

Persistent Systems

Estimate change



TP change



Rating change



Bloomberg	PSYS IN
Equity Shares (m)	76
M.Cap.(INRb)/(USDb)	283.3 / 3.4
52-Week Range (INR)	4987 / 3092
1, 6, 12 Rel. Per (%)	17/-11/-9
12M Avg Val (INR M)	1347

Financials & Valuations (INR b)

Y/E Mar	2022	2023E	2024E
Sales	57.1	83.6	97.2
EBIT Margin (%)	14.0	14.5	14.5
PAT	6.9	9.5	11.2
EPS (INR)	91.3	123.9	146.5
EPS Gr. (%)	54.8	35.7	18.3
BV/Sh. (INR)	440.7	536.1	634.1

Ratios

RoE (%)	22.6	25.8	25.8
RoCE (%)	17.4	20.9	20.8
Payout (%)	33.9	35.0	35.0

Valuations

P/E (x)	40.6	29.9	25.3
P/BV (x)	8.4	6.9	5.8
EV/EBITDA (x)	28.4	17.5	14.8
Div Yield (%)	0.8	1.2	1.4

Shareholding pattern (%)

As On	Jun-22	Mar-22	Jun-21
Promoter	31.3	31.3	31.3
DII	25.9	26.8	29.2
FII	23.3	23.2	21.8
Others	19.5	18.8	17.7

FII Includes depository receipts

CMP: INR3,707
TP: INR3,660 (-1%)
Neutral

Strong growth factored in the rich valuations

Margin improvement provides good earnings visibility

- PSYS posted a strong 2QFY23, with revenue growing 6.6% in CC terms (150bp above our estimate). In USD terms, revenue grew 5.8% QoQ (organic growth of 5% QoQ). EBITDA margin was strong at 18% (est. 16.8%). It reported a TCV of USD368m, with 62% new business TCV. Employee additions stood at 838 after the highest ever addition in 1QFY23. Attrition fell 110bp to 23.7%.
- The company maintained its strong performance in Services (+4.9% QoQ) and demand outlook. IP bounced back with a strong 18.1% QoQ growth. It also delivered a strong TCV (despite a high 1Q base), with a book-to-bill ratio of 1.4x. PSYS' capability to garner new deals is encouraging and should result in its sustained industry-leading growth in FY23.
- A strong order book and robust pipeline should allow PSYS to deliver a USD revenue growth of 35% in FY23, despite a high base in FY22 (up 35% YoY). With a strong demand commentary, we expect PSYS to deliver top tier revenue growth among our midcap IT Coverage Universe (24% of over FY22-24E).
- We remain watchful of the growing risk to growth (despite very strong deal wins) due to weakness in its top two clients and higher exposure to the Software industry, which has been cautioning about a demand moderation.
- PSYS should be able to maintain margin at current levels in the near term, given the operating leverage and improving metrics. We expect an EBIT margin of 14.5% over FY23-24 and a FY22-24 EPS CAGR of 29%.
- PSYS is now trading at 25x FY24E P/E, which is on the higher side of the Midcap IT median valuation and appropriately factors in a favorable growth and demand environment. Hence, we maintain our **Neutral** rating as we see limited upside from current levels.
- We raise our FY23/FY24 EPS estimate marginally (~3.5% each) given its strong performance in 2QFY23. We value the stock at 25x FY24E EPS.

Strong broad based performance in 2QFY23

- Revenue/EBIT/PAT grew 40%/59%/36% YoY in 2QFY23.
- Revenue in USD terms grew 42%, while EBIT/PAT in INR terms rose 57%/35% YoY in 1HFY23.
- In USD terms, revenue rose 6.6% QoQ in CC terms to USD255.6m, 150bp above our estimate. Reported USD QoQ growth stood at 5.8%.
- EBITDA margin grew 30bp QoQ to 18%, 120bp above our estimate, despite wage hikes.
- PAT grew 4% QoQ in INR2.2b (est. INR2.1b).

Key highlights from the management commentary

- The order book remains strong and broad based, with a good portion of an executable order book. The deal pipeline remains strong, which is likely to keep the growth trajectory elevated.
- There is no cut in spends or impact on demand due to the current macro situation, though there are some delays.
- Given the current macro situation, discussions with clients include cost optimization, the slowdown in the US and Europe, and a strong USD. Clients are also showing some prudence on long-term investments.
- Freshers are starting to turn billable. More freshers will turn billable in 3Q and 4QFY23. This, along with improved utilization, will further aid margin.

Improvement in growth already priced in

- Historically, execution challenges and volatility in the IP portfolio led to inconsistency in PSYS' performance. However, we have noticed steady progress on the execution front after the change in management and its strategy.
- This is evident from the healthy and industry-leading performance in the Services segment over the past few quarters. We expect a higher emphasis on Annuity revenue to address the issue of inconsistency to some extent.
- The company's: 1) strong performance in FY21 and FY22, 2) healthy order book, and 3) strong deal pipeline indicates an encouraging demand trend.
- The stock is currently trading at 25x FY24E EPS. Our TP is based on 25x FY24E EPS. We reiterate our **Neutral** rating as we believe the positives have already been captured and the stock offers limited upside from current levels.

Quarterly performance (IFRS)

Y/E March (Consolidated)	FY22				FY23				(INR m)			
	1Q	2Q	3Q	4Q	1Q	2Q	3QE	4QE	FY22	FY23E	FY23E 2QE	Var. (%/bp)
Revenue (USD m)	166.8	182.3	199.1	217.3	241.5	255.6	264.4	273.0	766	1,035	252.5	1.2
QoQ (%)	9.2	9.3	9.2	9.1	11.1	5.8	3.4	3.3	35.2	35.1	4.5	129bp
Revenue (INR m)	12,299	13,512	14,917	16,379	18,781	20,486	21,814	22,525	57,107	83,607	20,123	1.8
QoQ (%)	10.5	9.9	10.4	9.8	14.7	9.1	6.5	3.3			7.1	194bp
YoY (%)	24.1	34.1	38.7	47.1	52.7	51.6	46.2	37.5	36.4	46.4	48.9	269bp
GPM (%)	33.5	33.5	33.8	33.7	33.8	33.5	33.7	33.8	33.6	33.7	32.8	68bp
SGA (%)	16.6	16.9	16.9	16.5	16.1	15.5	15.8	15.8	16.7	15.8	16.0	-49bp
EBITDA	2,090	2,244	2,511	2,812	3,333	3,680	3,905	4,055	9,656	14,972	3,381	8.8
EBITDA margin (%)	17.0	16.6	16.8	17.2	17.7	18.0	17.9	18.0	16.9	17.9	16.8	116bp
EBIT	1,740	1,873	2,083	2,300	2,688	2,987	3,163	3,311	7,996	12,149	2,696	10.8
EBIT Margin (%)	14.1	13.9	14.0	14.0	14.3	14.6	14.5	14.7	14.0	14.5	13.4	118bp
Other income	365	303	281	371	131	-31	218	225	1,321	544	101	-130.3
ETR (%)	24.6	25.7	25.4	24.8	24.9	25.6	25.5	25.5	25.1	25.4	25.5	
PAT	1,587	1,618	1,764	2,010	2,116	2,200	2,517	2,633	6,978	9,466	2,084	5.6
QoQ (%)	15.2	1.9	9.1	13.9	5.3	4.0	14.4	4.6			-1.5	550bp
YoY (%)	76.3	58.6	45.9	45.9	33.3	36.0	42.7	31.0	54.8	35.7	28.8	719bp
EPS (INR)	19.8	21.2	23.1	26.3	27.7	28.8	32.9	34.5	91.3	123.9	27.3	5.6

Key performance indicators

Y/E March	FY22				FY23				FY22	FY23E
	1Q	2Q	3Q	4Q	1Q	2Q	3QE	4QE		
Revenue breakup (USD m)										
Services	145.0	159.5	172.6	198.0	224.6	235.7	245.3	255.1	675.1	960.7
IP-led	21.9	22.8	26.5	19.3	16.9	19.9	20.1	19.0	90.5	75.9
Margins (%)										
Gross margin	33.5	33.5	33.8	33.7	33.8	33.5	33.7	33.8	33.6	33.7
EBIT margin	14.1	13.9	14.0	14.0	14.3	14.6	14.5	14.7	14.0	14.5
Net margin	12.9	12.0	11.8	12.3	11.3	10.7	11.5	11.7	12.2	11.3
Operating metrics										
Headcount	14,904	15,879	16,989	18,599	21,638	22,476			18,599	
Utilization (%)	80.1	82.8	83	80.6	79.5	79.9			81.6	
Attrition (%)	16.6	23.6	26.9	26.6	24.8	23.7			26.9	
Billing rate (USD/ppm)										
On-site	17,004	16,544	16,043	16,383	16,423	16,181			16,494	
Offshore	4,286	4,307	4,252	4,317	4,387	4,498			4,291	



Highlights from the management commentary

Growth and demand outlook

- PSYS delivered yet another strong 2QFY23, reporting a revenue growth of 6.6% QoQ in CC terms. Of this, organic revenue grew 5.5% in CC terms.
- The company posted a strong USD368m in 2QFY23. The pipeline remains healthy.
- Growth was broad based across all verticals, led by Software and Hi-Tech.
- Growth in the company's top account moderated by 21.1% QoQ, but the management expects it to return in the future. The same will not have any material impact on its 3Q and 4QFY23 earnings.
- The management expects the growth momentum to continue in the Services business.
- The order book remains strong and broad based, with a good portion of an executable order book. The deal pipeline remains strong, which is likely to keep the growth trajectory elevated.
- There is no cut in spends or impact on demand due to the current macro situation, though there are some delays.
- Delays due to a tight labor market generally result in a revenue leakage of 6-8% for the company.
- Most Banks and Insurance companies see a mild recession in the US, and are trying to cut cost, but their investments will continue. PSYS is not materially exposed to the Mortgage market.
- Given the current macro situation, discussions with clients include cost optimization, the slowdown in the US and Europe, and a strong USD. Clients are also showing some prudence on long-term investments.

Margin performance and outlook

- PSYS expanded margin by 30bp despite wage hikes. The latter impacted margin by 230bp. A higher provision for doubtful debts and greater CSR spends impacted margin by an additional 30bp. This was offset by good IP performance (+80bp), a favorable currency exchange rate (+90bp), higher revenue from Services, lower sub-contractor expenses, and the absence of travel and visa cost from 1QFY23 levels.
- Amortization was higher due to the impact of the acquisition of Media Agility.

- Other income was lower on account of the set-off of interest as the trust accounts got consolidated, lower funds due to acquisitions, interest on funds borrowed for M&A, and MTM losses in mutual funds.
- Freshers are starting to turn billable. More freshers will turn billable in 3Q and 4QFY23. This, along with improved utilization, will further aid margin.

Other highlights

- Attrition fell 110bp QoQ to at 23.7%, the management expects it to fall further in coming quarters.
- PSYS saw 838 net employee additions in 2QFY23, with most of them being freshers. The company has completed its fresher hiring program in 2QFY23.
- The integration of the current acquisitions is progressing well, and PSYS will become active on the M&A front over the next few months, especially in Europe.

Exhibit 1: Services up 4.9% QoQ, IP bounces back with 18% QoQ growth

Industry classification	Contribution to revenue (%)	Growth (QoQ %)	Growth (YoY %)
Services	92.2	4.9	47.7
IP-led	7.8	17.9	-12.5

Source: Company, MOFSL

Exhibit 2: Broad-based growth across verticals led by Tech. and Emerging verticals

Verticals	Contribution to revenue (%)	Growth (QoQ %)	Growth (YoY %)
BFSI	32.8	3.0	49.8
Healthcare and Life Science	19.7	4.8	30.3
Tech., Cos., and Emerging Verticals	47.5	8.3	38.4

Source: Company, MOFSL

Exhibit 3: Broad-based growth across geographies

Geographies	Contribution to revenue (%)	Growth (QoQ %)	Growth (YoY %)
North America	78.6	6.1	40.0
Europe	8.3	3.3	32.2
RoW	13.0	5.0	45.8

Source: Company, MOFSL

Exhibit 4: Decline in the top client continues

Client metrics	Contribution to revenue (%)	Growth (QoQ %)	Growth (YoY %)
Top client	8.7	-21.3	-27.8
Top two-to-five clients	18.2	0.8	35.0
Top six-to-10 clients	9.8	4.8	43.1

Source: Company, MOFSL

Improvement in growth already priced in

- Historically, execution challenges and volatility in the IP portfolio led to inconsistency in PSYS' performance. However, we have noticed steady progress on the execution front after the change in management and its strategy.
- This is evident from the healthy and industry-leading performance in the Services segment over the past few quarters. We expect a higher emphasis on Annuity revenue to address the issue of inconsistency to some extent.
- The company's: 1) strong performance in FY21 and FY22, 2) healthy order book, and 3) strong deal pipeline indicates an encouraging demand trend.
- The stock is currently trading at 25x FY24E EPS. Our TP is based on 25x FY24E EPS. We reiterate our **Neutral** rating as we believe the positives have already been captured and the stock offers limited upside from current levels.

Exhibit 5: Revisions to our estimates

	Revised estimate		Earlier estimate		Change (%)	
	FY23	FY24	FY23	FY24	FY23E	FY24E
USD:INR	80.7	82.5	80.3	81.8	0.6%	0.9%
Revenue (USD m)	1,035	1,178	1,025	1,167	1.0%	0.9%
Growth (%)	35.1	13.9	33.9	13.9	130bps	0bps
EBIT margin (%)	14.5	14.5	14.1	14.2	40bps	30bps
PAT (INR m)	9,466	11,197	9,151	10,812	3.4%	3.6%
EPS	123.9	146.5	119.7	141.5	3.5%	3.6%

Source: MOFSL, Company

Exhibit 6: Operating metrics

	2QFY21	3QFY21	4QFY21	1QFY22	2QFY22	3QFY22	4QFY22	1QFY23	2QFY23
Geography (%)									
North America	82.9	81.1	79.2	78.9	78.7	79.2	78.6	78.4	78.6
Europe	7.6	8.8	10.0	9.5	8.8	8.3	8.4	8.5	8.3
RoW	9.5	10.1	10.8	11.6	12.5	12.5	13.0	13.1	13.0
Vertical Mix (%)									
BFSI	31.9	29.5	30.1	30.8	30.7	32.2	32.4	33.7	32.8
Healthcare and Life Science	19.3	19.1	19.3	20.5	21.2	20.7	20.7	19.9	19.7
Tech., Cos., and Emerging Verticals	48.8	51.4	50.6	48.7	48.1	47.1	46.9	46.4	47.5
Industry Classification (%)									
Services	83.8	81.9	85.1	86.9	87.5	86.7	91.1	93.0	92.2
IP-led	16.2	18.1	14.9	13.1	12.5	13.3	8.9	7.0	7.8
Revenue Mix (%)									
Services: On-site	33.1	30.5	30.4	31.4	30.4	31.4	34.5	36.5	34.8
Services: Offshore	50.7	51.4	54.7	55.5	57.1	55.3	56.6	56.5	57.4
IP-led	16.2	18.1	14.9	13.1	12.5	13.3	8.9	7.0	7.8
Client Metrics (%)									
Top Client	19.4	18.5	17.9	17.0	16.9	17.5	14.0	11.7	8.7
Top five Clients	41.6	37.8	36.4	36.5	35.8	36.1	32.5	30.8	26.9
Top 10 Clients	50.5	47.0	46.3	46.7	45.4	45.0	42.1	40.7	36.7
Clients billed									
Services	487	530	558	568	596	625	678	735	767
IP-led	135	142	140	132	130	122	125	129	134
Customer Engagement Size									
Over USD5m	16	17	17	21	22	24	25	26	30
USD1-5m	63	65	66	76	84	90	93	104	116
DSO	63	57	55	54	55	58	59	60	60
Employee Metrics									
Technical People	10,001	11,533	12,706	13,833	14,657	15,721	17,283	20,144	20,941
Sales and BD	268	277	273	308	296	294	317	367	387
Others	551	628	701	763	926	974	999	1,127	1,148
Total	10,820	12,438	13,680	14,904	15,879	16,989	18,599	21,638	22,476
Billable Person Months									
- On-site	3,086	3,104	3,345	3,480	3,840	4,519	5,260	6,336	6,438
- Offshore	19,920	22,238	25,325	27,327	29,372	31,419	35,766	39,564	41,266
Linear Utilization (%)	81.2	81.0	79.1	80.1	82.8	83.0	80.6	79.5	79.9
Onsite Utilization (%)	85.8	85.4	83.5	88.5	87.3	86.1	87.0	84.6	85.4
Offshore Utilization (%)	80.5	80.4	78.5	79.0	82.2	82.5	79.6	78.7	79.0
Attrition (%)	10.6	10.3	11.7	16.6	23.6	26.9	26.6	24.8	23.7
IP Led Person Months	3,893	3,606	3,546	3,918	4,000	3,911	3,225	3,278	3,036
Billing rates (USD/p.p.m)									
On-site	16,993	16,790	16,603	17,004	16,544	16,043	16,383	16,423	16,181
Offshore	4,304	4,204	4,203	4,286	4,307	4,252	4,317	4,387	4,498

Source: Company, MOFSL

Financials and valuations

Income Statement							(INR m)	
Y/E March	FY17	FY18	FY19	FY20	FY21	FY22	FY23E	FY24E
Sales	28,784	30,337	33,659	35,658	41,879	57,107	83,607	97,195
Change (%)	24.5	5.4	11.0	5.9	17.4	36.4	46.4	16.3
Cost of Goods Sold	18,518	19,704	21,378	23,494	27,650	37,895	55,436	64,563
Gross Profit	10,266	10,633	12,281	12,164	14,229	19,212	28,171	32,632
Selling Expenses	5,613	5,946	6,476	7,234	7,398	9,556	13,199	15,357
EBITDA	4,653	4,687	5,805	4,930	6,830	9,656	14,972	17,275
Depreciation	1,490	1,585	1,692	1,660	1,756	1,660	2,823	3,207
EBIT	3,163	3,102	4,113	3,270	5,075	7,996	12,149	14,068
Other Income	958	1,190	864	1,254	1,020	1,321	544	972
PBT	4,121	4,293	4,977	4,523	6,094	9,317	12,692	15,040
Tax	992	1,062	2,327	1,121	1,588	2,339	3,226	3,843
Net Profit	3,129	3,231	2,650	3,403	4,507	6,978	9,466	11,197
Change (%)	5.2	3.3	-18.0	28.4	32.4	54.8	35.7	18.3
Extraordinary Item	114	0	0	0	0	75	0	0
Net Income after EO	3,015	3,231	2,650	3,403	4,507	6,904	9,466	11,197

Balance Sheet							(INR m)	
Y/E March	FY17	FY18	FY19	FY20	FY21	FY22	FY23E	FY24E
Share Capital	800	800	791	764	764	764	764	764
Other Reserves	18,193	20,472	22,656	23,093	27,192	32,918	39,071	46,349
Net Worth	18,993	21,272	23,447	23,858	27,957	33,682	39,835	47,114
Loans	22	17	12	46	44	4,889	4,889	4,889
Other liabilities	277	430	177	544	957	1,360	1,911	2,221
Capital Employed	19,291	21,719	23,636	24,448	28,958	39,931	46,636	54,224
Net Block	2,768	2,581	2,331	2,791	3,254	4,276	3,600	2,993
CWIP	48	8	12	166	122	1,071	1,071	1,071
Intangibles	2,832	2,585	1,980	1,661	1,315	11,060	11,060	11,060
Investments	2,339	2,881	4,346	4,621	3,621	3,878	3,878	3,878
Deferred Tax Assets	306	642	405	960	1,038	1,123	2,071	2,408
Other	1,130	272	577	866	602	4,394	1,202	1,397
Current Assets	14,039	17,620	18,905	19,856	26,703	28,339	42,559	52,367
Debtors	4,754	4,847	4,923	5,922	5,709	9,484	14,889	17,309
Investments	4,500	5,916	3,296	5,165	13,765	10,514	10,514	10,514
Cash and BB	1,510	2,414	6,729	4,572	2,419	2,978	7,876	13,788
Loans and Advances	10	7	8	14	71	16	16	16
Other Current Assets	3,266	4,436	3,950	4,183	4,739	5,347	9,265	10,742
Current Liab. and Prov.	4,173	4,870	4,920	6,474	7,697	14,210	18,805	20,950
Trade payables	1,209	1,673	1,517	2,247	2,733	4,299	7,530	8,754
Other Liabilities	1,572	1,597	1,639	2,616	2,486	5,961	6,329	6,445
Provisions	1,391	1,599	1,764	1,611	2,478	3,950	4,947	5,751
Net Current Assets	9,866	12,750	13,985	13,382	19,006	14,130	23,754	31,418
Application of Funds	19,291	21,719	23,636	24,448	28,958	39,931	46,636	54,225

E: MOFSL estimates

Financials and valuations

Ratios

Y/E March	FY17	FY18	FY19	FY20	FY21	FY22	FY23E	FY24E
EPS	39.1	40.4	33.1	44.5	59.0	91.3	123.9	146.5
Cash EPS	57.7	60.2	54.3	66.3	82.0	113.0	160.8	188.5
Book Value	237.4	265.9	293.2	312.2	365.9	440.7	536.1	634.1
DPS	9.0	0.0	11.0	12.0	20.0	31.0	43.4	51.3
Payout (%)	23.0	0.0	33.2	26.9	33.9	33.9	35.0	35.0

Valuation (x)

P/E ratio	94.8	91.8	111.8	83.2	62.8	40.6	29.9	25.3
Cash P/E ratio	64.2	61.6	68.3	56.0	45.2	32.8	23.1	19.7
EV/EBITDA ratio	62.4	61.5	49.3	55.5	39.1	28.4	17.5	14.8
EV/Sales ratio	10.1	9.5	8.5	7.7	6.4	4.8	3.1	2.6
Price/Book Value ratio	15.6	13.9	12.6	11.9	10.1	8.4	6.9	5.8
Dividend Yield (%)	0.2	0.0	0.3	0.3	0.5	0.8	1.2	1.4

Profitability Ratios (%)

RoE	17.7	16.0	11.9	14.4	17.4	22.6	25.8	25.8
RoCE	13.4	11.4	9.7	10.2	14.1	17.4	20.9	20.8

Turnover Ratios

Debtors (Days)	60	58	53	61	50	61	65	65
Asset Turnover (x)	10.0	11.3	13.7	13.9	13.9	15.2	21.2	29.5

Cash Flow Statement

(INR m)

Y/E March	FY17	FY18	FY19	FY20	FY21	FY22	FY23E	FY24E
CF from Operations	3,926	4,156	4,536	4,597	5,781	8,857	12,243	14,404
Chg. in Working Capital	-1,062	56	-213	-1,369	1,578	-407	-1,932	-1,974
Net Operating CF	2,864	4,212	4,323	3,229	7,359	8,450	10,311	12,431
Net Purchase of FA	-2,169	-651	-374	-746	-1,251	-3,808	-2,100	-2,600
Free Cash Flow	695	3,560	3,949	2,483	6,108	4,642	8,211	9,831
Net Purchase of Invest.	-50	-2,822	-1,885	597	-4,166	-5,965	0	0
Net Cash from Inv.	-2,219	-3,474	-2,259	-148	-5,417	-9,773	-2,100	-2,600
Issue of shares	0	0	0	0	0	0	0	0
Proceeds from LTB/STB	10	1,016	3,913	-2,344	-3,044	3,810	0	0
Dividend Payments	-578	-950	-1,590	-2,978	-1,070	-1,987	-3,313	-3,919
Net CF from Finan.	-568	66	2,323	-5,321	-4,114	1,823	-3,313	-3,919
Net Cash Flow	77	804	4,386	-2,241	-2,171	499	4,898	5,912
Exchange difference	1	101	-71	84	19	59	0	0
Opening Cash Balance	1,432	1,510	2,414	6,729	4,572	2,420	2,979	7,877
Closing Cash Balance	1,510	2,414	6,729	4,572	2,420	2,979	7,877	13,789

E: MOFSL estimates

Explanation of Investment Rating	
Investment Rating	Expected return (over 12-month)
BUY	>=15%
SELL	< - 10%
NEUTRAL	< - 10 % to 15%
UNDER REVIEW	Rating may undergo a change
NOT RATED	We have forward looking estimates for the stock but we refrain from assigning recommendation

*In case the recommendation given by the Research Analyst is inconsistent with the investment rating legend for a continuous period of 30 days, the Research Analyst shall 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, not its directors, employees, agents or representatives shall be liable for any damages whether direct or indirect, incidental, special or consequential including lost revenue or lost profits that may arise from or in connection with the use of the information. The person accessing this information specifically agrees to exempt MOFSL or any of its affiliates or employees from, any and all responsibility/liability arising from such misuse and agrees not to hold MOFSL or any of its affiliates or employees responsible for any such misuse and further agrees to hold MOFSL or any of its affiliates or employees free and harmless from all losses, costs, damages, expenses that may be suffered by the person accessing this information due to any errors and delays.

Registered Office Address: Motilal Oswal Tower, Rahimtullah Sayani Road, Opposite Parel ST Depot, Prabhadevi, Mumbai-400025; Tel No.: 022-3980 4263; www.motilaloswal.com. Correspondence Address: Palm Spring Centre, 2nd Floor, Palm Court Complex, New Link Road, Malad (West), Mumbai- 400 064. Tel No: 022 71881000. Details of Compliance Officer: Neeraj Agarwal, Email Id: na@motilaloswal.com, Contact No.:022-71881085.

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