

Coal India

Estimate change	
TP change	←→
Rating change	←→

Bloomberg	COAL IN
Equity Shares (m)	6207
M.Cap.(INRb)/(USDb)	1462.7 / 17.9
52-Week Range (INR)	263 / 165
1, 6, 12 Rel. Per (%)	4/-3/19
12M Avg Val (INR M)	2028

Financials & Valuations (INR b)

V/F MADOU	•		20255
Y/E MARCH	2023	2024E	2025E
Sales	1,383	1,314	1,337
Adj. EBITDA	406	277	286
Adj. PAT	281	195	205
EBITDA Margin (%)	29.4	21.1	21.4
Cons. Adj. EPS (INR)	45.6	31.7	33.3
EPS Gr. (%)	61.8	-30.6	5.3
BV/Sh. (INR)	93	109	125
Ratios			
Net D:E	-0.7	-0.6	-0.6
RoE (%)	49.1	29.1	26.6
RoCE (%)	56.7	30.5	26.8
Payout (%)	53.1	50.0	50.0
Valuations			
P/E (x)	5.2	7.5	7.1
P/BV (x)	2.6	2.2	1.9
EV/EBITDA(x)	2.6	3.9	3.6
Div. Yield (%)	10.2	6.7	7.0
FCF Yield (%)	14.0	5.0	7.5

Shareholding pattern (%)

As On	Mar-23	Dec-22	Mar-22
Promoter	66.1	66.1	66.1
DII	21.1	21.3	21.9
FII	7.8	7.9	6.9
Others	4.9	4.7	5.1

CMP: INR237 TP: INR285 (+20%) Buy

In-line revenue driven by strong volumes and higher realizations; higher wage provisions dent earnings

Robust domestic demand and higher volumes to drive performance

- COAL's 4QFY23 revenue was up 17% YoY and 9% QoQ at INR382b, largely in line with our estimate of INR363b, driven by high volumes and realizations.
- ASP grew YoY for all categories, while blended ASP rose 13% YoY and 2% QoQ to INR1,877/t. E-auction ASP jumped 86% YoY to INR4,525/t (down 10% QoQ). E-auction premium eased to 192% from an all-time high of 329% in 2QFY23 and 241% in 3QFY23, but it was still above the historical average.
- Adjusted EBITDA (net of OBR) was down 31% YoY and 23% QoQ at INR86b. The EBITDA miss was a result of higher provisions of INR59b toward NCWA-XI wage provisions, which led to an increase in employee expenses to INR170b against our estimate of INR135b. Excluding the provisions, adjusted EBITDA would have been in line with our estimate at ~INR120b.
- APAT fell 18% YoY and 28% QoQ to INR55b, below our estimate of INR87b.
- Production grew 7% YoY and 25% QoQ to 224mt. Sales (dispatches) rose 4% YoY and 7% QoQ to 187mt. COAL exceeded its yearly production target in FY23 and clocked incremental sales of 80mt in a year, which is equivalent to combined growth of the last seven years and the highest since inception.
- FY23 revenue/adjusted EBITDA/APAT stood at INR1,383b (up 26% YoY)/ INR406b (up 43% YoY)/ INR281b (up 62% YoY).
- OBR removal stood at record levels in FY23 at 1,652mcm (up 22% YoY). The 294mcm incremental OBR removal is the highest since inception, and higher OBR removal facilitates faster and higher coal extraction. High OBR removal will help COAL achieve its FY24 production target of ~770-780mt.
- COAL's growth roadmap is in synergy with the government's commitment to bring about a transformative change in the power sector by providing 24x7 power supply to all homes and sets the stage for COAL to achieve strong coal production over the next few years.
- Long-term demand commitments from numerous power plant companies for FSA give COAL better business visibility. To meet growing power demand, COAL has pegged ~610mt to power plants in FY24E.

E-auction continues to drive profitability

- Though e-auction premiums have cooled off from their highs, they were compensated by higher volumes in 4QFY23. As coal availability to the nonregulated sector (NRS) increases, COAL has an option of placing up to 10% of its total production or 20% of production after fulfilling FSA deliveries under e-auctions.
- We expect COAL to sell ~68-70mt of its volumes via e-auction determined prices in FY24.
- Higher sales volumes via the e-auction route improve profitability as the prices are higher than FSA determined prices.

Research analyst: Alok Deora (Alok.Deora@MotilalOswal.com), Parthiv Deepak Jhonsa (Parthiv.Jhonsa@MotilalOswal.com)

Valuation and view

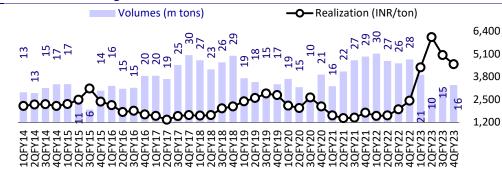
- We believe the world has come to terms with the fact that fossil fuels cannot be ignored, at least in the near term. Underinvestment by developed economies in the last decade has proven expensive, with no alternate sources of Russian NG in sight other than coal. Renewables remain unreliable due to challenges related to availability, costs, storage or safety. The dependence on coal is therefore likely to increase in the near term. The integration of all five different modes of auction into a single e-auction has led to better price discovery for coal and resulted in a structural shift in e-auction premiums.
- We maintain our e-auction premium estimate for FY24 at 99%. We have reduced our adjusted EBITDA/APAT estimates for FY24 by 9.2%/9.9% to factor in higher employee cost provisions. We retain our BUY rating with a TP of INR285, valuing the stock at 5x FY24E EV/EBTIDA. COAL remains our top pick in the metals and mining sector. At CMP of INR237, the stock trades at an inexpensive valuation of 3.9x FY24E EV/EBTIDA.
- The company has declared a final dividend of INR4 per share, taking the total dividend to INR24.25 for FY23.

Consolidated quarterly performance (INR b)

Y/E March		FY22	2			FY23	E		FY22	FY23	FY23	var
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q			4Q	(%)
Sales	253	233	284	327	351	298	352	382	1,097	1,383	363	5.2
Change YoY (%)	36.8	10.1	20.0	22.5	38.8	28.1	23.7	16.6	21.9	26.0		
Change QoQ (%)		-7.9	22.1	15.0	7.3	-15.0	17.9	8.5				
Adj. EBITDA	46	40	74	125	127	80	112	86	285	406	123	-29.5
Change YoY (%)	63.9	18.0	26.2	56.4	177.6	99.9	52.1	-30.7	42.1	42.8		
Change QoQ (%)	-42.5	-12.5	84.1	68.8	2.1	-37.0	40.1	-23.1				
EBITDA per tonne	286	273	425	689	717	519	639	461	430	584	653	
Depreciation	10	9	10	14	10	11	13	13	44	47	11	
OBR	(3)	1	6	34	5	7	8	17	38	38	5	
Interest	1	1	1	1	2	1	2	2	5	7	1	
Other Income	7	8	7	18	10	16	17	23	39	65	11	
EO Inc/(Exp)	-	-	-	0	-	-	-	-	0	-	-	
PBT	43	36	63	93	121	77	106	76	236	380	117	-34.9
Tax	12	7	17	26	32	16	29	21	62	99	30	
Tax Rate (%)	26.8	19.5	27.7	28.1	26.9	21.4	27.1	27.7	26.4	26.0	25.6	
Reported PAT	32	29	46	67	88	60	77	55	174	281	87	-36.7
Adjusted PAT	32	29	46	67	88	60	77	55	174	281	87	-36.7
Change YoY (%)	52.7	-0.4	47.9	46.2	178.3	105.7	69.3	-17.6	36.8	61.8		
Change QoQ (%)	-30.8	-7.4	55.2	47.1	31.7	-31.6	27.7	-28.4				

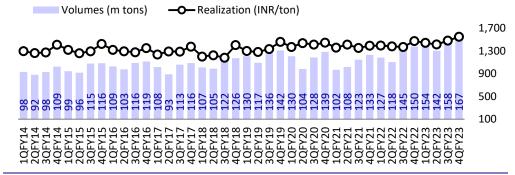
Source: MOFSL, Company

Exhibit 1: e-auction volumes drive revenue; though realizations cool off QoQ, it continues to be at its historic high levels



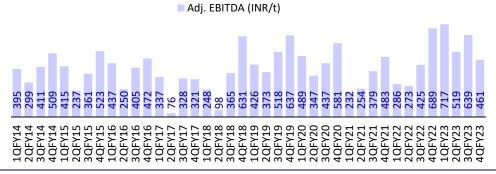
Source: MOFSL, Company

Exhibit 2: FSA volumes and realizations improve during the quarter; at record levels



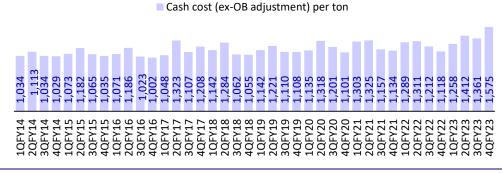
Source: MOFSL, Company

Exhibit 3: Adjusted EBITDA/t impacted by higher NCWA-XI wage provisions



Source: MOFSL, Company

Exhibit 4: Adjusted cash costs increase due to wage provisions

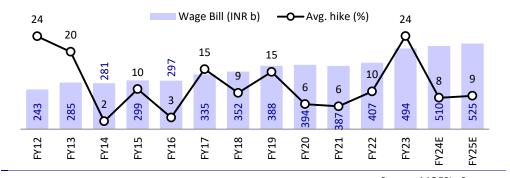


Source: MOFSL, Company

Adjusted cash cost (ex OBR and employee cost) was down 5% QoQ at INR669/t.

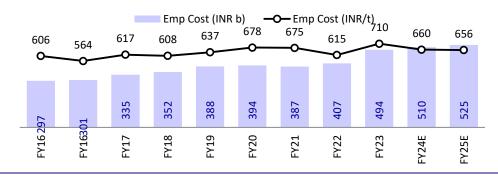
 Adjusted cash cost (ex OBR and employee cost) in 4QFY23 was the lowest for FY23, down from a high of INR711 in 2QFY23.

Exhibit 5: Wage bill (employee expense) witnessed a sudden surge in FY23 on back of higher NCWA-XI wage provisions at INR81.5b in FY23; ex-provisions, the hike in wage bill for FY23 would have been flat in the range of INR415-425b.



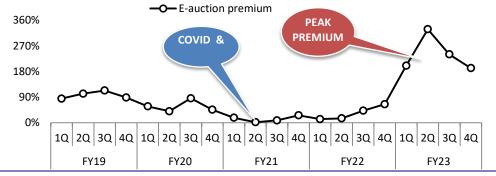
Source: MOFSL, Company

Exhibit 6: Higher dispatches will keep a check on rising absolute employee costs; employee cost/t to reduce from FY23 onward



Source: MOFSL, Company

Exhibit 7: e-auction premium of 192% remains over historical average



Source: MOFSL, Industry

Exhibit 8: Key assumptions and changes to our estimates

	UoM	FY23				FY24	1E	FY25E			
		New	Old	% change	New	Old	% change	New	Old	% change	
Production	mt	703	700	0%	773	735	5%	811	772	5%	
Dispatch	"	696	696	0%	773	731	6%	800	767	4%	
Revenue	INR b	1,383	1,363	1.4	1,314	1,277	2.9	1,337	1,303	2.6	
Adj EBITDA	INR b	406	442	-8.1	277	305	-9.2	286	290	-1.5	
APAT	INR b	281	313	-10.2	195	216	-9.9	205	209	-1.9	

Source: MOFSL, Company

Exhibit 9: Valuation remains attractive as demand remains strong

Target Price calculations	UoM	FY24E
Adjusted EBIDTA	INR b	277
Target EV/EBITDA (x)	x	5.0
Target EV	INR b	1,370
Net debt	INR b	-392
Equity value	INR b	1,762
TP		285

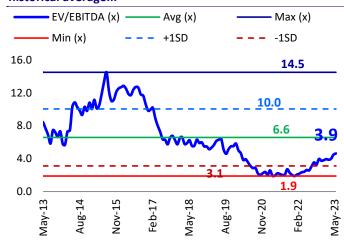
Source: MOFSL, Company

Exhibit 10: COAL P/B multiple remains cheap & below its historical average and -1SD...



Source: MOFSL, Company

Exhibit 11: Even the EV/EBITDA multiple is below its historical average...



Source: MOFSL, Company

Exhibit 12: Comparable valuation of global coal companies

	M-Cap	P/E (x)			EV	EV/EBITDA (x)			P/B (x)		RoE (%)		
		CY21/	CY22/	CY23/	CY21/	CY22/	CY23/	CY21/	CY22/	CY23/	CY21/	CY22/	CY23/
Company	USD m	FY22	FY23	FY24	FY22	FY23	FY24	FY22	FY23	FY24	FY22	FY23	FY24
Coal*	17,559	8.4	5.2	7.5	4.0	2.6	3.9	3.4	2.6	2.2	40.3	49.1	29.1
China Shenhua	80,495	6.1	7.0	7.0	4.1	4.5	4.6	1.1	1.1	1.1	19.0	16.0	15.2
Banpu	2,255	1.4	3.4	5.4	1.8	2.6	3.1	0.6	0.6	0.6	47.1	17.7	10.1
Bukit Asam	3,254	3.6	4.7	6.0	2.4	2.7	3.4	1.6	1.5	1.4	45.8	34.3	23.8
Adaro Energy	6,830	2.9	4.6	6.9	1.3	1.8	2.2	1.1	1.2	1.2	43.8	25.8	17.1

Source: MOFSL, Company, Bloomberg. (*) denotes MOFSL estimates

Financials and valuations

Income Statement										(INR b)
Y/E March	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24E	FY25E
Net Sales	780	784	859	995	961	900	1,097	1,383	1,314	1,337
Change (%)	0.0	0.5	9.6	15.9	-3.5	-6.3	21.9	26.0	-4.9	1.7
Operating Expenses	593	660	689	746	742	715	850	1,014	1,079	1,086
EBITDA	187	124	170	250	219	186	247	368	235	250
% of Net Sales	24.0	15.8	19.7	25.1	22.8	20.6	22.5	26.6	17.9	18.7
Adjusted EBITDA	215	151	203	300	275	200	285	406	277	286
adj. EBITDA/ton	403	277	350	494	473	349	430	584	358	358
Depreciation	28	29	31	35	35	37	44	47	50	53
Interest	4	4	4	3	5	6	5	7	8	8
Other Income	59	55	47	59	61	38	39	65	83	85
Extra Ordinary income	0	0	74	0	0	0	0	0	0	0
PBT	215	146	107	271	241	180	236	380	261	275
Tax	72	52	37	97	74	53	62	99	66	69
Rate (%)	33.4	35.4	34.6	35.6	30.6	29.5	26.4	26.0	25.2	25.2
PAT before Min. Int.	143	94	70	175	167	127	174	281	195	205
Minority Interest										
Reported PAT	143	94	70	175	167	127	174	281	195	205
Change (%)	0.1	-34.1	-25.5	148.8	-4.4	-23.9	36.8	61.8	-30.6	5.3
Adjusted PAT	143	94	119	175	167	127	174	281	195	205
Change (%)	0.1	-34.1	26.3	46.8	-4.4	-23.9	36.8	61.8	-30.6	5.3

Balance Sheet										(INR b)
Y/E March	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24E	FY25E
Share Capital	63	62	62	62	62	62	62	62	62	62
Reserves	285	183	136	203	260	304	370	511	608	711
Net Worth	348	245	198	265	322	365	431	572	670	773
Minority Interest	1	3	4	4	4	4	7	8	8	8
Loans	12	30	15	22	64	59	33	41	58	58
Differed tax Liability	-20	-27	-54	-43	-33	-41	-41	-42	0	0
Capital Employed	341	251	164	248	357	388	430	580	736	839
Gross Fixed Assets	234	277	326	402	474	565	660	812	960	1,095
Less: Depreciation	27	56	85	116	150	187	232	279	328	381
Net Fixed Assets	207	221	241	286	323	378	428	470	632	714
Capital Work in Progress	59	103	138	137	128	151	168	225	242	257
Investments	0	0	3	5	9	23	24	31	31	31
Current Assets	841	809	839	857	1,007	1,025	1,141	1,344	1,359	1,402
Inventory	76	89	64	56	66	89	71	82	78	79
Debtors	114	107	87	55	144	196	114	131	144	146
Other Current Assets	241	285	351	392	490	524	588	688	688	688
Loans and Advances	1	0	10	16	11	6	4	4	0	0
Cash	409	327	326	338	295	209	365	440	450	489
Current Liabilities	767	882	1,058	1,037	1,110	1,189	1,331	1,491	1,528	1,565
Payables	33	39	45	68	101	76	86	85	81	83
Other current liabilities	734	843	1,012	968	1,009	1,113	1,245	1,405	1,447	1,483
Net Curr. Assets	74	-73	-218	-179	-104	-164	-190	-147	-169	-163
Application of Funds	341	251	164	248	357	388	430	580	736	839

Financials and valuations

Y/E March	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24E	FY25E
Basic										
Adjusted EPS	22.6	15.2	19.2	28.3	27.1	20.6	28.2	45.6	31.7	33.3
Cash EPS	31.5	24.2	29.5	42.2	41.7	29.0	41.5	59.4	46.5	47.7
Book Value	55.1	39.5	32.0	42.9	52.2	59.3	70.0	92.9	108.7	125.4
DPS	27.4	19.9	16.5	13.1	12.0	16.0	17.0	24.3	15.8	16.7
Payout (incl. Div. Tax.)	145.5	160.3	103.3	55.5	53.3	77.6	60.3	53.1	50.0	50.0
Valuation (x)										
P/E	12.9	19.3	14.8	8.4	4.9	6.3	8.4	5.2	7.5	7.1
Cash P/E	9.3	12.1	9.6	5.6	3.2	4.5	5.7	4.0	5.1	5.0
P/BV	5.3	7.4	8.9	5.5	2.5	2.2	3.4	2.6	2.2	1.9
EV/Adj. EBITDA	6.7	10.1	7.1	3.8	2.1	3.3	4.0	2.6	3.9	3.6
Dividend Yield (%)	9.4	6.8	5.8	5.5	9.1	12.3	7.2	10.2	6.7	7.0
EV /ton of Reserves	66.6	69.9	66.6	52.7	26.8	30.0	52.0	48.9	49.3	47.5
Profitability Ratios (%)										
Debtor (Days)	53.6	50.0	36.9	20.2	54.7	79.6	37.8	34.5	40.0	40.0
Inventory (Days)	35.4	41.7	27.4	20.5	25.1	36.3	23.5	21.5	21.5	21.5
Payables (Days)	15.4	18.2	19.2	25.0	38.4	31.0	28.6	22.6	22.6	22.6
Asset turnover(x)	2.3	3.1	5.2	4.0	2.7	2.3	2.6	2.4	1.8	1.6
Profitability Ratios (%)										
RoE	41.0	38.4	35.4	66.0	51.9	34.8	40.3	49.1	29.1	26.6
RoCE	39.9	32.7	58.4	85.7	56.4	35.4	43.5	56.7	30.5	26.8
Leverage Ratio										
Net Debt/Equity (x)	-1.1	-1.2	-1.6	-1.2	-0.7	-0.4	-0.8	-0.7	-0.6	-0.6

Cash Flow Statement										(INR b)
Y/E March	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24E	FY25E
Adj EBITDA*	215	151	203	300	275	200	285	406	277	286
Non cash exp. (income)	22	37	-55	11	10	19	15	22	41	45
(Inc)/Dec in WC	-27	60	138	-49	-123	-57	174	26	-14	-2
Taxes paid	-79	-89	-74	-95	-119	-57	-63	-97	-66	-69
CF from Operations	132	158	213	167	41	106	411	357	238	259
Capex	-58	-87	-85	-73	-56	-110	-120	-152	-165	-150
Free Cash Flow	74	72	127	94	-15	-4	291	205	73	109
(Pur)/Sale of Investments	0	0	-3	-1	-5	-8	-8	-7	0	0
Interest/dividend	50	35	24	31	35	24	11	27	42	40
Other investing activity	-83	-12	-13	-10	11	-14	-5	-13	-17	0
CF from Investments	-91	-65	-77	-54	-15	-107	-121	-145	-140	-110
Equity raised/(repaid)	0	-46	0	0	0	0	0	0	0	0
Debt raised/(repaid)	10	18	-15	7	23	-6	-26	8	17	0
Interest paid	0	0	0	0	-1	-2	-1	-1	-8	-8
Dividend (incl. tax)	-208	-151	-123	-112	-97	-77	-108	-143	-98	-103
Other financing	3	3	3	4	5	0	0	0	0	0
CF from Fin. Activity	-196	-176	-136	-102	-70	-85	-134	-137	-88	-110
Inc/Dec of Cash	-155	-82	-1	12	-43	-86	155	75	10	39
Add: Beginning Balance	564	409	327	326	338	295	209	365	440	450
Closing Balance	409	327	326	338	295	209	365	440	450	489

Investment in securities market are subject to market risks. Read all the related documents carefully before investing

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.

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, 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 Motifal Oswal Financial Services Limited are available on the website at http://onlinereports.motifaloswal.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 transactions. Details of pending Enquiry Proc llaxy.motilaloswal.com/ResearchAnalyst/PublishViewLitigation.aspx Enquiry Proceedings of Motilal Oswal Financial Services Limited available are

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 1934 act 1934) 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

- 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 6
- 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
- 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

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
- 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.

7 May 2023

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. Investment in securities market are subject to market risks. Read all the related documents carefully before investing.

Registration granted by SEBI and certification from NISM in no way guarantee performance of the intermediary or provide any assurance of returns to investors.

Registered Office Address: Motilal Oswal Tower, Rahimtullah Sayani Road, Opposite Parel ST Depot, Prabhadevi, Mumbai-400025; Tel No.: 022 - 71934200 / 71934263; 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::022-40548085.

Glievalice Rediessal Cell.			
Contact Person	Contact No.	Email ID	
Ms. Hemangi Date	022 40548000 / 022 67490600	query@motilaloswal.com	
Ms. Kumud Upadhyay	022 40548082	servicehead@motilaloswal.com	
Mr. Ajay Menon	022.40548083	am@motilaloswal.com	

Registration details of group entities.: Motilal Oswal Financial Services Ltd. (MOFSL): INZ000158836 (BSE/NSE/MCX/NCDEX); CDSL and NSDL: IN-DP-16-2015; 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.