



Estimate change	I I
TP change	T T
Rating change	←→

Bloomberg	GAIL IN
Equity Shares (m)	6,661
M.Cap.(INRb)/(USDb)	582.2 / 7.1
52-Week Range (INR)	116 / 83
1, 6, 12 Rel. Per (%)	-3/-25/-14
12M Avg Val (INR M)	1643

Financials & Valuations (INR b)

manda a raidations (mm s)							
Y/E March	FY22	FY23E	FY24E				
Sales	916.5	1,865.5	1,267.5				
EBITDA	138.3	107.4	115.8				
Adj. PAT	102.9	76.6	83.3				
Adj. EPS (INR)	15.4	11.5	12.5				
EPS Gr. (%)	110.1	-25.6	8.7				
BV/Sh.(INR)	87.9	97.0	106.8				
Ratios							
Net D:E	0.1	-0.1	-0.1				
RoE (%)	20.3	12.8	12.4				
RoCE (%)	17.1	11.1	10.8				
Payout (%)	21.5	21.5	21.5				
Valuations							
P/E (x)	5.8	7.7	7.1				
P/BV (x)	1.0	0.9	0.8				
EV/EBITDA (x)	2.6	4.7	4.2				
Div. Yield (%)	3.8	2.8	3.0				
FCF Yield (%)	5.1	18.5	-1.3				

Shareholding pattern (%)

As On	Jun-22	Mar-22	Jun-21
Promoter	51.5	51.5	51.5
DII	23.2	23.7	27.1
FII	20.5	20.2	17.6
Others	4.8	4.7	3.9

FII Includes depository receipts

CMP: INR89 TP: INR114 (+29%) Buy

Disruption in LNG supply and higher gas prices hurt margins

- GAIL reported a miss on EBITDA by 9% in 2QFY23 led by higher natural gas prices amid lack of supply from Gazprom, while its PAT was in line with our estimate. Operating performance for transmission and petrochemicals was weak on a YoY basis while it was flat sequentially.
- Gazprom has failed to supply 17 cargoes to date (13 in 2QFY23). GAIL has taken various measures against this shortfall, which includes reduction of supplies to downstream customers as well as curtailing its internal consumption at Pata petrochemical plant by reducing petrochemical production in order to have sustainable operations.
- Capacity utilization for the petrochemical plant stood at 40% in 2QFY23; similar utilization level is expected in 3QFY23 as well. GAIL has also acquired JBF Petrochemicals and expects to invest INR18-20b for making the plant operational, which is likely to come on stream in FY25E.
- Most of the pipelines are now up for tariff revision that could be a notable trigger for the stock. However, considering the underperformance in 2QFY23 and management commentary, we have reduced our EPS estimate by 8% for FY23 while keeping our FY24 numbers unchanged for now.
- We value the core business of GAIL at 8x FY24E adjusted EPS of INR12.5.
 Adding the value of listed and unlisted investments worth INR22, we arrive at our TP of INR114 for GAIL. Maintain BUY.

Miss on EBITDA; PAT in line

- GAIL's EBITDA came in 9% lower than our estimate at INR17.6b (our est. of INR19.4b; -49% YoY,-60% QoQ) in 2QFY23 primarily due to weak performance in Trading/Petrochem businesses.
- PAT stood at INR15.4b (in line with our est. of INR15.5b; -46% YoY, -47% QoQ), translating into an EPS of INR2.3.
- For 1HFY23, Revenue was up 96% YoY to INR760b, with EBITDA at INR61b (+4% YoY) and PAT at INR45b (flat YoY).

Segmental details for 2QFY23:

- Gas/LPG transmission business' EBIT stood at INR7.1b/1.1b (-32%/+39% YoY), respectively. Volumes were 107.7mmscmd for Gas transmission and 1, 100tmt for LPG transmission.
- Trading business' EBIT came in at INR3.6b (v/s INR10.8b in 2QFY22 and INR23.1b in 1QFY23). Volumes were 92.5mmscmd in 2QFY23.
- Petchem segment reported an operating loss of INR3.5b (v/s EBIT of INR3.6b in 2QFY22 and INR352m in 1QFY23). Petchem sales volumes stood at 108tmt.
- LPG and HC EBIT stood at INR5b (-27% YoY and -21% QoQ). Sales volumes for the segment were at 231tmt during the quarter.

Valuation and view

GAIL expects a ramp up in utilization rates at its plants with cheaper sourcing of gas that would help it expand its margins. It also commissioned the Jamshedpur and Ranchi spur lines during the quarter.

Swarnendu Bhushan- Research Analyst (Swarnendu.Bhushan@MotilalOswal.com)

Motilal Oswal

GAIL has already spent INR40b in 1HFY23 out of its total guided capex of ~INR75b for FY23. It has also acquired JBF Petrochemicals and would look to invest INR18-20b to make it operational by FY25E.

The stock trades at a discount of ~41% to its one-year forward long-term P/E average. We value the core business of GAIL at 8x FY24E adjusted EPS of INR12.5. Adding the value of listed and unlisted investments worth INR22, we arrive at our TP of INR114 for GAIL. **Maintain BUY.**

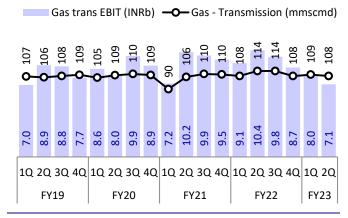
Quarterly Performance												(INR b)
Y/E March		FY2	22			FY2	3E		FY22	FY23E	FY23	Var.
	1Q	2Q	3Q	4Q	1Q	2Q	3QE	4QE			2QE	Vs. est.
Net Sales	173.9	215.2	257.8	269.7	375.7	384.9	431.9	673.0	916.5	1,865.5	357.0	8%
Change (%)	43.8	57.7	66.8	73.4	116.1	78.9	67.6	149.6	61.5	103.6	65.9	
EBITDA	24.1	34.8	42.3	37.1	43.7	17.6	22.5	23.7	138.3	107.4	19.4	-9%
% of Net Sales	13.9	16.2	16.4	13.8	11.6	4.6	5.2	3.5	15.1	5.8	5.4	
Depreciation	5.1	5.2	5.3	5.5	6.0	6.2	6.4	6.3	21.1	24.9	6.0	
Interest	0.5	0.4	0.4	0.5	0.5	0.7	0.4	0.2	1.7	1.7	0.4	
Other Income	2.0	7.7	6.5	4.2	1.8	8.0	6.7	5.1	20.5	21.5	7.9	
PBT	20.5	36.8	43.1	35.5	38.9	18.8	22.4	22.2	135.9	102.3	20.9	-10%
Rate (%)	25.5	22.3	23.7	24.3	25.1	18.1	25.6	30.8	23.7	25.2	25.6	
PAT	15.3	28.6	32.9	26.8	29.2	15.4	16.7	15.4	103.6	76.6	15.5	
Change (%)	498.8	130.9	121.1	40.6	90.5	-46.3	-49.3	-42.6	111.9	-26.1	40.5	
Extraord.: Tax Prov. Write Back	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.8	0.0	0.0	
Adj PAT	15.3	28.6	32.9	26.1	29.2	15.4	16.7	15.4	102.9	76.6	15.5	-1%
Change (%)	498.8	130.9	127.3	33.3	90.5	-46.3	-49.3	-40.9	110.1	-25.6	-45.7	

Exhibit 1: One-year forward P/E ratio Max (x) P/E (x) Avg (x) Min (x) +1SD -1SD 32.0 25.7 24.0 15.9 16.0 11.6 8.0 4.7 0.0 Oct-12 Jul-16 Apr-20 Jul-21 Oct-22 Oct-17



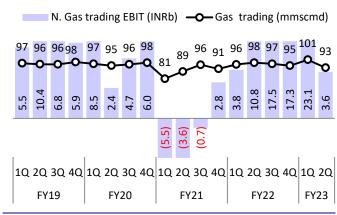
Source: Company, MOFSL Source: Company, MOFSL

Exhibit 3: Transmission volumes fell 6% YoY/2% QoQ



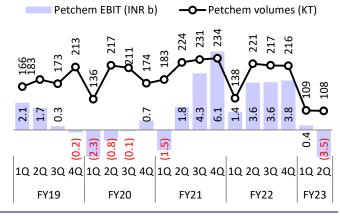
Source: MOFSL, Company

Exhibit 4: Profitability for the Trading segment declined QoQ



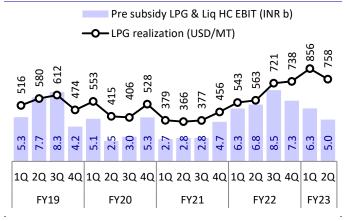
Source: MOFSL, Company

Exhibit 5: Petchem volumes fell 51% YoY and 1% QoQ



Source: MOFSL, Company

Exhibit 6: Realization from LPG and Liquid HC up 35% YoY



Source: MOFSL, Company

Exhibit 7: Segment-wise performance details (INR m)

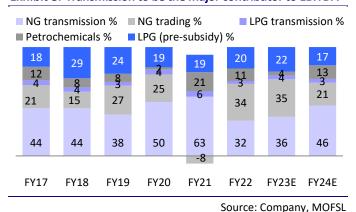
Particulars			21			FY			FY2			23 (%)
Fushenge Bate (IND/USD)	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q		
Exchange Rate (INR/USD)	74.4	73.8	72.9	73.8	74.8	75.3	77.3	75.3	77.3	79.6	6	3
Gas transmission business	00	106	110	110	100	111	111	100	100	100		2
Volumes (mmscmd)	90	106	110	110	108	114	114	108	109	108	-6	-2
Gross Revenues	12,681	15,400	16,135	15,310	14,837	16,462	16,727	15,898	16,584	16,944	3	2
Opex	3,151	2,590	3,665	3,270	3,077	3,322	4,167	4,358	5,684	6,844	106	20
EBITDA	9,530	12,810	12,470	12,040	11,760	13,140	12,560	11,540	10,900	10,100	-23	-7
Depreciation	2,364	2,598	2,564	2,546	2,611	2,740	2,785	2,807	2,895	3,004	10	4
EBIT	7,167	10,212	9,907	9,495	9,149	10,400	9,775	8,733	8,005	7,096	-32	-11
Average tariff (INR/mscm)	1,545	1,573	1,590	1,550	1,514	1,565	1,591	1,642	1,665	1,710	9	3
Opex (INR/mscm)	384	264	361	331	314	316	396	450	571	691		21
EBITDA (INR/mscm)	1,161	1,308	1,229	1,219	1,200	1,249	1,195	1,192	1,094	1,019	-18	-7
Depreciation (INR/mscm)	288	265	253	258	267	260	265	290	291	303	16	4
EBIT (INR/mscm)	873	1,043	976	961	934	989	930	902	804	716	-28	-11
LPG Transmission Business												
Volumes ('000 MT)	963	1,058	1,088	1,054	1,023	1,054	1,057	1,065	1,055	1,100	4	4
Gross Revenues	1,536	1,695	1,754	1,689	1,637	1,666	1,676	1,707	1,695	1,973	18	16
Opex	576	665	664	649	617	686	716	697	695	673	-2	-3
EBITDA	960	1,030	1,090	1,040	1,020	980	960	1,010	1,000	1,300	33	30
Depreciation	145	148	159	155	153	159	151	158	163	160	1	-2
EBIT	815	882	931	885	867	821	810	852	837	1,140	39	36
Average tariff (INR/MT)	1,594	1,602	1,612	1,602	1,600	1,581	1,586	1,603	1,606	1,794	13	12
Opex	598	628	610	616	603	651	677	654	658	612	-6	-7
EBITDA	997	974	1,002	987	997	930	908	948	948	1,182	27	25
Depreciation	151	140	146	147	149	151	142	148	154	145	-4	-6
EBIT	846	834	856	840	848	779	766	800	794	1,037	33	31
Gas Trading Business												
Volumes (mmscmd)	81	89	96	91	96	98	97	95	101	93	-5	-8
Revenues	94,437	1,05,067	1,19,034	1,19,918	1,42,883	1,78,765	2,20,918	2,30,694	3,46,047	3,54,654	98	2
EBIT	-5,455	-3,640	-737	2,809	3,776	10,789	17,497	17,259	23,145	3,629	-66	-84
Revenues (INR/mscm)	12,787	12,890	13,534	14,583	16,364	19,884	24,868	27,070	37,710	41,657	109	10
EBIT (INR/mscm)	-739	-447	-84	342	432	1,200	1,970	2,025	2,522	426	-64	-83
Petrochemicals Business						_,	_,=,==	_,====				
Volumes ('000 MT)	183	224	231	234	138	221	217	216	109	108	-51	-1
Gross Revenues	12,217	16,847	19,366	22,179	13,623	22,834	24,005	25,023	14,558	13,515	-41	- -7
Opex	12,647	13,957	13,876	14,939	11,073	18,014	19,105	19,993	12,868	15,615	-13	21
EBITDA	-430	2,890	5,490	7,240	2,550	4,820	4,900	5,030	1,690	-2,100	PL	PL
Depreciation	1,114	1,127	1,149	1,151	1,167	1,187	1,254	1,240	1,338	1,362	15	2
EBIT	-1,544	1,763	4,341	6,089	1,383	3,633	3,646	3,790	352	-3,462	PL	PL
Realization (USD/MT)	897	1,019	1,150	1,284	1,320	1,372	1,431	1,539	1,727	1,572	15	-9
Realization (INR/kg)	67	75	84	95	99	103	1,431	116	134	125	21	- 9 -6
Opex (INR/kg)	69 -2	62	60 24	64	80	82	88	93	118	145	77 PI	22 DI
EBITDA (INR/kg)		13	5	31	18	22 5	23	23	16 12	- 19		PI 2
Depreciation (INR/kg)	6 -8	5 8	19	5	8	16	6 17	10	3	13	135	3
EBIT (INR/kg)		8	19	26	10	16	1/	18	3	-32	PL	PL
LPG & Liquid Hydrocarbons Business												
Volumes ('000 MT)	265	297	319	257	250	262	275	217	220	231	-12	5
Gross Revenues	7,479	8,030	8,779	8,651	10,151	11,113	15,328	12,060	14,554	13,939	25	-4
Opex	4,619	5,010	5,739	3,691	3,611	4,083	6,578	4,530	7,924	8,699	113	10
EBITDA	2,860	3,020	3,040	4,960	6,540	7,030	8,750	7,530	6,630	5,240		-21
Depreciation	198	219	213	216	199	207	200	247	282	238	15	-16
EBIT	2,662	2,802	2,827	4,744	6,341	6,823	8,550	7,283	6,349	5,002	-27	-21
EBIT (Post-Subsidy)	2,662	2,802	2,827	4,744	6,341	6,823	8,550	7,283	6,349	5,002	-27	-21
Realization (USD/MT)	379	366	377	456	543	563	721	738	856	758	35	-11
Realization (INR/MT)	28,223	27,038	27,519	33,660	40,602	42,416	55,738	55,577	66,156	60,340	42	-9
Opex (INR/MT)	17,431	16,870	17,989	14,360	14,442	15,584	23,920	20,876	36,020	37,656	142	5
EBITDA (INR/MT)	10,792	10,168	9,530	19,300	26,160	26,832	31,818	34,700	30,136	22,684	-15	-25
Depreciation (INR/MT)	747	736	666	842	796	789	728	1,139	1,280	1,029	30	-20
EBIT (INR/MT)	10,045	9,433	8,863	18,458	25,364	26,043	31,090	33,562	28,857	21,655	-17	-25
EBIT post Subsidy (INR/MT)	10,045	9,433	8,863	18,458	25,364	26,043	31,090	33,562	28,857	21,655	-17	-25

6 November 2022

MOTILAL OSWAL **GAIL**

Story in charts

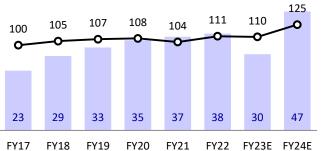
Exhibit 8: Transmission to be the major contributor to EBITDA



111 110 105 107 108 104 O 100

Exhibit 9: Expect gas transmission volumes to grow over FY22-24

Gas trans EBIT (INR b)



Source: Company, MOFSL

─ Gas trans vol. (mmscmd)

Exhibit 10: LPG transmission segment

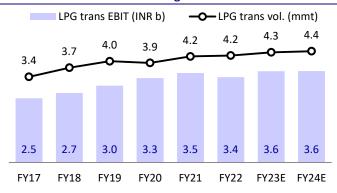
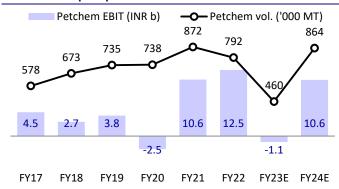


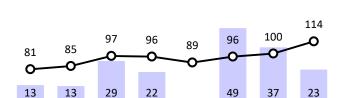
Exhibit 11: Expect petchem EBIT to increase over FY23-24



Source: Company, MOFSL

Exhibit 12: Expect gas trading volumes to grow over FY22-24

Gas trading EBIT (INR b) — Gas trading vol. (mmscmd)

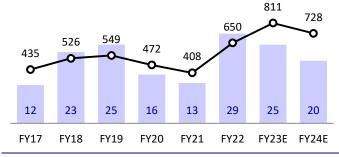


FY17 FY18 FY19 **FY20** FY21 FY22 FY23E FY24E

(7)

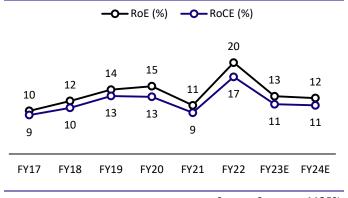
Exhibit 13: EBIT from LPG and Liquid HC





Source: Company, MOFSL

Exhibit 14: Expect return ratios to remain soft

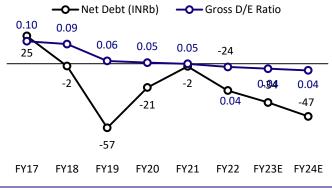


Source: Company, MOFSL

Source: Company, MOFSL

Source: Company, MOFSL

Exhibit 15: Expect D/E ratio to contract



Source: Company, MOFSL

5 6 November 2022

Financials and valuations

Y/E March	FY17	FY18	FY19	FY20	FY21	FY22	FY23E	FY24E
Net Sales	480.7	536.6	751.3	718.8	567.4	916.5	1,865.5	1,267.5
Change (%)	-99.9	11.6	40.0	-4.3	-21.1	61.5	103.6	-32.1
EBITDA	63.2	76.3	95.3	83.7	64.5	138.3	107.4	115.8
% of Net Sales	13.1	14.2	12.7	11.6	11.4	15.1	5.8	9.1
Depreciation	14.0	14.2	15.5	18.4	19.1	21.1	24.9	25.2
Interest	4.8	2.8	1.4	1.1	1.6	1.7	1.7	1.9
Other Income	12.7	9.9	15.7	14.2	20.0	20.5	21.5	22.6
EO Items (net)	-3.0	0.3	-3.3	1.0	0.0	0.0	0.0	0.0
PBT	54.1	69.6	90.8	79.4	63.9	135.9	102.3	111.3
Tax	19.1	23.4	30.6	13.2	15.0	32.3	25.8	28.0
Rate (%)	35.3	33.6	33.7	16.7	23.4	23.7	25.2	25.2
Reported PAT	35.0	46.2	60.3	66.2	48.9	103.6	76.6	83.3
Adjusted PAT	38.2	45.7	63.3	74.2	49.0	102.9	76.6	83.3
Change (%)	-99.8	31.8	30.5	9.9	-26.1	111.9	-26.1	8.7
Balance Sheet								(INR b)
Y/E March	FY17	FY18	FY19	FY20	FY21	FY22	FY23E	FY24E
Share Capital	16.9	22.6	22.6	45.1	44.4	44.4	66.6	66.6
Reserves	364.6	380.7	418.4	394.6	421.7	511.5	571.6	636.9
Net Worth	381.5	403.3	440.9	439.7	466.1	555.9	638.2	703.5
Loans	38.2	17.5	16.2	43.1	55.1	57.0	62.7	69.0
Deferred Tax	46.6	46.3	59.5	45.0	45.0	47.7	47.7	47.7
Capital Employed	466.2	467.1	516.6	527.8	566.3	660.6	748.6	820.2
Gross Fixed Assets	452.6	469.6	508.1	548.3	591.4	638.5	751.6	821.6
Less: Depreciation	167.6	181.7	197.2	215.6	234.7	255.8	280.7	305.9
Net Fixed Assets	285.1	287.9	310.9	332.7	356.7	382.7	470.9	515.7
Capital WIP	38.0	55.1	92.0	105.8	119.0	130.7	87.6	87.6
Investments	95.1	99.5	95.3	78.8	105.5	136.3	136.3	136.3
Current Assets								
Inventory	17.0	19.2	23.2	29.6	26.0	30.2	61.4	41.7
Debtors	38.3	40.5	50.7	55.8	44.9	83.7	170.3	115.7
Cash & Bank Balance	13.4	25.3	12.1	8.0	13.6	20.8	140.3	118.9
Cash	4.5	10.8	1.5	5.5	12.1	13.7	110.9	89.5
Bank Balance	8.9	14.5	10.6	2.6	1.5	7.2	7.2	7.2
Loans/Adv. & Other Assets	75.8	99.6	59.5	74.7	67.3	79.0	79.0	79.0
Current Liab. & Prov.								
Liabilities	81.3	145.7	113.0	144.7	153.2	187.7	382.1	259.6
Provisions	15.1	14.3	14.3	12.8	13.6	15.1	15.1	15.1
Net Current Assets	48.0	24.5	18.4	10.5	-15.0	10.8	53.7	80.6
Application of Funds	466.2	467.1	516.6	527.8	566.3	660.6	748.6	820.2

Financials and valuations

Ratios								
Y/E March	FY17	FY18	FY19	FY20	FY21	FY22	FY23E	FY24E
Basic (INR)								
EPS	5.7	6.9	9.5	11.1	7.4	15.4	11.5	12.5
Cash EPS	7.4	9.1	11.4	12.7	10.2	18.7	15.2	16.3
Book Value	57.3	61.1	67.0	71.7	75.7	87.9	97.0	106.8
DPS	2.2	2.6	2.6	4.3	3.4	3.4	2.5	2.7
Payout (incl. dvd tax)	50.1	45.5	34.7	52.0	45.6	21.5	21.5	21.5
Valuation (x)								
P/E	15.5	13.0	9.4	8.0	12.1	5.8	7.7	7.1
Adj. P/E (for investments)	11.7	9.8	7.1	6.0	9.1	4.4	5.8	5.4
Cash P/E	12.1	9.8	7.8	7.0	8.7	4.7	5.8	5.5
EV / EBITDA	2.9	2.9	1.8	4.3	5.1	2.6	4.7	4.2
EV / Sales	0.5	0.5	0.3	0.6	0.8	0.5	0.3	0.5
Price / Book Value	1.6	1.5	1.3	1.2	1.2	1.0	0.9	0.8
Dividend Yield (%)	2.5	2.9	2.9	4.8	3.8	3.8	2.8	3.0
Profitability Ratios (%)								
RoE	0.0	11.8	14.3	15.0	10.8	20.3	12.8	12.4
RoCE	0.0	10.2	12.9	12.7	9.2	17.1	11.1	10.8
RoIC	0.0	13.6	17.5	16.7	10.5	25.5	16.3	15.7
Turnover Ratios								
Debtors (No. of Days)	29	28	25	28	29	33	33	33
Fixed Asset Turnover (x)	1.0	1.1	1.5	1.4	1.0	1.4	2.5	1.5
Leverage Ratio								
Net Debt / Equity (x)	0.1	0.0	0.0	0.1	0.1	0.1	-0.1	-0.1

Cash Flow Statement								(INR m)
Y/E March	FY17	FY18	FY19	FY20	FY21	FY22	FY23E	FY24E
OP/(Loss) before Tax	54.1	69.6	90.8	79.4	63.9	135.9	102.3	111.3
Depreciation	14.0	14.2	15.5	18.4	19.1	21.1	24.9	25.2
Interest charge	4.8	2.8	1.4	1.1	1.6	1.7	1.7	1.9
Tax paid	-11.9	-13.2	-20.8	-19.6	-12.8	-32.0	-25.8	-28.0
(Inc)/Dec in Wkg. Capital	-1.9	18.9	-3.3	3.1	22.2	-29.7	76.5	-48.2
CF from Op. Activity	57.6	86.6	78.8	68.9	80.6	89.5	179.7	62.2
(Inc)/Dec in FA & CWIP	-18.2	-29.4	-72.0	-54.3	-49.8	-59.2	-70.0	-70.0
Free Cash Flow	39.4	57.2	6.7	14.5	30.9	30.4	109.7	-7.8
(Pur)/Sale of Investments	1.9	-8.0	-2.7	-6.2	-10.7	-4.6	0.0	0.0
CF from Inv. Activity	-3.8	-25.7	-54.4	-68.3	-38.6	-46.1	-70.0	-70.0
Interest charge	-5.5	-3.6	-1.4	-1.1	-3.2	-3.2	-1.7	-1.9
Inc / (Dec) in Debt	-29.3	-30.1	-11.3	45.2	4.6	3.6	5.7	6.3
Dividends Paid	-17.5	-21.0	-20.9	-39.4	-22.4	-39.9	-16.5	-17.9
CF from Fin. Activity	-52.4	-54.7	-33.6	3.4	-35.4	-41.8	-12.5	-13.6
Inc / (Dec) in Cash	1.4	6.2	-9.3	4.0	6.6	1.6	97.2	-21.4
Add: Opening Balance	3.1	4.5	10.8	1.5	5.5	12.1	13.7	110.9
Closing Balance	4.5	10.8	1.5	5.5	12.1	13.7	110.9	89.5

NOTES

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 be within following 30 days take appropriate measures to make the recommendation consistent with the investment rating legend.

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, Depository participant services & distribution of various financial products. 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 galaxy.motilaloswal.com/ResearchAnalyst/PublishViewLitigation.aspx

A graph of daily closing prices of securities is available at www.nseindia.com, www.nseindia.com, www.nseindia.com, www.nseindia.com, www.nseindia.com, www.nseindia.com, <a href="www.nseindia.com, www.nseindia.com, www.nse 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.

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 brokerdealer, Motilal Oswal Securities International Private Limited. ("MOSIPL"). Any business interaction pursuant to this report will have to be executed within the provisions of this

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

- 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. MOFSL, Research Analyst and/or his relatives do not have actual/beneficial ownership of 1% or more securities in the subject company
- MOFSL, Research Analyst and/or his relatives have not received compensation/other benefits from the subject company in the past 12 months 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

- Research Analyst has not served as director/officer/employee in the subject company

 MOFSL has not acted as a manager or co-manager of public offering of securities of the subject company in past 12 months
- MOFSL has not received compensation for investment banking/ merchant banking/brokerage services from the subject company in the past 12 months
- MOFSL has not received compensation for other than investment banking/merchant banking/brokerage services from the subject company in the past 12 months
- MOFSL has not received any compensation or other benefits from third party in connection with the research report
- MOFSL has not engaged in market making activity for the subject company

6 November 2022

Motilal Oswal

The associates of MOFSL may have:

- financial interest in the subject company
- actual/beneficial ownership of 1% or more securities in the subject company at the end of the month immediately preceding the date of publication of the Research Report or date of the public appearance.
- received compensation/other benefits from the subject company in the past 12 months
- 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.
- 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.
- Served subject company as its clients during twelve months preceding the date of distribution of the research report.

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.: 022-3980 4263; www.motilaloswal.com. Correspondence Address: Palm Spring Centre, 2nd Floor, Palm Court Complex, New Link Road, Malad (West), Mumbai- 400 064. Tel No: 022 71881000. Details of Compliance Officer: Neeraj Agarwal, Email Id: na@motilaloswal.com, Contact No: 022-71881085.

Registration details of group entities.: Motilal Oswal Financial Services Ltd. (MOFSL): INZ000158836 (BSE/NSE/MCX/NCDEX); CDSL: IN-DP-16-2015; NSDL: IN-DP-NSDL-152-2000; Research Analyst: INH000000412. AMFI: ARN.: 146822. IRDA Corporate Agent – CA0579. Motilal Oswal Financial Services Ltd. is a distributor of Mutual Funds, PMS, Fixed Deposit, Insurance, Bond, NCDs and IPO products. Customer having any query/feedback/ clarification may write to query@motilaloswal.com. In case of grievances for any of the services rendered by Motilal Oswal Financial Services Limited (MOFSL) write to grievances@motilaloswal.com, for DP to dpgrievances@motilaloswal.com.