

PI Industries

Estimate change	↑
TP change	↑
Rating change	↔

CMP: INR3,620

TP: INR4,470 (+23%)

Buy

Operating Leverage drives earnings

Earnings better than our estimates

- PI reported strong consolidated revenue growth of 31% YoY in 2QFY23, led by both CSM/Domestic businesses (revenue up 29%/36% YoY), on the back of strong volume growth of 25%/31%, respectively. EBITDA margins improved 280bp YoY to 24.4%, on account operating leverage benefit and favorable product mix.
- Factoring in a better-than-expected sales growth and margin expansion, we raise our FY23/FY24 earnings estimate by 10%/9% and reiterate our **Buy** rating on the stock.

Higher volume growth in Domestic and CSM boost sales

- Revenue grew 31% YoY to INR17.7b (est. INR16.2b) in 2QFY23. EBITDA grew 48% YoY to INR4.3b (est. INR3.6b). EBITDA margin expanded 280bp YoY to 24.4% (est. 22.5%), led by a 140bp/120bp YoY decline in employee/other Expenses to 7.6%/13.2% (as a percentage of sales) while gross margin stood at 43.8% (up 20bp YoY). Adjusted PAT grew 46% YoY to INR3.3b (est. INR2.7b).
- Exports (CSM)/Domestic revenue grew 29%/36% YoY to INR12.8b/INR4.9b in 2QFY23, majorly driven by volume growth of ~25%/31%, respectively, and balance by favorable price and currency movement. Newly launched brands in the domestic market are registering strong growth.
- For 1HFY23, Revenue/EBITDA/Adj. PAT grew 30%/44%/43% to ~INR33.1b/INR7.8b/INR6b, respectively. Domestic/Export revenue mix stood at 27%/73% in 1HFY23 v/s 29%/71% in 1HFY22.
- PI's net cash position stood at INR23.2b in Sep'22 v/s INR22.2b in Jun'22, led by higher CFO of INR3.1b v/s INR1.8b in 1HFY22. Trade working capital stands at 111 days v/s 103 days as of 31st Mar'22.

Highlights from the management commentary

- Guidance:** The management maintains its revenue growth guidance of over 20% in FY23 along with a ~100bp YoY margin improvement.
- New products:** PI aims to commercialize seven new molecules in the CSM business and launch seven new products in the domestic business in FY23. In 1HFY23, the company has commercialized one new molecule in CSM and launched five new products in the domestic business.
- Capex:** The management has increased its capex guidance of FY23 to INR7b from INR6-6.5b earlier.
- CSM business order book increased 29% to ~USD1.8b, exhibiting good visibility for the future. PI has received about 15 inquiries in 1HFY23 with over 25% of them being from the non-Agrochemical space.

Bloomberg	PI IN
Equity Shares (m)	152
M.Cap.(INRb)/(USDb)	549.2 / 6.7
52-Week Range (INR)	3699 / 2334
1, 6, 12 Rel. Per (%)	14/30/29
12M Avg Val (INR M)	814

Financials & Valuations (INR b)

Y/E Mar	2022	2023E	2024E
Sales	53.0	67.3	81.5
EBITDA	11.4	16.0	19.9
PAT	8.4	12.3	15.4
EBITDA (%)	21.6	23.8	24.4
EPS (INR)	55.5	81.1	101.4
EPS Gr. (%)	14.3	46.1	25.0
BV/Sh. (INR)	403	478	573

Ratios

Net D/E	(0.3)	(0.4)	(0.4)
RoE (%)	14.7	18.4	19.3
RoCE (%)	14.1	17.9	18.7
Payout (%)	9.0	7.4	5.9

Valuations

P/E (x)	65.2	44.6	35.7
EV/EBITDA (x)	47.2	33.3	26.5
Div Yield (%)	0.1	0.2	0.2
FCF Yield (%)	0.3	1.2	1.7

Shareholding pattern (%)

As on	Sep-22	Jun-22	Sep-21
Promoter	46.1	46.7	46.7
DII	26.2	25.9	21.7
FII	16.8	16.0	19.8
Others	11.0	11.4	11.9

Note: FII includes depository receipts

Valuation and view

- PI has levers in place to sustain the near-term growth momentum, led by: a) sustained growth momentum in the CSM business, driven by a strong (USD1.8b) order book, the rising pace of commercialization of new molecules, and a sales ramp-up in existing molecules, and b) product launches in the domestic market (five new launches in 1HFY23 and two new launches planned in 3QFY23), thus providing earnings visibility.
- We raise our FY23/FY24 earnings estimate by 10%/9% on the back of better-than-expected sales growth and margin expansion. We value the stock at 40x Sep'24 EPS to arrive at our TP of INR4,470 and reiterate our **Buy** rating on the stock.

Quarterly Earning Model

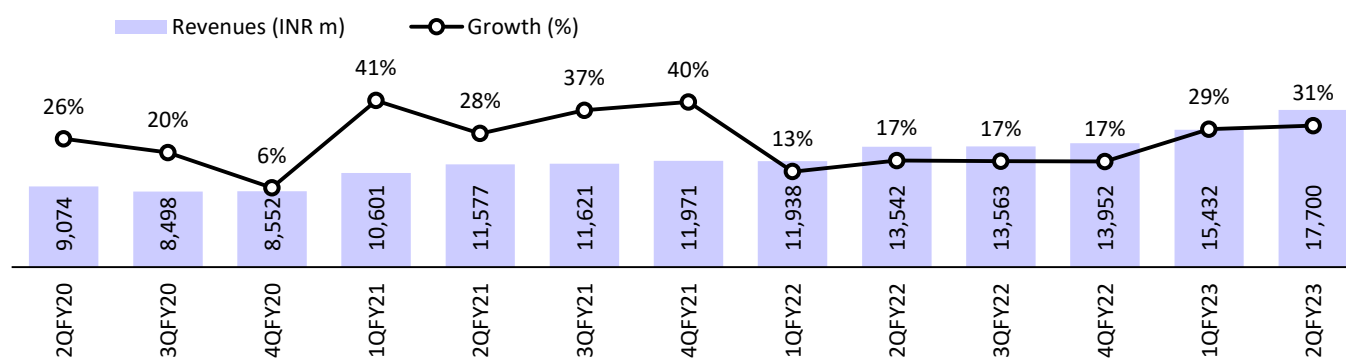
Y/E March	FY22				FY23				FY22	FY23E	FY23E	(INRm)
	1Q	2Q	3Q	4Q	1Q	2Q	3QE	4QE			2Q	Var (%)
Net Sales	11,938	13,542	13,563	13,952	15,432	17,700	16,890	17,230	52,995	67,253	16,197	9
YoY Change (%)	12.6	17.0	16.7	16.5	29.3	30.7	24.5	23.5	15.8	26.9	19.6	
Total Expenditure	9,449	10,622	10,598	10,902	11,976	13,381	12,835	13,030	41,571	51,223	12,557	
EBITDA	2,489	2,920	2,965	3,050	3,456	4,319	4,055	4,200	11,424	16,030	3,640	19
Margins (%)	20.8	21.6	21.9	21.9	22.4	24.4	24.0	24.4	21.6	23.8	22.5	
Depreciation	487	492	503	536	560	560	590	610	2,018	2,320	580	
Interest	34	34	33	27	36	111	37	34	128	218	40	
Other Income	277	277	260	200	241	317	300	320	1,014	1,178	280	
PBT before EO expense	2,245	2,671	2,689	2,687	3,101	3,965	3,728	3,876	10,292	14,670	3,300	
Extra-Ord expense	0	0	0	0	0	0	0	0	0	0	0	
PBT	2,245	2,671	2,689	2,687	3,101	3,965	3,728	3,876	10,292	14,670	3,300	
Tax	405	370	466	649	516	629	615	640	1,890	2,400	574	
Rate (%)	18.0	13.9	17.3	24.2	16.6	15.9	16.5	16.5	18.4	16.4	17.4	
MI & P/L of Asso. Cos.	-32	5	-3	-6	-39	-12	-3	-7	-36	-61	6	
Reported PAT	1,872	2,296	2,226	2,044	2,624	3,348	3,116	3,243	8,438	12,331	2,720	
Adj PAT	1,872	2,296	2,226	2,044	2,624	3,348	3,116	3,243	8,438	12,331	2,720	23
YoY Change (%)	28.7	5.5	13.9	13.7	40.2	45.8	40.0	58.7	14.3	46.1	18.5	
Margins (%)	15.7	17.0	16.4	14.7	17.0	18.9	18.4	18.8	15.9	18.3	16.8	

Key Performance Indicators

Y/E March	FY22				FY23				FY22	FY23E
	1Q	2Q	3Q	4Q	1Q	2Q	3QE	4QE		
Particulars										
CSM Revenue (INRm)	8,070	9,930	10,754	11,142	11,421	12,783	13,575	14,083	39,896	51,862
% Change	31.3	24.3	19.2	10.8	41.5	28.7	26.2	26.4	20.1	30.0
Domestic Formulation (INRm)	3,870	3,610	2,809	2,810	4,011	4,917	3,315	3,147	13,099	15,390
% Change	-13.1	0.6	8.0	47.1	3.6	36.2	18.0	12.0	4.4	17.5
Cost Break-up										
RM Cost (% of sales)	56.2	55.0	53.6	55.9	56.2	54.8	54.0	54.0	55.2	54.7
Staff Cost (% of sales)	10.0	9.0	9.2	8.2	8.1	7.6	8.0	8.1	9.1	7.9
Other Cost (% of sales)	12.9	14.5	15.3	14.0	13.4	13.2	14.0	13.5	14.2	13.5
Gross Margins (%)	43.8	45.0	46.4	44.1	43.8	45.2	46.0	46.0	44.8	45.3
EBITDA Margins (%)	20.8	21.6	21.9	21.9	22.4	24.4	24.0	24.4	21.6	23.8
EBIT Margins (%)	16.8	17.9	18.2	18.0	18.8	21.2	20.5	20.8	17.7	20.4

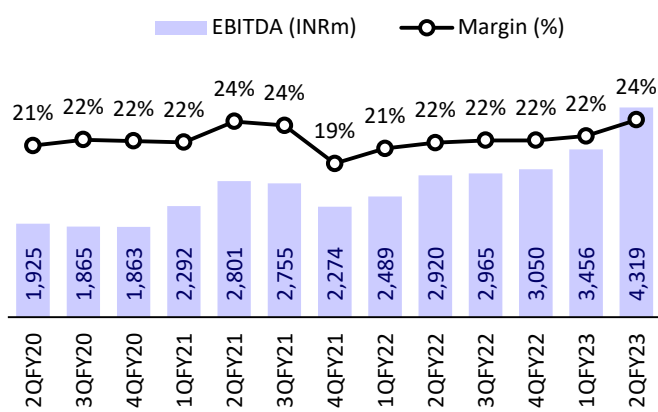
Key exhibits

Exhibit 1: Revenue growth trend



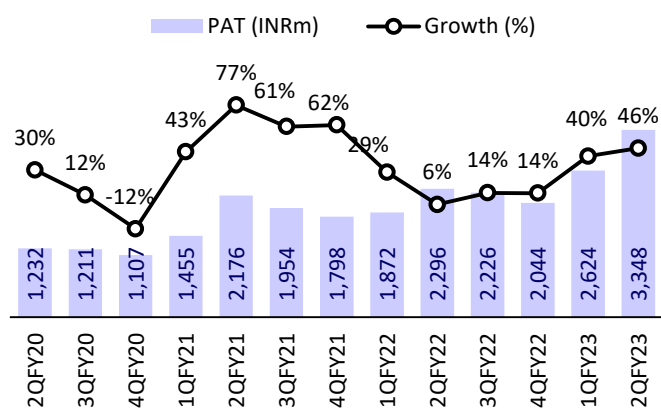
Source: Company, MOFSL

Exhibit 2: EBITDA trend



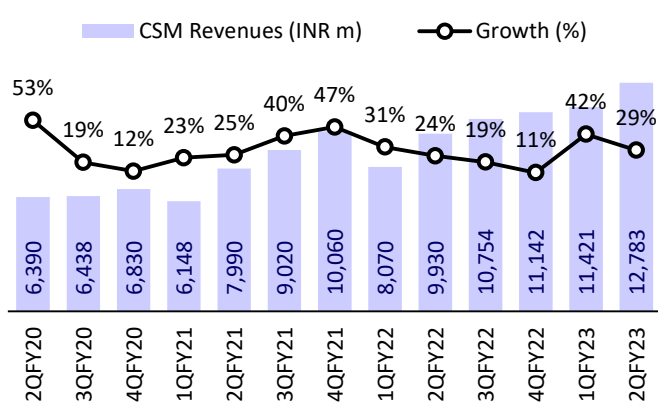
Source: Company, MOFSL

Exhibit 3: PAT trend



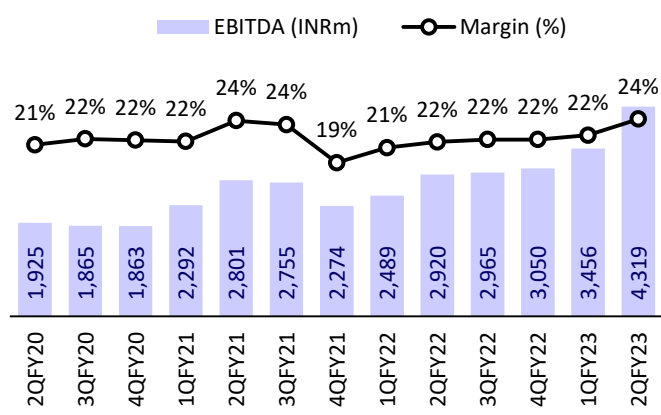
Source: Company, MOFSL

Exhibit 4: CSM revenue trend



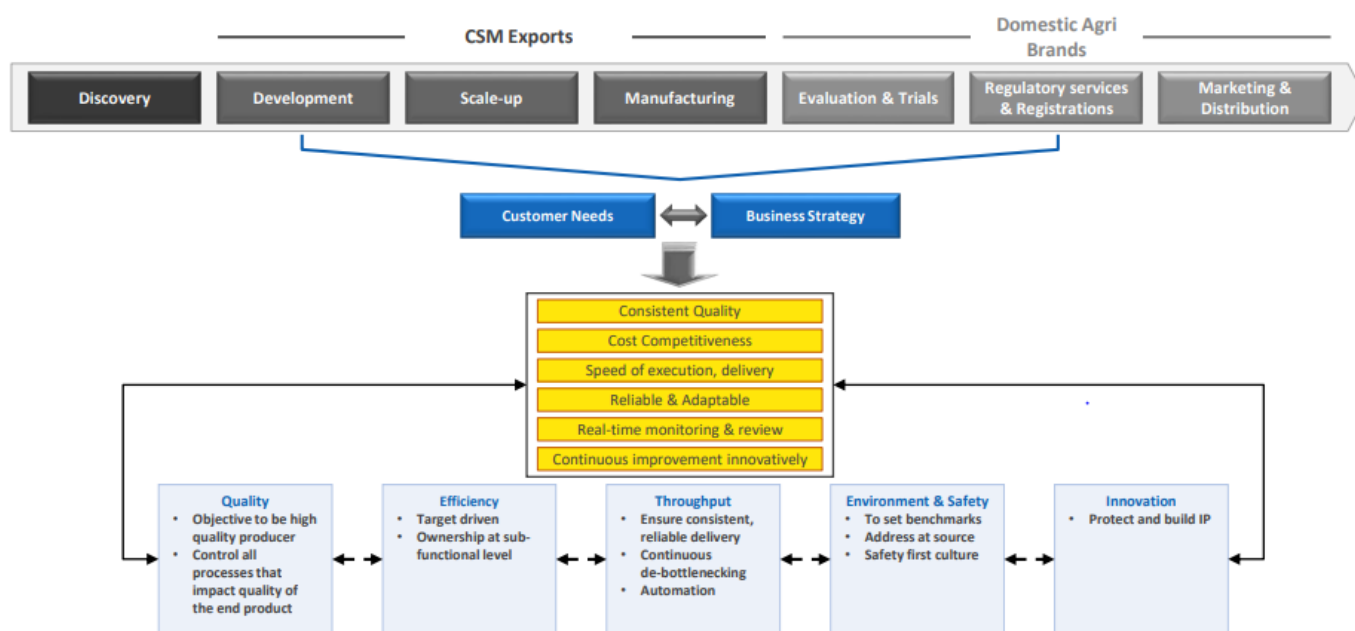
Source: Company, MOFSL

Exhibit 5: Revenue trend in Agri Inputs



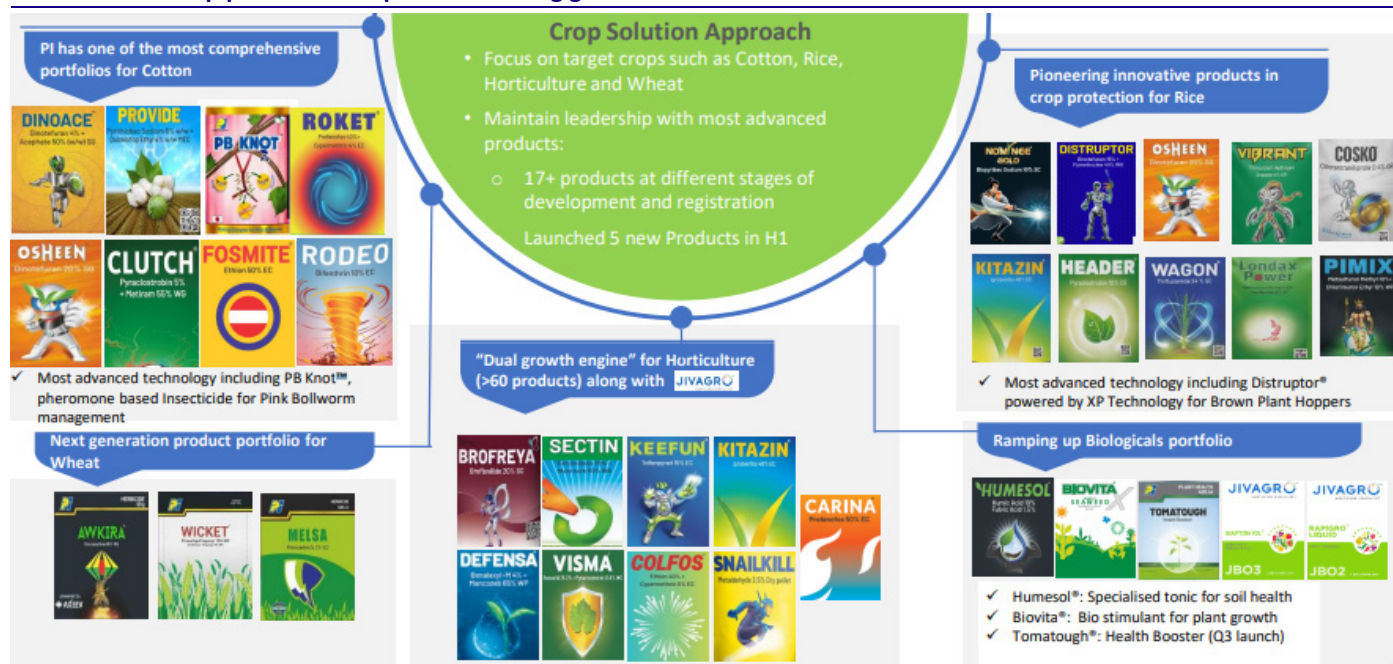
Source: Company, MOFSL

Exhibit 6: Presence across the agchem value chain



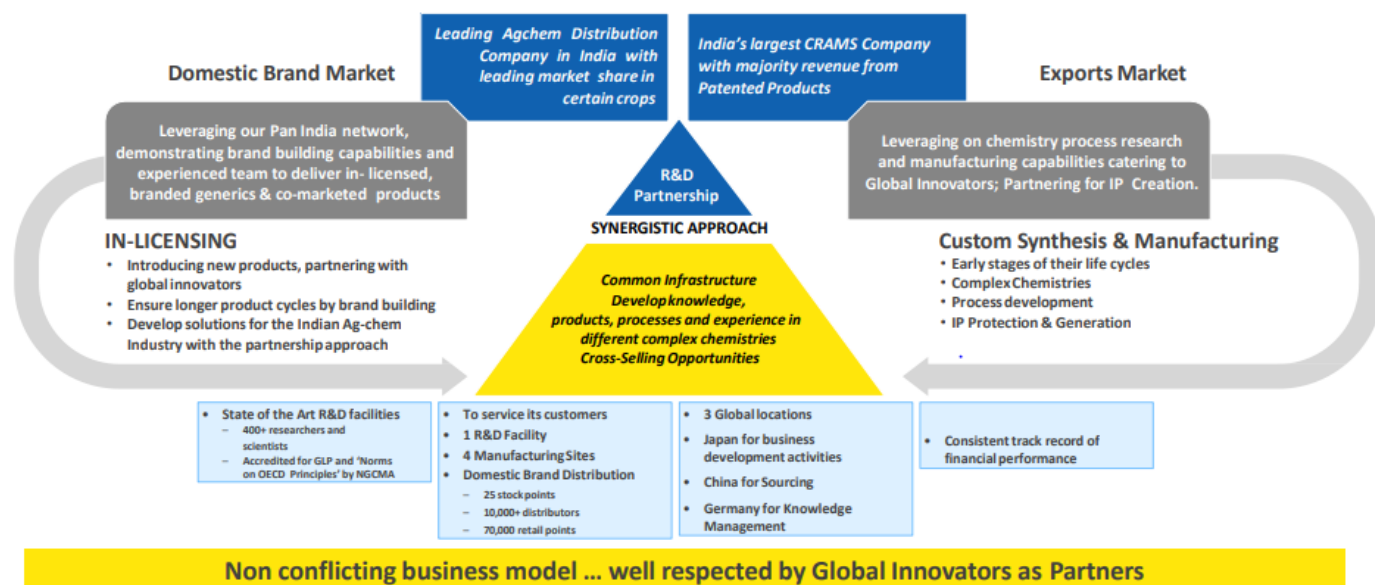
Source: Company, MOFSL

Exhibit 7: Robust pipeline of new products driving growth in Domestic revenues



Source: Company, MOSL

Exhibit 8: Robust business model built on strong foundations/principles



Source: Company, MOFSL

Exhibit 9: New product launches for the fiscal



Exhibit 10: Growth momentum to continue in FY23

Domestic: Focus on portfolio diversification with launch of novel offerings	<ul style="list-style-type: none"> • Strong demand for insecticides, fungicides, herbicides and bio-nutrients • “Dual growth engine” with JIVAGRO focusing on horticulture segment • Commodity prices to remain robust owing to rising global demand • 5 new products launched in YTM 6MFY23, 2 new products planned in Q3FY23
CSM Export: R&D focused approach to drive incremental business	<ul style="list-style-type: none"> • Continued scale up in demand of the existing products • 6 new products to be commercialized in H2 • Capacity expansion progressing as per plan • Momentum in new enquiries and conversion to continue
Efforts to drive strategic initiatives continues	<ul style="list-style-type: none"> • Inducted seasoned leadership for Pharma foray; building experienced team • Actively evaluating inorganic growth opportunities in pharma, both domestic and international in line with pharma strategy • In parallel, working organically on scale-up of pharma intermediates at R&D and pilot scale

...Confident of delivering 20%+ revenue growth with continued improvement in margins and returns

Source: Company, MOFSL



Highlights from management interaction

Operational Overview

- The domestic agri input business witnessed strong growth led by robust demand for crop protection products in kharif season led by normal monsoon. The management indicated a promising rabi season leading to good performance from the domestic business.
- The trend in rising input costs continued, with cost pass-through undertaken both in exports (CSM) and the domestic market in 2QFY23.
- EBITDA margin improved on account of favorable product mix and operating leverage.
- **Inventory:** PI has rapidly increased its inventory level to INR16.1b v/s INR14.2b in FY22 to avert supply chain disruptions and meet customer supply schedules / continue operations. This also led to increase in Trade working capital in terms of Days of Sales to 111 days v/s 103 days as on Mar'22.

Exports (CSM)

- Order book increased by 29% to ~USD1.8b levels, showing a good visibility for the future. The increase in the order book is largely attributed to increase in the SKUs in the agchem business.
- The company has commercialized one new molecule in 1HFY23 and guided to commercialize total six new molecules in FY23 constituting around five agrochemical molecules and one non agrochemical molecule.
- The maturity of the current order book is ~three to four years.
- Under CSM, the company has received ~15 new enquiries in 1HFY23 out of which over 25% is from non-agchem business.
- For CSM business, the freshness index on an average has been ~16-17% annually of portfolio.

Domestic Agri inputs

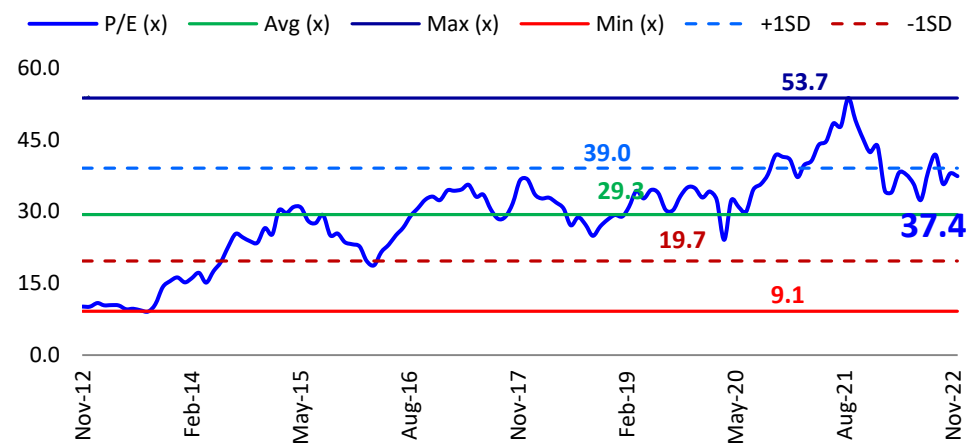
- PI has launched five products in 1HFY23 and two more products are planned for 3QFY23.
- PI under the domestic crop protection business is diversifying its focus on to other crops such as wheat and segment such as horticulture. It has 17+ products at different stages of development and registration.in 1HFY23, the company launched five new products in Domestic Agri Brands.
- The management indicated higher contribution from the domestic business going forward led by new product launches and change in business strategy.

Guidance:

- **Capex:** The Company incurred a total capex of INR1.2b in 1HFY23. The management has increased its capex guidance of FY23 to INR7b from INR6-6.5b earlier. The company's key focus remains on driving higher capacity utilization by improving throughput
- The management maintained its revenue growth guidance of 20%+ in FY23 with continued improvement in margins by 100bp YoY. CSM business would grow on continued scale-up in demand of existing and newly launched products.
- The company is evaluating inorganic growth opportunities in Pharmaceuticals, both domestic and international markets.
- The company has guided an average tax rate of 16.5% for the current fiscal and indicated to sustain a lower tax rate for the next five years on account of ramping up of SEZ units.

Valuation and view

- PI has levers in place to sustain the near-term growth momentum, led by: a) sustained growth momentum in the CSM business due to a strong (USD1.8b) order book, the rising pace of commercialization of new molecules, and a sales ramp-up in existing molecules, and b) product launches in the domestic market (five new launches in 1HFY23 and two new launches planned in 3QFY23), thus providing earnings visibility.
- We expect a revenue/EBITDA/PAT CAGR of 24%/32%/35% over FY22-24.
- We raise our FY23/FY24 earnings estimate by 10%/9% on the back of better-than-expected sales growth and margin expansion. We value the stock at 40x Sep'24 EPS to arrive at our TP of INR4,470 and reiterate our **Buy** rating on the stock.

Exhibit 11: One-year forward P/E (x)

Source: MOFSL

Exhibit 12: Change in estimates

Earnings Change (INR m)	Old		New		Change	
	FY23E	FY24E	FY23E	FY24E	FY23E	FY24E
Revenue	65,171	78,012	67,253	81,521	3%	4%
EBITDA	14,979	18,617	16,030	19,856	7%	7%
Adj. PAT	11,244	14,193	12,331	15,410	10%	9%

Source: MOFSL

Financials and valuations

Income Statement (Consolidated)							(INRm)		
Y/E March	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23E	FY24E
Gross Revenue	21,974	23,833	23,087	28,409	33,665	45,770	52,995	67,253	81,521
Excise Duty	1,011	1,065	316	0	0	0	0	0	0
Net Revenue	20,963	22,768	22,771	28,409	33,665	45,770	52,995	67,253	81,521
Change (%)	8.0	8.6	0.0	24.8	18.5	36.0	15.8	26.9	21.2
Cost of Materials Consumed	11,585	11,632	11,690	15,502	18,474	25,712	29,228	36,788	44,510
% of Sales	55.3	51.1	51.3	54.6	54.9	56.2	55.2	54.7	54.6
Personnel Expenses	1,931	2,226	2,432	2,647	3,209	4,169	4,804	5,338	6,230
% of Sales	9.2	9.8	10.7	9.3	9.5	9.1	9.1	7.9	7.6
Other Expenses	3,135	3,378	3,715	4,496	4,804	5,767	7,539	9,097	10,924
% of Sales	15.0	14.8	16.3	15.8	14.3	12.6	14.2	13.5	13.4
Total Expenditure	16,651	17,236	17,837	22,645	26,487	35,648	41,571	51,223	61,664
% of Sales	79.4	75.7	78.3	79.7	78.7	77.9	78.4	76.2	75.6
EBITDA	4,312	5,533	4,934	5,764	7,178	10,122	11,424	16,030	19,856
Margin (%)	20.6	24.3	21.7	20.3	21.3	22.1	21.6	23.8	24.4
Depreciation	543	730	830	930	1,367	1,748	2,018	2,320	2,588
EBIT	3,770	4,802	4,104	4,834	5,811	8,374	9,406	13,710	17,268
Int. and Finance Charges	96	72	53	50	170	282	128	218	165
Other Income	355	366	603	595	489	1,249	1,014	1,178	1,386
PBT bef. EO Exp.	4,028	5,096	4,653	5,379	6,130	9,341	10,292	14,670	18,489
EO Items	0	0	0	0	0	0	0	0	0
PBT after EO Exp.	4,028	5,096	4,653	5,379	6,130	9,341	10,292	14,670	18,489
Current Tax	909	1,035	1,001	1,176	1,259	1,753	1,950	2,530	3,143
Deferred Tax	4	-534	-22	101	313	249	-60	-130	0
Tax Rate (%)	22.7	9.8	21.0	23.7	25.6	21.4	18.4	16.4	17.0
Less: MI/Profit & Loss of associates	0	1	-2	0	-8	-44	-36	-61	-64
Reported PAT	3,116	4,594	3,676	4,102	4,566	7,383	8,438	12,331	15,410
Adjusted PAT	3,116	4,594	3,676	4,102	4,566	7,383	8,438	12,331	15,410
Change (%)	26.7	47.5	-20.0	11.6	11.3	61.7	14.3	46.1	25.0
Margin (%)	14.9	20.2	16.1	14.4	13.6	16.1	15.9	18.3	18.9

Balance Sheet (Consolidated)							(INRm)		
Y/E March	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23E	FY24E
Equity Share Capital	137	138	138	138	138	152.0	152.0	152.0	152.0
Total Reserves	11,572	16,134	19,111	22,716	26,053	53,272	61,052	72,471	86,969
Net Worth	11,709	16,272	19,248	22,854	26,191	53,424	61,204	72,623	87,121
Deferred Liabilities	353	0	0	0	102	796	875	771	771
Total Loans	1,514	1,198	834	99	5,077	3,279	2,678	2,750	2,750
Capital Employed	13,576	17,470	20,082	22,953	31,370	57,499	64,757	76,144	90,642
Gross Block	11,503	12,942	14,298	17,109	24,366	28,921	34,082	39,082	43,082
Less: Accum. Deprn.	2,762	3,492	4,322	5,252	6,619	8,367	10,385	12,705	15,293
Net Fixed Assets	8,742	9,450	9,977	11,857	17,747	20,554	23,697	26,377	27,789
Capital WIP	713	773	899	1,828	1,828	2,875	1,145	3,145	3,145
Current Investments	0	824	1,595	1,119	1,325	8,517	8,547	9,547	10,547
Total Investments	3	833	1,607	1,291	1,504	8,724	8,995	9,995	10,995
Curr. Assets, Loans&Adv.	10,028	11,760	13,515	16,431	21,169	37,866	44,074	52,039	67,296
Inventory	3,948	4,320	4,520	5,357	7,989	10,528	14,234	13,819	16,751
Account Receivables	3,978	4,237	5,268	6,618	6,465	7,035	8,687	11,055	14,517
Cash and Bank Balance	560	1,326	1,307	892	1,342	14,757	14,102	18,758	26,245
Loans and Advances	1,543	1,877	2,420	3,564	5,373	5,546	7,051	8,407	9,783
Curr. Liability & Prov.	5,910	5,544	6,182	8,595	10,878	12,520	13,154	15,412	18,583
Account Payables	3,661	2,878	3,687	5,130	5,909	7,960	9,242	10,482	12,682
Other Current Liabilities	2,054	2,350	2,155	3,049	4,421	4,008	3,555	4,573	5,543
Provisions	196	316	340	416	548	552	357	357	357
Net Current Assets	4,118	6,216	7,333	7,836	10,291	25,346	30,920	36,627	48,713
Deferred Tax assets	0	198	267	141	0	0	0	0	0
Appl. of Funds	13,576	17,470	20,082	22,953	31,370	57,499	64,757	76,144	90,642

Financials and valuations

Ratios									
Y/E March	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23E	FY24E
Basic (INR)									
EPS	20.5	30.2	24.2	27.0	30.0	48.6	55.5	81.1	101.4
Cash EPS	24.1	35.0	29.6	33.1	39.0	60.1	68.8	96.4	118.4
BV/Share	77.0	107.1	126.6	150.4	172.3	351.5	402.7	477.8	573.2
DPS	2.8	3.6	5.0	3.6	3.6	5.0	5.0	6.0	6.0
Payout (%)	16.6	14.6	25.1	16.4	14.7	10.3	9.0	7.4	5.9
Valuation (x)									
P/E	176.6	119.8	149.7	134.1	120.5	74.5	65.2	44.6	35.7
Cash P/E	150.4	103.3	122.1	109.3	92.7	60.3	52.6	37.6	30.6
P/BV	47.0	33.8	28.6	24.1	21.0	10.3	9.0	7.6	6.3
EV/Sales	26.3	24.2	24.1	19.3	16.5	11.8	10.2	7.9	6.5
EV/EBITDA	127.8	99.4	111.4	95.3	77.2	53.2	47.2	33.3	26.5
Dividend Yield (%)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
FCF per share	3.5	14.4	10.9	1.7	2.1	18.9	12.7	44.2	62.9
Return Ratios (%)									
EBITDA Margins (%)	20.6	24.3	21.7	20.3	21.3	22.1	21.6	23.8	24.4
Net Profit Margins (%)	14.9	20.2	16.1	14.4	13.6	16.1	15.9	18.3	18.9
RoE	29.9	32.8	20.7	19.5	18.6	18.5	14.7	18.4	19.3
RoCE	27.1	30.4	19.8	19.2	17.3	17.2	14.1	17.9	18.7
RoIC	27.4	32.3	21.0	20.9	18.9	22.8	21.4	27.1	30.3
Working Capital Ratios									
Fixed Asset Turnover (x)	1.8	1.8	1.6	1.7	1.4	1.6	1.6	1.7	1.9
Asset Turnover (x)	1.5	1.3	1.1	1.2	1.1	0.8	0.8	0.9	0.9
Inventory (Days)	69	69	72	69	87	84	98	75	75
Debtor (Days)	66	65	83	85	70	56	60	60	65
Creditor (Days)	115	90	115	121	117	113	115	104	104
Working Cap. Turnover (Days)	62	78	97	89	97	84	116	97	101
Growth (%)									
Sales	8.0	8.6	0.0	24.8	18.5	36.0	15.8	26.9	21.2
EBITDA	15.7	28.3	-10.8	16.8	24.5	41.0	12.9	40.3	23.9
PAT	26.7	47.5	-20.0	11.6	11.3	61.7	14.3	46.1	25.0
Leverage Ratio (x)									
Current Ratio	1.7	2.1	2.2	1.9	1.9	3.0	3.4	3.4	3.6
Interest Cover Ratio	39	67	77	97	34	30	73	63	
Debt/Equity	0.1	0.1	0.04	0.00	0.2	0.1	0.0	0.0	0.0
Cash Flow Statement (Consolidated) (INRm)									
Y/E March	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23E	FY24E
OP/(Loss) before Tax	4,028	5,095	4,655	5,379	6,138	9,385	10,328	14,670	18,489
Depreciation	543	730	830	930	1,367	1,748	2,018	2,320	2,588
Interest & Finance Charges	96	72	53	50	170	282	128	218	165
Direct Taxes Paid	-958	-1,212	-963	-1,183	-1,048	-1,647	-1,751	-2,504	-3,143
(Inc)/Dec in WC	20	-1,234	-1,045	-1,503	255	-1,303	-5,276	-1,051	-4,599
CF from Operations	3,730	3,451	3,530	3,673	6,882	8,465	5,447	13,654	13,500
Others	-62	-63	-336	235	99	-1,216	-160	61	64
CF from Operating incl EO	3,668	3,388	3,194	3,908	6,981	7,249	5,287	13,714	13,564
(inc)/dec in FA	-3,188	-1,413	-1,696	-3,677	-6,693	-4,375	-3,362	-7,000	-4,000
Free Cash Flow	480	1,976	1,498	231	288	2,874	1,925	6,714	9,564
(Pur)/Sale of Investments	-57	-1,090	-375	427	1,014	-5,516	39	-1,000	-1,000
Others	212	151	266	34	-4,170	-14,413	2,219	0	0
CF from Investments	-3,034	-2,351	-1,805	-3,216	-9,849	-24,304	-1,104	-8,000	-5,000
Issue of Shares	1	0	0	0	0	19,736	0	0	0
Inc/(Dec) in Debt	1,587	-248	-365	-399	4,562	-1,786	-720	72	0
Interest Paid	-101	-72	-53	-50	-179	-244	-85	-218	-165
Dividend Paid	-725	-248	-662	-831	-748	-607	-758	-912	-912
Others	-1,156	297	-329	173	-317	13,371	-3,275	0	0
CF from Fin. Activity	-394	-271	-1,409	-1,107	3,318	30,470	-4,838	-1,058	-1,077
Inc/Dec of Cash	240	766	-20	-415	450	13,415	-655	4,656	7,487
Opening Balance	320	560	1,326	1,307	892	1,342	14,757	14,102	18,758
Closing Balance	560	1,326	1,307	892	1,342	14,757	14,102	18,758	26,245

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. 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, nor 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.