Company, MOFSL

Exhibit 2: Volume and realization growth trend



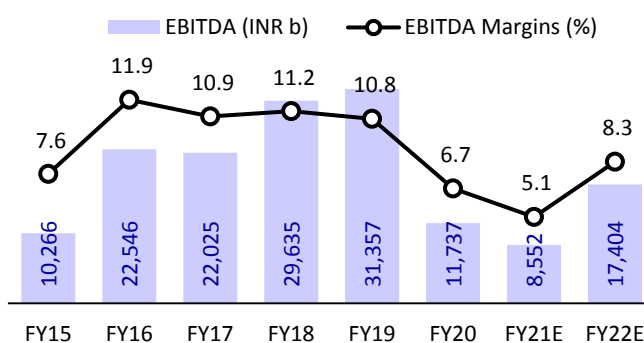
Source: Company, MOFSL

Exhibit 3: Revenue growth trend



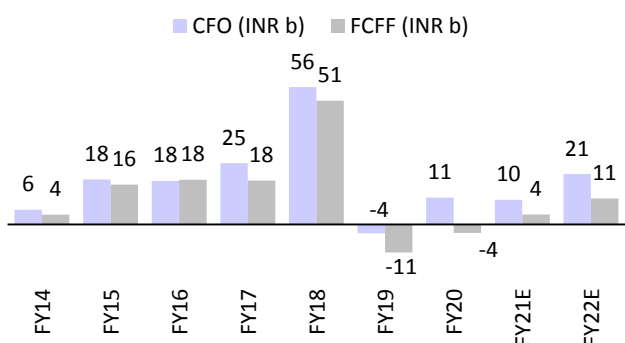
Source: Company, MOFSL

Exhibit 4: EBITDA and EBITDA margin trend



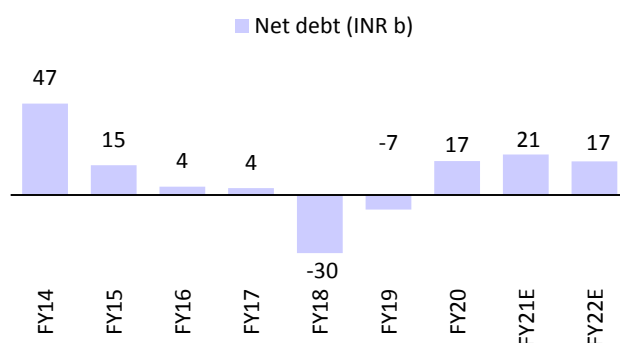
Source: Company, MOFSL

Exhibit 5: CFO and FCFF trend



Source: Company, MOFSL

Exhibit 6: AL's net debt to go up



Source: Company, MOFSL

Financials and valuations

Income Statement							(INR m)	
Y/E March	2016	2017	2018	2019	2020	2021E	2022E	
Volumes ('000 units)	140	145	175	197	125	121	149	
Growth (%)	33.8	3.4	20.5	12.9	-36.5	-3.1	22.8	
Net Sales	189,373	201,401	263,564	290,550	174,675	169,067	210,061	
Change (%)	39.6	6.4	30.9	10.2	-39.9	-3.2	24.2	
EBITDA	22,546	22,025	29,635	31,357	11,737	8,552	17,404	
Change (%)	119.6	-2.3	34.6	5.8	-62.6	-27.1	103.5	
EBITDA Margins (%)	11.9	10.9	11.2	10.8	6.7	5.1	8.3	
Depreciation	4,879	5,179	5,985	6,210	6,698	7,708	7,890	
EBIT	17,667	16,846	23,650	25,147	5,039	844	9,514	
Interest & Fin. Charges	2,476	1,554	1,473	704	1,095	1,959	2,090	
Other Income	1,176	1,363	1,966	1,099	1,233	1,150	1,045	
PBT	8,215	13,301	23,858	24,968	3,619	35	8,469	
Tax	4,369	1,070	6,681	5,136	1,224	(14)	2,122	
Effective Rate (%)	53.2	8.0	28.0	20.6	33.8	-41.0	25.0	
Rep. PAT	3,845	12,231	17,177	19,832	2,395	50	6,348	
Change (%)	14.8	218.1	40.4	15.5	-87.9	-97.9	NA	
% of Net Sales	2.0	6.1	6.5	6.8	1.4	0.0	3.0	
Adjusted PAT	7,661	15,457	17,359	20,268	3,426	50	6,348	
Change (%)	196.5	101.8	12.3	16.8	-83.1	-98.5	NA	

Balance Sheet						(INR m)	
Y/E March	2016	2017	2018	2019	2020	2021E	2022E
Sources of Funds							
Share Capital	2,846	2,846	2,927	2,936	2,936	2,936	2,936
Reserves	51,226	58,415	69,528	80,389	69,704	69,754	72,571
Net Worth	54,071	61,261	72,455	83,324	72,640	72,690	75,506
Loans	20,201	21,449	12,263	6,324	30,648	34,648	29,648
Deferred Tax Liability	3,291	1,269	2,986	2,497	2,648	2,650	3,073
Capital Employed	77,563	83,978	87,704	92,145	105,936	109,988	108,228
Application of Funds							
Gross Fixed Assets	53,659	59,807	64,798	71,437	90,025	97,967	106,967
Less: Depreciation	4,859	8,871	13,817	19,791	26,489	34,196	42,086
Net Fixed Assets	48,800	50,937	50,981	51,646	63,537	63,770	64,880
Capital WIP	759	2,059	4,226	6,576	5,941	4,000	5,000
Goodwill			4,499	4,499	4,499	4,499	4,499
Investments	19,804	28,789	56,067	26,365	27,196	32,601	34,101
Curr.Assets, L & Adv.	60,992	58,615	57,591	93,158	62,723	60,701	67,657
Inventory	16,250	26,310	17,583	26,847	12,380	13,896	17,265
Sundry Debtors	12,511	10,644	9,448	25,055	11,804	11,580	14,388
Cash & Bank Balances	15,931	9,120	10,422	13,736	13,225	13,918	12,408
Loans & Advances	16,299	12,542	20,138	27,520	25,314	21,307	23,596
Current Liab. & Prov.	52,791	56,421	85,660	90,099	57,960	55,584	67,910
Sundry Creditors	25,627	31,170	48,879	50,189	26,239	27,792	34,531
Other Liabilities	24,046	18,743	26,146	29,386	23,666	20,844	25,898
Provisions	3,119	6,509	10,635	10,524	8,055	6,948	7,482
Application of Funds	77,563	83,978	87,704	92,145	105,936	109,988	108,228

E: MOFSL Estimates

Financials and valuations

Ratios

Y/E March	2016	2017	2018	2019	2020	2021E	2022E
Basic (INR)							
EPS	2.7	5.4	5.9	6.9	1.2	0.0	2.2
EPS Fully Diluted	2.7	5.4	5.9	6.9	1.2	0.0	2.2
EPS Growth (%)	196.5	101.8	9.2	16.4	-83.1	-98.5	NA
Cash EPS	4.4	7.3	8.0	9.0	3.4	2.6	4.9
Book Value per Share	19.0	21.5	24.8	28.4	24.7	24.8	25.7
DPS	1.0	1.6	2.4	3.4	0.5	0.0	1.0
Payout (Excl. Div. Tax) %	37.1	28.7	41.0	49.4	42.8	0.0	55.6
Valuation (x)							
P/E	19.9	9.9	9.0	7.8	45.9	NA	24.2
Cash P/E	12.2	7.4	6.7	5.9	15.5	20.3	10.8
EV/EBITDA	6.9	7.1	4.3	4.8	14.9	20.8	9.8
EV/Sales	0.8	0.8	0.5	0.5	1.0	1.1	0.8
Price to Book Value	2.8	2.5	2.2	1.9	2.2	2.2	2.0
Dividend Yield (%)	1.9	2.9	4.5	6.4	0.9	0.0	1.9
Profitability Ratios (%)							
ROE	14.5	26.8	26.0	26.0	4.4	0.1	8.6
RoCE	11.4	20.7	21.5	23.2	4.2	2.6	7.3
RoIC	20.0	36.4	55.8	64.0	6.3	2.0	12.3
Turnover Ratios							
Debtors (Days)	24	19	13	31	25	25	25
Inventory (Days)	31	48	24	34	26	30	30
Creditors (Days)	49	56	68	63	55	60	60
Working Capital (Days)	6	10	-30	2	-4	-5	-5
Fixed-Asset Turnover (x)	3.9	4.0	5.2	5.6	2.7	2.7	3.2
Leverage Ratio							
Net Debt/Equity (x)	0.1	0.1	-0.4	-0.1	0.2	0.3	0.4

Cash flow Statement

Y/E March	2016	2017	2018	2019	2020	2021E	2022E
(INR m)							
OP/(Loss) before Tax	11,692	16,846	23,858	24,968	3,619	844	9,514
Int/Div Received	485	690	552	-413	-756	1,150	1,045
Depreciation	4,489	5,179	5,546	6,210	6,698	7,708	7,890
Direct Taxes Paid	-4,409	-3,476	-4,149	-5,603	-941	16	-1,698
(Inc)/Dec in Work Cap.	-1,276	1,903	35,987	-29,638	-1,756	339	3,860
Other Items	6,818	3,914	-5,596	853	4,105	0	0
CF from Oper. Activity	17,800	25,056	56,198	-3,624	10,969	10,057	20,611
Extra-ordinary Items	0	-3,508	-253	-549	-1,558	0	0
CF after EO Items	17,800	21,548	55,945	-4,172	9,411	10,057	20,611
(Inc)/Dec in FA+CWIP	441	-3,660	-5,321	-7,315	-12,923	-6,000	-10,000
Free Cash Flow	18,241	17,888	50,624	-11,487	-3,512	4,057	10,611
CF from Inv. Activity	3,618	-14,768	-33,321	23,115	-21,775	-11,405	-11,500
Inc/(Dec) in Debt	-7,886	-8,827	-12,700	-6,621	25,655	4,000	-5,000
Interest Rec./(Paid)	-2,679	-1,638	-1,464	-1,029	-1,463	-1,959	-2,090
Dividends Paid	-1,541	-3,254	-5,495	-8,598	-12,702	0	-3,531
CF from Fin. Activity	-12,107	-13,719	-19,613	-16,162	11,490	2,041	-10,621
Inc/(Dec) in Cash	9,311	-6,939	3,011	2,781	-874	693	-1,510
Add: Beginning Balance	8,040	17,352	10,412	13,423	16,205	15,330	16,024
Closing Balance	17,352	10,412	13,423	16,205	15,330	16,024	14,514

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 - MOFSL) 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.: INP00000670); PMS and Mutual Funds are offered through MOAMC which is group company of MOFSL. Motilal Oswal Wealth Management Ltd. (MOWML): PMS (Registration No.: INP00004409) 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.

* MOFSL 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.