

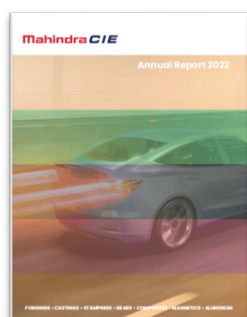
BSE SENSEX
61,964

S&P CNX
18,314

CMP: INR451

TP: INR550 (+22%)

Buy



Bloomberg	MACA IN
Equity Shares (m)	379
M.Cap.(INRb)/(USD b)	171.2 / 2.1
52-Week Range	469 / 168
1, 6, 12 Rel. Per (%)	17/56/132
12M Avg Val (INR M)	432
Free float (%)	31.1

Financials & Valuations (INR b)

Y/E MARCH	CY22	CY23E	CY24E
Sales	87.5	100.7	110.3
EBITDA (%)	13.4	15.6	16.2
Adj. PAT	6.8	9.4	11.0
Adj EPS (INR)	18.1	24.9	29.0
EPS Gr (%)	69.2	37.9	16.4
BV/Sh (INR)	135	155	178

Ratios

RoE (%)	13.3	17.2	17.4
RoCE (%)	10.7	14.7	15.2
Payout (%)	13.3	16.7	16.7

Valuations

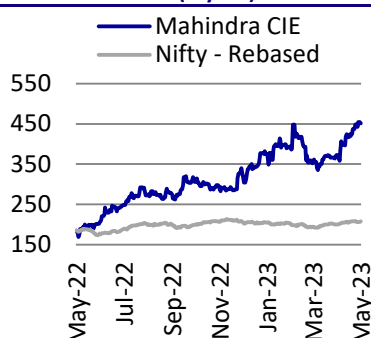
P/E (x)	25.2	18.3	15.7
P/BV (x)	3.4	2.9	2.6
Div. Yield (%)	0.6	0.9	1.1
FCF Yield (%)	3.9	2.0	4.9

Shareholding pattern (%)

As On	Mar-23	Dec-22	Mar-22
Promoter	68.9	75.0	72.2
DII	11.2	7.5	7.4
FII	8.6	7.3	10.7
Others	11.3	10.3	9.8

FII Includes depository receipts

Stock Performance (1-year)



EVs in India and EU make up 35-40% of CY22 orders

India focuses on profitable growth; EU focuses on profitability/EV transition

Mahindra CIE (MACA) in its CY22 annual report highlighted a) its focus on profitable growth in India, b) re-engineering in EU for driving profitability and EV transition, c) limiting its focus on PVs in EU by divesting the CV forging business, and d) its strategy for the EV transition in India and EU. Its recent investments in capacity addition in India would support growth over the next two years. We present below the key insights from MACA's annual report.

India outlook: Focus on balancing growth and profitability

- MACA expects to sustain the growth momentum in India for the next few quarters and its order book in India is reflecting this growth momentum, necessitating capacity expansion in almost all of its verticals.
- It is focusing on balancing the order book and investments in capacity such that both growth and profitability objectives are met.
- Developing parts with greater value addition is an important part of operational strategy – e.g., to improve value addition, its stampings business has developed welded and assembled parts and installed robotic welding processes.

EU outlook: Focus on reengineering for profitability and EV transition

- Production of light vehicles in Europe fell for the third straight year in CY22 due to the semiconductor shortage and the Russia-Ukraine conflict. Battery electric vehicles (EVs) remained buoyant, and their market penetration crossed 10%.
- The company aims to re-engineer products and processes to offset rising costs in a stagnating market and to support a rapid transition to EVs.
- MACA's EU operations focus on improving productivity, pruning other costs and, in some cases, passing on high energy prices to customers.
- It also focuses on generating more EV-related orders and developing aluminum forgings for EVs.
- Its decision to divest the CV forging business in Germany was a result of the transition of the PV business to EVs.

EV transition – MACA's approach

- EVs will have a greater emphasis on stamped, plastic and aluminum parts, compared to forged, cast or machined parts. With presence in multiple processes, especially in India, MACA is well placed for the EV transition.
- As the supplier ecosystem for EVs is at a nascent stage, EV OEMs are looking to partner with suppliers that have quality and pedigree. Therefore, the transition to EVs may be more of an opportunity than a risk for MACA. It will also be able to learn from the experiences of its parent, which is working closely with many global EV OEMs.
- MACA has a good order book for EV parts and is working with major European and Indian OEMs across segments. Its EV order book covers aluminum and steel forgings, gears, stampings and composites parts for e2W, e3W and e4W.

Jinesh Gandhi – Research Analyst (Jinesh@MotilalOswal.com)

Research Analyst: Amber Shukla (Amber.Shukla@MotilalOswal.com) | Aniket Desai (Aniket.Desai@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.

“We are in the process of changing our name to CIE Automotive India Limited.

CIE as a global group accords the highest priority to the Indian market and this change reflects this commitment.”

“Our strategy can be summarized as following: the better we become in our operations and the better we serve our customers, the more growth opportunities our customers present us with.”

EV transition in India: EVs account for 35% of CY22 order book

- In India, EV orders accounted for about 35% of its order book in CY22. The EV order book in India covers aluminum and steel forgings, gears, stampings, and composites parts for e2W, e3W and e4W.
- It has been investing in additional capacities to cater to the EV order book: 1) a new unit to be added at the gears plant in Pune, 2) a new forging and machining line installed by Bill Forge at Bengaluru, 3) a new aluminum plant at Aurangabad, and 4) investments in robotic welding at the stampings vertical.

EV transition in EU: 40% of CY22 order book from EVs

- In EU operations, a major part of sales in the forgings vertical comes from manufacturing crankshafts for cars, which are at risk from the EV transition. MACA does not expect a major impact in the short term, but in the medium term (CY26 onward), it expects crankshaft sales to decline gradually.
- A shift to hybrid vehicles and PHEVs, as compared to pure-play BEVs, will be beneficial as the number of parts available for supply increases.
- Its mitigation plan is to start producing aluminum forged parts and steel suspension products for cars. Almost 40% of the new orders that the car forgings vertical acquired in CY22 were in the BEV space.
- Forged aluminum parts are expected to constitute a significant part of car forgings sales by CY27.
- Metcastello, which makes gears for off-road and farm vehicles, will not be much affected by the EV transition. However, it has acquired significant business for BEV transmission parts.

New capacities in India to support growth over next two years

- In the gears business, it is adding a new unit at its Pune plant to cater to EV parts and has expanded capacity at its Rajkot plant in CY22.
- In the forging business, Bill Forge added a new forging and machining line at Bengaluru to cater to EV transmission parts, and a new fuel rail line (a first in India) was commissioned at CIE Hosur.
- It expanded machining capacity for crankshafts at its Chakan forgings plant and an additional 4,000T press is being put up to enhance forgings capacity.
- Two compression moulding presses were added to the composites unit in Pune to increase capacity to make components from the compounds produced.
- In the aluminum die-casting business, a new plant was built at Aurangabad in CY22 to cater to 4W EV parts.
- The stampings plant at Kanhe added more robotic welding capabilities to improve value addition.
- There was also incremental growth capex at the magnetics, foundry & Mexico plants.

Other takeaways

- CIE Hosur (forging) started its machining operations in Jun'22. It has started domestic supplies to PSA Automotive, Royal Enfield and direct exports to PSA France (from Sep'22). This plant has ample space to further expand capacity in future if needed. MACA has so far invested ~INR1.5b in this plant and CY22 revenues for this plant stood at INR179m.

- **Approach to ESG:** As a subsidiary of CIE Automotive, it follows a five-year strategic ESG plan to comply with 79 KPIs designed under four pillars, namely culture, ethical commitment, eco efficiency and active listening, which are aligned with the UN-17 Sustainable Development Goals. These KPIs are part of business process/Balanced Score Cards of all divisions, which in turn are linked to performance appraisals.

Valuation & view

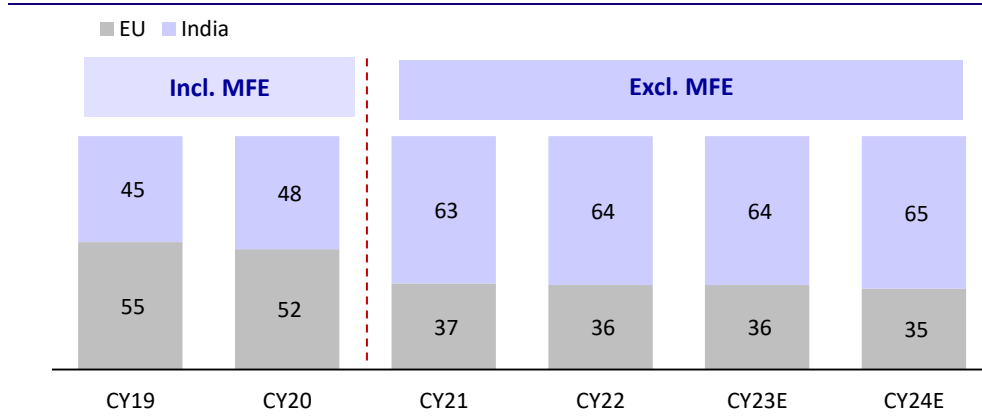
- We upgrade our consolidated EPS estimates for CY23/CY24 by 6% each, as we factor in a recovery in EU business EBITDA margin owing to a decline in energy prices in the EU.
- MACA's growth story is on track, led by its organic initiatives (new products/customers) and M&A focus. Under CIE's parentage, MACA has been able to improve its efficiency, cut costs and improve profitability.
- We estimate a 12%/23.5%/27% CAGR over CY22-24E in consol revenue/EBITDA/PAT. A ramp-up in new plants and improvement in margins would improve RoE by 410bp (v/s CY22) to 17.4% by CY24E. Hence, we now value MACA at 18x (v/s 16x earlier and LPA of 26x).
- The stock trades at 18.3x/15.7x CY23E/CY24E consolidated EPS. We maintain our BUY rating with a TP of INR550 (~18x Jun'25E consol EPS).

Exhibit 1: Our revised estimates

(INR M)	CY23E			CY24E		
	Rev	Old	Chg (%)	Rev	Old	Chg (%)
Net Sales	1,00,723	1,01,320	(0.6)	1,10,333	1,10,926	(0.5)
EBITDA	15,672	15,433	1.5	17,882	17,538	2.0
EBITDA margin %	15.6	15.2	30bp	16.2	15.8	40bp
Adj. PAT	9,412	8,858	6.3	10,951	10,321	6.1
EPS	24.9	23.4	6.3	29.0	27.3	6.1

Source: MOFSL

Exhibit 2: Consolidated revenue mix (% of total revenues)



Source: Company, MOFSL

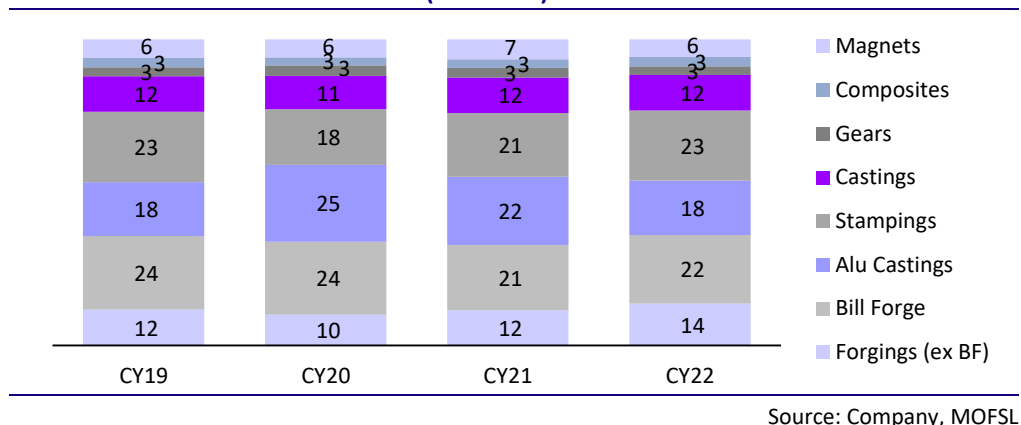
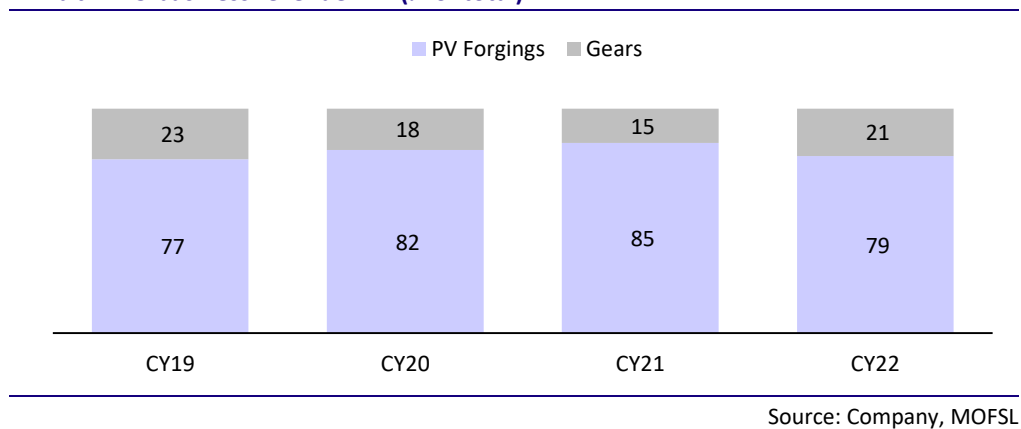
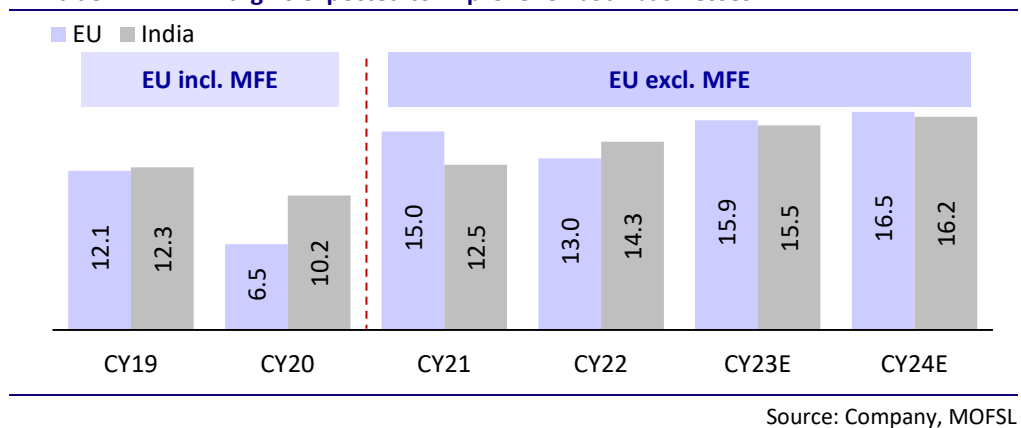
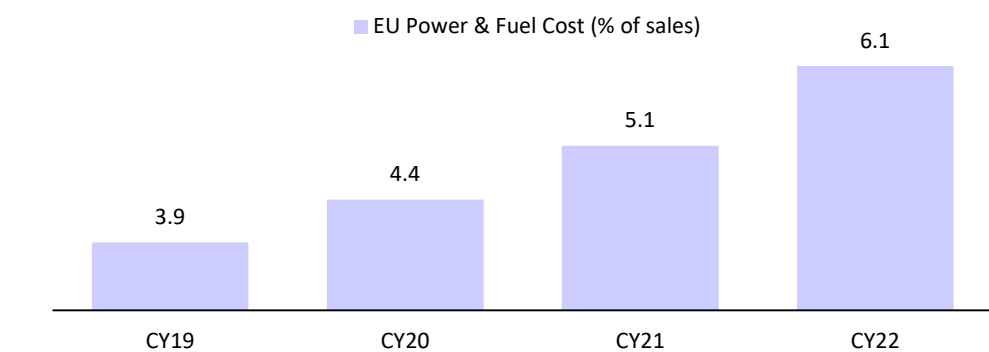
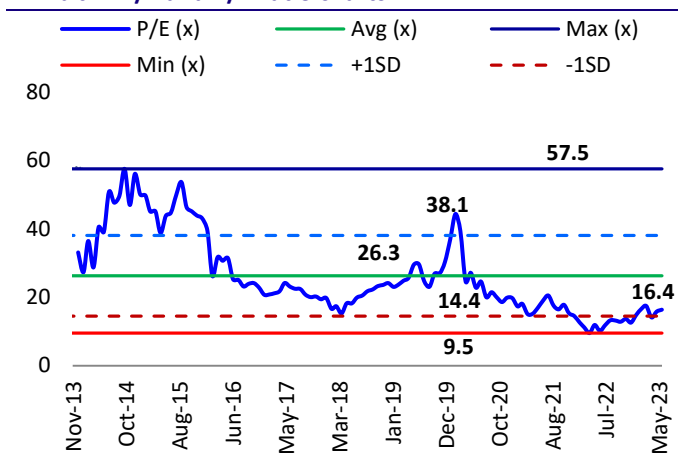
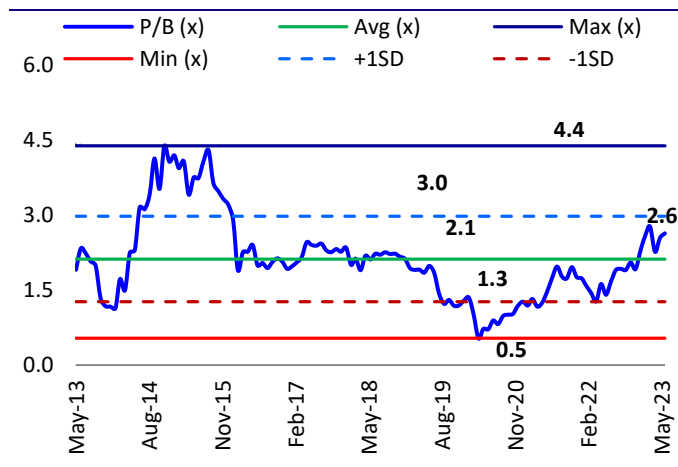
Exhibit 3: India business revenue mix (% of total)**Exhibit 4: EU business revenue mix (% of total)****Exhibit 5: EBITDA margins expected to improve for both businesses**

Exhibit 6: EU margins affected by hyper-inflation in energy costs (% of sales)

Source: Company, MOFSL

Exhibit 7: P/E and P/B ratio charts

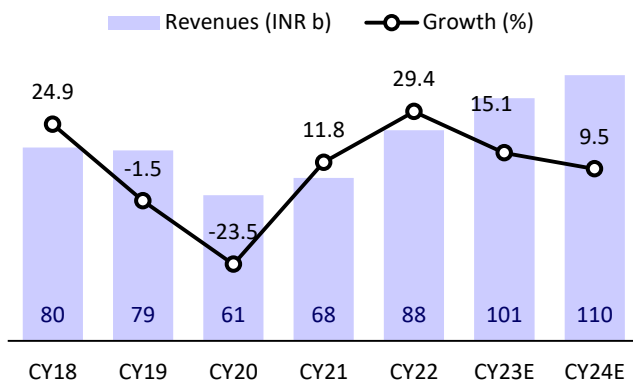
Source: Company, MOFSL



Source: Company, MOFSL

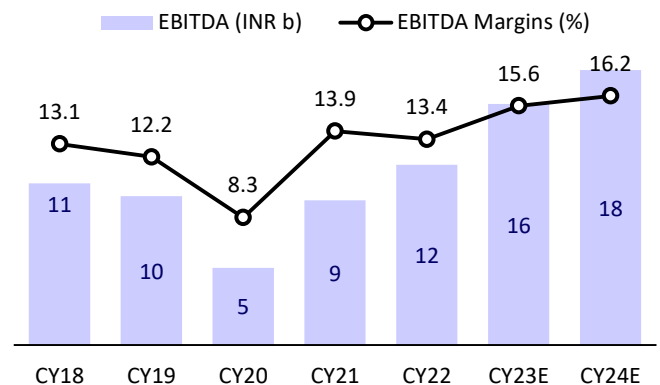
Key operating indicators

Exhibit 8: Expect consolidated revenue to recover



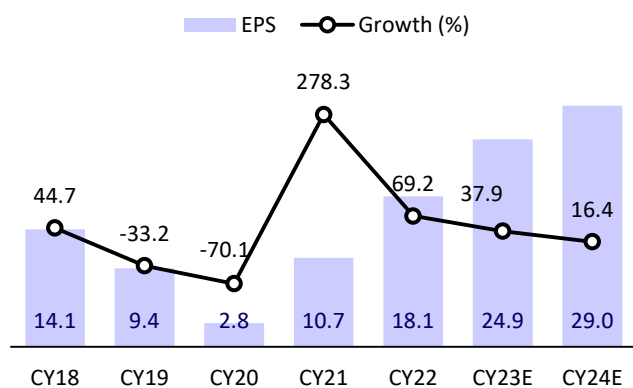
Source: Company, MOFSL

Exhibit 9: Expect EBITDA margin to recover in CY23



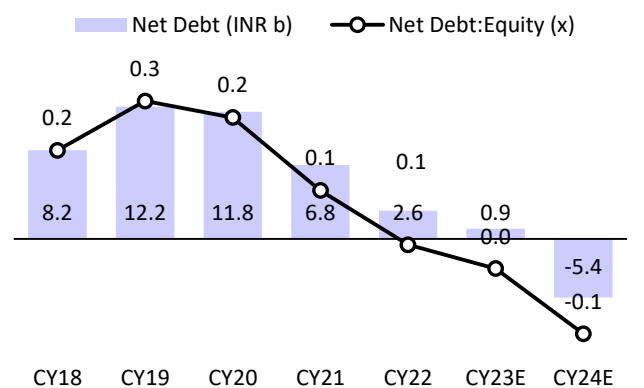
Source: Company, MOFSL

Exhibit 10: EPS and EPS growth



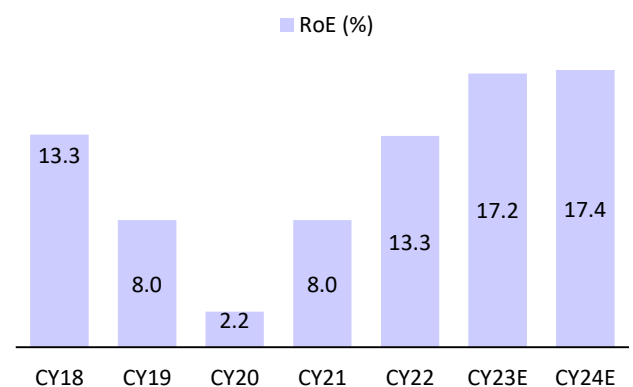
Source: Company, MOFSL

Exhibit 11: Expect net debt to reduce substantially by CY23



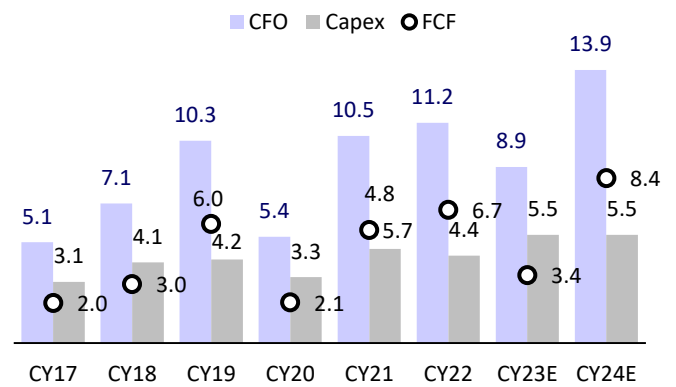
Source: Company, MOFSL

Exhibit 12: Expect RoE to continue to improve



Source: Company, MOFSL

Exhibit 13: FCF to remain healthy



Source: Company, MOFSL

Exhibit 14: Key operating metrics

Key Operating Matrix

INR m	CY17	CY18	CY19	CY20	CY21	CY22	CY23E	CY24E
Revenues								
Forgings	45,474	56,290	50,892	38,119	49,639	64,345	73,235	78,293
Growth (%)	25	24	-10	-25	30	30	14	7
India (ex BFL)	4,364	5,312	4,265	2,911	4,988	7,745	9,139	10,236
Growth (%)	13	22	-20	-32	71	55	18	12
BFL	6,917	8,737	8,776	6,898	9,238	12,553	14,059	15,746
Growth (%)	295	26	0	-21	34	36	12	12
MFE Europe	17,316	21,384	17,889	13,291	16,488	19,491	21,791	22,781
Growth (%)	8	23	-16	-26	24	18	12	5
CIE Europe	16,876	20,857	19,962	15,019	18,925	24,557	28,246	29,530
Growth (%)	14	24	-4	-25	26	30	15	5
Gears	4,716	7,904	7,893	5,128	8,326	9,830	12,132	13,224
Growth (%)	-8	68	0	-35	62	18	23	9
India	828	2,333	2,240	1,717	2,836	3,230	3,973	4,529
Growth (%)	-44	182	-4	-23	65	14	23	14
Metalcastello	3,888	5,571	5,653	3,411	5,490	6,600	8,159	8,695
Growth (%)	7	43	1	-40	61	20	24	7
Stampings	8,015	10,077	8,410	5,265	8,980	12,859	14,788	16,858
Growth (%)	26	26	-17	-37	71	43	15	14
Castings	4,177	5,269	4,237	3,152	5,021	6,527	7,506	8,332
Growth (%)	14	26	-20	-26	59	30	15	11
Composites	907	1,092	1,069	746	1,227	1,722	1,946	2,179
Growth (%)	3	20	-2	-30	64	40	13	12
Magnets	1,292	1,210	1,068	984	1,342	1,613	1,823	2,060
Growth (%)	-3	-6	-12	-8	36	20	13	13
Aluminum (AEL)			5,818	6,788	9,636	10,060	11,267	12,619
Growth (%)				17	33	4	12	12
Total Consol Revenues	64,279	80,315	79,078	60,501	67,652	87,530	1,00,723	1,10,333
Growth (%)	21	25	-2	-23	12	29	15	10
EBITDA Margins	12.7	13.1	12.2	8.3	13.9	13.4	15.6	16.2
EBIT Margins	8.5	9.5	8.2	3.2	9.9	10.0	12.3	13.1
Adj. EPS (INR/Sh)	9.8	14.1	9.4	2.8	10.7	18.1	24.9	29.0
Growth (%)	111	45	-33	-70	278	69	38	16

Source: Company, MOFSL

Financials and valuations

Consolidated - Income Statement

(INR M)

Y/E December	CY18	CY19	CY20	CY21	CY22	CY23E	CY24E
Total Income from Operations	80,315	79,078	60,501	83,867	87,530	1,00,723	1,10,333
Change (%)	24.9	-1.5	-23.5	38.6	29.4	15.1	9.5
EBITDA	10,511	9,677	5,016	10,173	11,720	15,672	17,882
Margin (%)	13.1	12.2	8.3	12.1	13.4	15.6	16.2
Depreciation	2,867	3,161	3,064	3,431	2,962	3,267	3,482
EBIT	7,643	6,516	1,952	6,743	8,758	12,405	14,400
Int. and Finance Charges	502	523	548	533	227	672	675
Other Income	387	331	549	556	583	797	846
PBT bef. EO Exp.	7,529	6,324	1,953	6,766	9,114	12,530	14,571
EO Items	-504	-46	0	-1,260	379	0	0
PBT after EO Exp.	7,025	6,279	1,953	5,505	9,492	12,530	14,571
Total Tax	2,043	2,741	886	1,589	2,401	3,143	3,645
Tax Rate (%)	29.1	43.7	45.4	28.9	25.3	25.1	25.0
Share of profit from associate	0	0	0	12	22	25	25
Reported PAT	4,981	3,538	1,066	3,928	7,113	9,412	10,951
Adj. PAT	5,339	3,564	1,066	5,236	6,828	9,412	10,951
Change (%)	44.7	-33.2	-70.1	391.0	69.2	37.9	16.4
Margin (%)	6.6	4.5	1.8	6.2	7.8	9.3	9.9

Consolidated - Balance Sheet

(INR M)

Y/E December	CY18	CY19	CY20	CY21	CY22	CY23E	CY24E
Equity Share Capital	3,788	3,790	3,790	3,790	3,793	3,793	3,793
Total Reserves	39,103	42,548	45,290	48,176	47,192	54,721	63,482
Net Worth	42,891	46,338	49,080	51,966	50,985	58,514	67,275
Minority Interest	0	0	0	0	0	0	0
Total Loans	16,134	14,691	16,476	12,816	9,234	9,235	9,236
Deferred Tax Liabilities	-1,565	912	1,236	2,459	3,199	3,199	3,199
Capital Employed	57,460	61,941	66,792	67,241	63,418	70,949	79,711
Gross Block	32,235	42,936	53,135	57,335	48,348	54,042	59,542
Less: Accum. Deprn.	12,294	17,619	23,204	26,635	20,921	24,188	27,670
Net Fixed Assets	19,941	25,316	29,931	30,700	27,427	29,854	31,872
Goodwill on Consolidation	29,111	35,260	37,554	36,265	28,040	28,040	28,040
Capital WIP	960	542	123	150	1,195	1,001	1,001
Total Investments	6,808	955	2,340	4,380	5,756	5,756	5,756
Curr. Assets, Loans&Adv.	26,455	23,553	23,686	26,712	36,780	34,010	43,240
Inventory	12,286	10,566	10,062	13,486	12,108	13,748	14,944
Account Receivables	7,414	7,368	7,054	6,687	8,608	9,658	10,580
Cash and Bank Balance	1,127	1,499	2,380	1,595	859	2,546	8,889
Loans and Advances	5,628	4,120	4,190	4,943	15,205	8,058	8,827
Curr. Liability & Prov.	25,815	23,686	26,843	30,965	35,780	27,712	30,198
Account Payables	16,838	14,771	14,590	19,385	21,350	18,874	20,516
Other Current Liabilities	5,038	4,745	7,909	7,605	12,876	7,051	7,723
Provisions	3,939	4,170	4,344	3,976	1,553	1,788	1,958
Net Current Assets	640	-133	-3,157	-4,253	1,000	6,298	13,042
Appl. of Funds	57,460	61,941	66,792	67,241	63,418	70,949	79,711

Financials and valuations

Ratios

Y/E December	CY18	CY19	CY20	CY21	CY22	CY23E	CY24E
Basic (INR)							
EPS	14.1	9.4	2.8	13.8	18.1	24.9	29.0
Cash EPS	21.7	17.8	10.9	22.9	25.9	33.5	38.2
BV/Share	113.4	122.6	129.8	137.4	134.8	154.8	177.9
DPS	0.0	0.0	0.0	2.5	2.5	4.1	4.8
Payout (%)	0.0	0.0	0.0	24.1	13.3	16.7	16.7
Valuation (x)							
P/E	22.2	33.3	111.3	22.7	25.2	18.3	15.7
Cash P/E	14.5	17.7	28.7	13.7	17.5	13.5	11.9
P/BV	2.8	2.6	2.4	2.3	3.4	2.9	2.6
EV/Sales	1.7	1.7	2.2	1.6	2.1	1.8	1.6
EV/EBITDA	12.7	13.7	26.5	12.8	15.4	11.4	9.7
Dividend Yield (%)	0.0	0.0	0.0	0.8	0.6	0.9	1.1
FCF per share	7.9	15.9	5.4	15.1	17.8	9.1	22.0
Return Ratios (%)							
RoE	13.3	8.0	2.2	10.4	13.3	17.2	17.4
RoCE (Post-tax)	10.9	6.5	2.1	7.7	10.7	14.7	15.2
RoIC	11.5	6.8	1.8	7.8	11.3	15.9	17.2
Working Capital Ratios							
Fixed Asset Turnover (x)	2.5	1.8	1.1	1.5	1.8	1.9	1.9
Asset Turnover (x)	1.4	1.3	0.9	1.2	1.4	1.4	1.4
Inventory (Days)	56	49	61	59	50	50	49
Debtor (Days)	34	34	43	29	36	35	35
Creditor (Days)	77	68	88	84	89	68	68
Leverage Ratio (x)							
Net Debt/Equity	0.2	0.3	0.2	0.1	0.1	0.0	-0.1

Consolidated - Cash Flow Statement

(INR M)

Y/E December	CY18	CY19	CY20	CY21	CY22	CY23E	CY24E
OP/(Loss) before Tax	7,025	6,279	1,953	6,778	9,514	12,555	14,596
Depreciation	2,898	3,168	3,064	3,431	3,537	3,267	3,482
Interest & Finance Charges	525	525	548	533	454	-125	-171
Direct Taxes Paid	-1,444	-1,161	-503	-1,053	-1,981	-3,143	-3,645
(Inc)/Dec in WC	-1,769	1,556	761	1,364	-97	-3,611	-401
CF from Operations	7,235	10,367	5,823	11,052	11,427	8,943	13,861
Others	-155	-94	-430	-541	-245	0	0
CF from Operating incl EO	7,080	10,273	5,393	10,511	11,182	8,943	13,861
(Inc)/Dec in FA	-4,101	-4,238	-3,343	-4,778	-4,434	-5,500	-5,500
Free Cash Flow	2,979	6,035	2,050	5,733	6,749	3,443	8,361
(Pur)/Sale of Investments	-6,201	-1,871	-1,376	-1,880	-1,273	0	0
Others	129	219	502	-967	-661	797	846
CF from Investments	-10,173	-5,890	-4,217	-7,625	-6,368	-4,703	-4,654
Issue of Shares	57	30	0	10	36	0	0
Inc/(Dec) in Debt	4,089	-3,545	506	-2,787	-3,936	1	1
Interest Paid	-525	-525	-477	-318	-378	-672	-675
Dividend Paid	0	0	0	0	-948	-1,569	-1,825
Others	0	0	-409	-532	349	0	0
CF from Fin. Activity	3,621	-4,040	-380	-3,627	-4,877	-2,240	-2,499
Inc/Dec of Cash	528	343	796	-740	-63	2,000	6,708
Opening Balance	719	1,247	1,590	2,386	1,646	1,583	3,583
Closing Balance	1,247	1,590	2,386	1,646	1,583	3,583	10,291

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 Motilal Oswal Financial Services Limited are available on the website at <http://online.reports.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 Advisers 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 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. 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.

Grievance Redressal 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 dp@grievances@motilaloswal.com.