13 January 2025

Update | Sector: Financials – Non Lending

BSE

BSE SENSEX	S&P CNX
76,330	23,086

Stock Info

Bloomberg	BSE IN
Equity Shares (m)	135
M.Cap.(INRb)/(USDb)	698.1 / 8.1
52-Week Range (INR)	5838 / 1941
1, 6, 12 Rel. Per (%)	-2/124/125
12M Avg Val (INR M)	6783

Financials Snapshot (INR b)

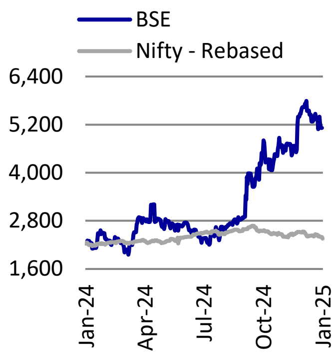
Y/E March	2025E	2026E	2027E
Net Sales	28.4	35.0	41.8
EBITDA	15.0	20.5	25.3
PAT	13.4	17.5	21.4
Adj PAT	13.4	17.5	21.4
EPS (INR)	98.9	129.0	158.2
EPS Gr (%)	231.3	30.4	22.7
BV / Sh (INR)	274	312	360
Ratios (%)			
RoE	36.2	41.3	44.0
Payout ratio	70.0	70.0	70.0
Valuations			
P/E (x)	52.1	40.0	32.6
P / BV (x)	18.8	16.5	14.3

Shareholding pattern (%)

As On	Sep-24	Jun-24	Sep-23
Promoter	0.0	0.0	0.0
DII	11.7	11.6	8.1
FII	35.9	33.9	33.0
Others	52.4	54.5	58.9

FII Includes depository receipts

Stock performance (one-year)



CMP: INR5,157 TP: INR6,500 (+26%) Buy

Resilient growth in spite of tough regulations

F&O market share on the rise!

- **BSE has successfully captured over ~29% of the notional options turnover (Dec'24), achieving a significant milestone in its competitive positioning against NSE, aided by product innovation, an increase in member participation, and lesser impact of regulatory changes compared to NSE.**
- **While the restriction on weekly expiry contracts per exchange w.e.f. Nov'24 has impacted industry volumes, BSE has witnessed improvement in premium ADTO (9% absolute growth in Dec'24), premium turnover market share (at 15% in Dec'24), and the premium-to-notional turnover ratio (at 10bp in Dec'24 vs. average of 7.3bp in the previous three months).**
- **Additionally, the decline in notional turnover will lower regulatory charges and clearing & settlement costs, boosting the company's profitability. The change in Sensex expiry day from Friday to Tuesday will also boost BSE's market share.**
- **The scale-up of co-location servers will bring in high-frequency traders and other institutions, leading to higher volumes in long-dated expiry products. This bodes well for realizations as well as costs.**
- **Star MF has delivered a stellar performance and BSE continues to invest in growing this business, as it sees humongous opportunities to increase the revenue contribution from Star MF.**
- **We expect BSE to register a CAGR of 44%/74%/74% in revenue/EBITDA/PAT during FY24-27E, as we believe the improvement in the premium-to-notional turnover ratio will offset the decline in volumes. We reiterate BUY with a TP of INR6,500, based on 45x Sep'26E EPS.**

BSE gaining from reduction in number of weekly expiries to one

- The significant part of the partial implementation of the new F&O regulation from Nov'24 was the reduction of weekly expiry contracts to one per exchange.
- The effect of this regulation is reflected in a 15%/33% decline in F&O notional ADTO and a 12%/11% decline in F&O premium ADTO for the industry (NSE+ BSE).
- BSE, being an emerging player in the derivatives space, had only two weekly expiry products – Sensex and Bankex, as compared to NSE's four. After the regulation, BSE has continued with Sensex derivatives as its only weekly expiry contract, while Bankex and Sensex 50 contracts have been moved to a monthly expiry cycle.
- Compared to the decline in premium volumes for the industry, BSE witnessed 9% growth in premium ADTO in Dec'24, despite a 19% decline in notional ADTO, driven by an increase in trading of options on non-expiry days. Since revenue is linked to the premium turnover, the improvement in the premium-to-notional turnover ratio will boost revenue.
- We expect the notional turnover to decline 10% in FY26 and grow 16% in FY27. However, improvements in the premium-to-notional turnover ratio to 12bp/13bp (8bp in FY25E) will lead to 30%/26% growth in premium turnover and 34%/26% growth in transaction revenue from equity derivatives in FY26/FY27.

Research Analyst: Prayesh Jain (Prayesh.Jain@MotilalOswal.com) | **Nitin Aggarwal** (Nitin.Aggarwal@MotilalOswal.com)

Research Analyst: Kartikeya Mohata (Kartikeya.Mohata@MotilalOswal.com) | **Muskan Chopra** (Muskan.Chopra@motilaloswal.com)

- Apart from revenue growth, the reduction in notional volumes and an increase in the lot size will also result in lower regulatory charges and clearing & settlement fees, improving the profitability.

Increasing derivatives market share; cash segment under pressure

- As of Dec'24, BSE's options notional/premium market share has improved to 29.4%/14.6% (13.8%/4.8% in Dec'23), driven by: 1) NSE's weekly expiry products reducing from four to one, 2) the launch of innovative monthly expiry products, 3) lower transaction fees vs. competition, and 4) aggressive outreach to brokers to enroll for BSE derivatives.
- BSE has shifted weekly expiry day of Sensex option contracts from Friday to Tuesday. This may boost BSE's market share due to the gap between the existing weekly expiry day of Nifty contracts (Thursday) and the new expiry day of Sensex contracts.
- In the cash segment, BSE's market share has been declining and was at 6% in Dec'24 (8.5% in Dec'23). Higher institutional participation will likely boost BSE's market share in this segment.

Star MF platform to keep thriving

- Star MF, the mutual fund business of BSE, has seen phenomenal growth in the past couple of years and has delivered a stellar performance. On an average, Star MF processed ~50.6m transactions per month in 1HFY25 vs. ~30m in FY24.
- The platform will gain scale benefits and will contribute meaningfully to BSE's total revenue and margin growth.
- To further strengthen its position, BSE will be launching Star MF 2.0 with improved scalability, functionality and order processing.

Co-location could be the next big revenue and profit driver

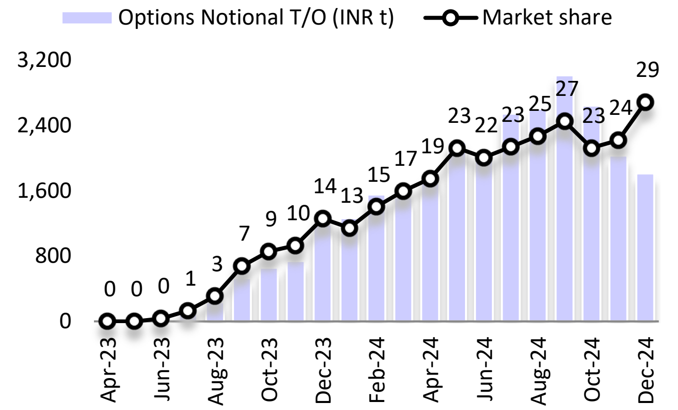
- When BSE relaunched its derivatives segment, it had 100 racks, which had been consumed. Management mentioned that as and when demand arises, BSE will build more colocation racks.
- The co-location facility attracts institutional investors, which will in turn drive volumes for long-dated options, leading to higher realizations as well as lower clearing and settlement costs.
- Earlier BSE was incurring in-house pocket expenses. After introducing new racks in the Phase I, it has started levying charges to recover the cost of racks and raised the rental in line with the industry.
- Currently, BSE is not charging for orders but may levy charges once volumes grow and utilization of the expanded co-location capacity surpasses optimal levels.

Valuation and View

- We expect the premium-to-notional turnover ratio to improve to 12bp/13bp in FY26/FY27, boosting BSE's revenue. Lower regulatory and clearing costs will be profitability drivers. Additionally, stable momentum in Star MF platform and the scale-up of co-location services will help BSE sustain growth.
- We expect BSE to register a CAGR of 44%/74%/74% of revenue/EBITDA/PAT during FY24-27E, as we believe the improvement in the premium-to-notional turnover ratio will offset the volume decline. Reiterate BUY with a TP of INR6,500 (45x Sep'26E EPS).

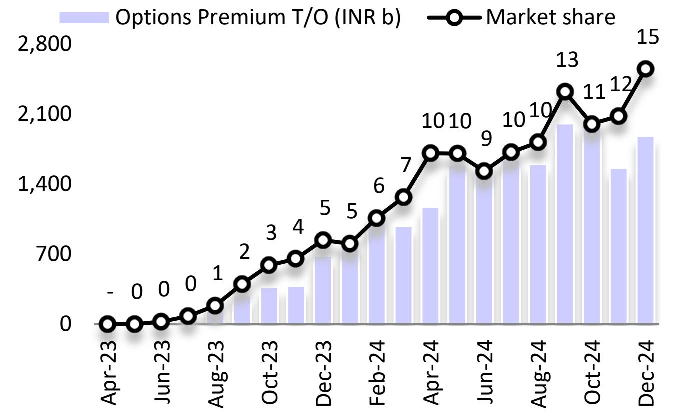
STORY IN CHARTS

Exhibit 1: BSE's option notional turnover declined after the implementation of F&O regulations in Nov'24…



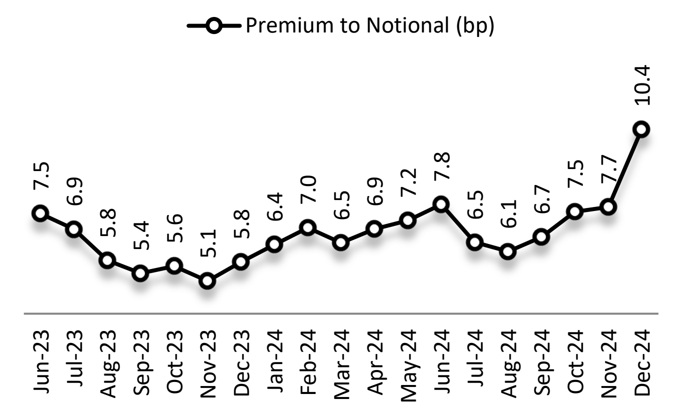
Source: MOFSL, Company

Exhibit 2: …but premium turnover and market share increased…



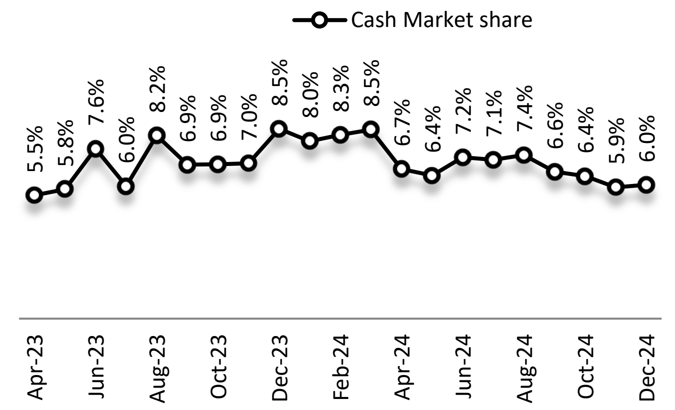
Source: MOFSL, Company

Exhibit 3: …driven by improvement in premium to notional



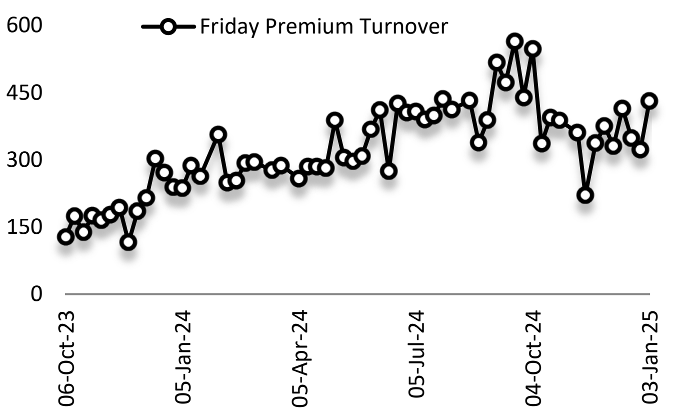
Source: MOFSL, Company

Exhibit 4: Cash market share on a declining trajectory



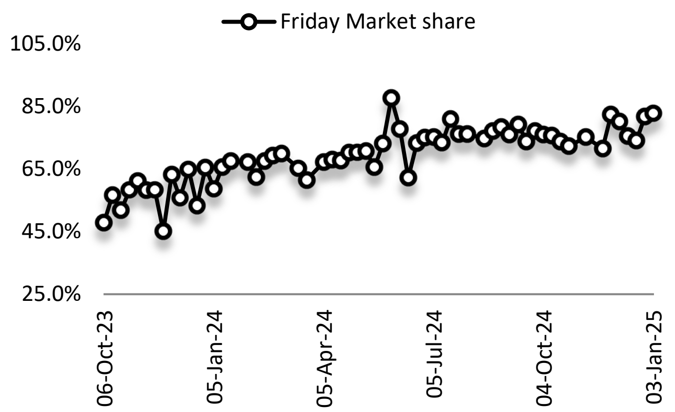
Source: MOFSL, Company

Exhibit 5: BSE option premium turnover on weekly expiry day (INRt)



Source: MOFSL, Company

Exhibit 6: BSE notional turnover market share on weekly expiry day



Source: MOFSL, Company

Regulatory tightening continues but impact likely to be transient

- **F&O Regulations**
  - The partial implementation of the new regulations from Nov'24 included the rationalization of weekly index products to one per exchange. BSE has decided to continue with Sensex as a weekly expiry product and scaled up its derivatives market share to 29.4%/14.6% in terms of notional/premium turnover in Dec'24.
  - Since NSE earlier had an expiry on all days, except Friday, BSE found it difficult to grow volumes. BSE will now have three more days to compete against NSE.
  - Since BSE saw large volumes on expiry day, its premium-to-notional turnover ratio was at 8bp vs. 18bp for NSE (Nov'24). With volumes increasing on non-expiry days, this ratio has increased for BSE to 10bp in Dec'24. This will not only boost revenues but also reduce regulatory and clearing & settlement costs.
  - For FY26, if we assume a 20% decline in notional ADTO with all other factors being the same, BSE's earnings will decline by 9%. If the premium-to-notional turnover ratio for the options segment improves to 9bp, the impact will be nullified for BSE.
  - Additionally, BSE has increased the minimum lot size for Sensex contracts from 10 to 20, for Bankex contracts from 15 to 30 and for Sensex 50 contracts from 30 to 60, to adhere to the minimum contract size regulation. NSE has also increased the minimum lot size for all contracts (25 to 75 for Nifty 50, 15 to 30 for Bank Nifty etc.). **Margin for BSE's contracts will be lower than that for NSE's after the increase in the lot size, which can lead to market share gain for BSE.**
  - The increase in the size of contracts would increase transaction revenue as the premium earned per contract will increase. However, this depends on how the markets react to such an increase in the lot sizes.

Exhibit 7: New F&O regulations and impact on exchanges

Measures	Exchanges
Upfront collection of options premium	❖ Impact on volumes, if small brokers do not collect premium upfront
Intraday monitoring of position limits	❖ Compliance costs to increase a bit
Removal of calendar spread benefit on expiry day	❖ HNIs and institutions will have to bring more margins, which could hit volumes; we expect more hit for NSE than BSE
Minimum contract size	❖ Impact to the extent of retail volumes; HNI and institutional volumes should be relatively less impacted
Rationalization of weekly index products	❖ NSE has larger number of weekly expiries and hence a relatively larger hit; BSE could see lesser hit as the impact on Bankex volumes can be offset by higher volumes on other days
Increase in margin near contract expiry	❖ HNIs and institutions will have to bring more margins, which could dent volumes

Source: MOFSL, Company

Exhibit 8: FY26 PAT sensitivity to decline in volumes and change in premium/notional turnover ratio

Change in notional turnover		Premium/Notional turnover ratio						
	17,457	**0.06**	**0.07**	**0.08**	**0.09**	**0.1**	**0.11**	**0.12**
	-20.0	12,549	13,471	14,048	14,798	15,548	16,298	17,048
	-10.0	12,832	13,869	14,519	15,363	16,206	17,050	17,894
	-	13,115	14,268	14,990	15,927	16,865	17,802	18,739
	10.0	13,399	14,666	15,461	16,492	17,523	18,554	19,585
	22.1	13,742	15,149	16,031	17,175	18,320	19,464	20,609
	30.0	13,965	15,463	16,402	17,621	18,840	20,058	21,277
	40.0	14,249	15,862	16,873	18,186	19,498	20,810	22,123

Source: MOFSL, Company

- **True-to-Label regulations**
  - With respect to the True-to-Label circular, BSE revised its transaction charges for index options to INR3,250 per crores of premium turnover wef 1st Oct'24. Transaction charges for the equity cash segment remain unchanged as it has been following a flat rate structure since 1st Dec'22.
  - This increase in transaction charges will offset the impact of a dip in volumes due to the F&O regulations. This price hike is still lower than what NSE charges, hence there is headroom for a price hike.

- **Consultation paper on Clearing Corporation's (CC) treasury income**
  Based on the recommendations of the Risk Management Review Committee of SEBI (RMRC) and subsequent deliberations, the following actions have been recommended:
  - CCs' own funds and funds received from CMs as cash collateral & upstream client funds with the CC shall be segregated at all points of time.
  - CCs can invest or deploy the cash collateral received from CMs and upstream client funds in highly liquid financial instruments with minimal market and credit risks in line with the investment norms specified by SEBI from time to time for investment in the Core Settlement Guarantee Fund (SGF) corpus.
  - Interest or income, if any, by the CC out of cash collaterals received from CMs and upstream client funds shall periodically (at least on a quarterly basis) be distributed to CMs or added to CMs' collaterals, subject to adjustment of costs, taxes, and regulatory charges, if any, and the benefit of the same shall appropriately be passed on by CMs to their clients.
  - The impact on BSE: BSE subsidiary Indian Clearing Corporation Ltd (ICCL) earns treasury income on clearing and settlement funds. BSE earned INR1.8b (13% of its revenue) in FY24 and 8% of its revenue as of 2QFY25 for FY25. After the implementation of the regulation, earnings will be hit. The extent of the hit will be ascertained when the final regulations are announced and implemented.

Revenue growth to remain robust, with higher contribution from transaction revenues

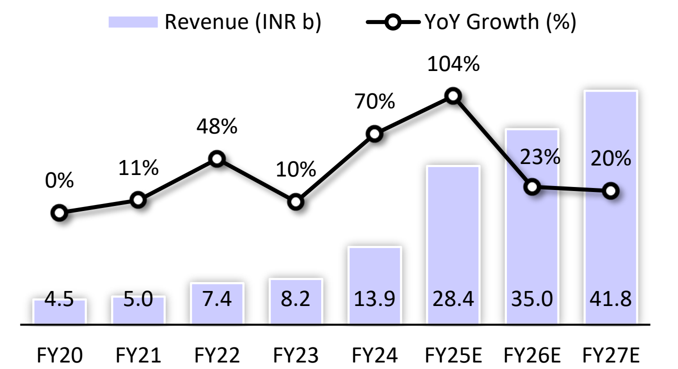
- With a higher share of transaction revenues due to significant traction in the derivatives segment, the revenue mix is skewed toward transaction charges. However, increasing cash market activity, continued momentum in BSE Star MF platform and scale-up of colocation infrastructure can help BSE diversify the mix. We expect a CAGR of 62% in transaction charges during FY24-27E.
- Furthermore, listing fees, treasury income, data services and index business will lend stability to revenues. We expect a CAGR of 19% in revenues from such securities services during FY24-27.
- Star MF platform has seen phenomenal growth in the past couple of years and has maintained its leadership position. This momentum is likely to sustain over the medium term. To further strengthen its position, BSE has invested INR210m to develop Star MF 2.0, which will be launched soon. We expect a CAGR of 42% in transaction charges from Star MF platform during FY24-27.

Exhibit 9: BSE 1HFY25 key highlights

Market Capitalization of BSE Listed Companies USD 5.72 trillion	Registered Investors 192 million+	Equity Cash ADTV (H1 FY25) Rs. 93,963 million	EQD - Highest Single Day T/o Rs. 564 trillion	EQD – Total Contracts Traded 32 billion	EQD – ADTV (H1 FY25) Rs. 112.9 trillion
Mutual Funds Registered 43	Funds Mobilized (H1 FY25) Rs. 13.7 Trillion	Cities covered 721	Mutual Fund Distributors 78,382	Mutual Funds Orders (H1 FY25) 304 million	Mutual Fund Order Value (H1 FY25 Rs. 5.03 Trillion
Members Registered 1,234	Consolidated EPS – H1 FY25 Rs. 44.55	Cons. Net Worth – H1 FY25 Rs. 37,078 million	Cons. Revenue – H1 FY25 Rs. 14,933 million	Cons. EBITDA – H1 FY25 Rs. 8,121 million	Cons. Net Margin – H1 FY25 41%

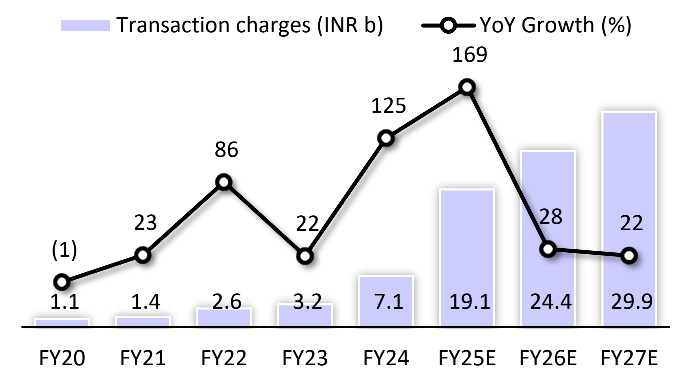
Source: MOFSL, Company

Exhibit 10: Revenue growth to remain robust…



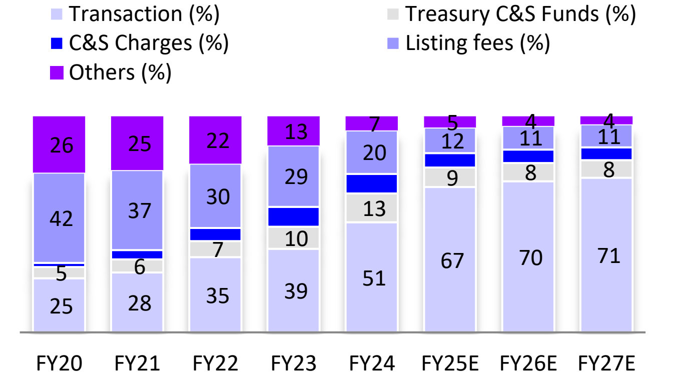
Source: MOFSL, Company

Exhibit 11: …driven by transaction revenue



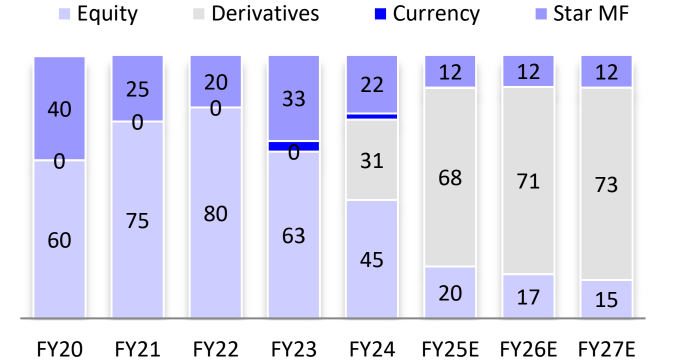
Source: MOFSL, Company

Exhibit 12: Transaction charges to dominate the revenue mix



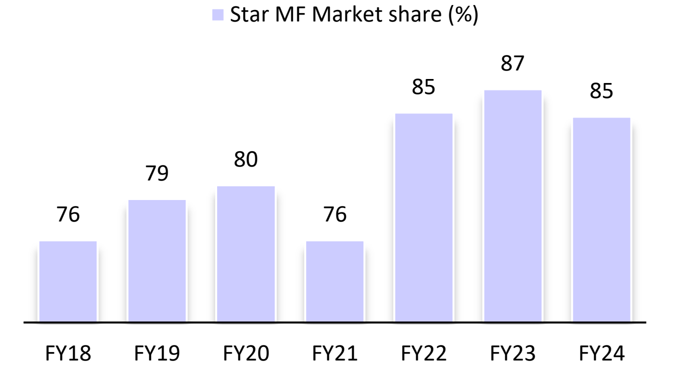
Source: MOFSL, Company

Exhibit 13: Derivatives is key driver of transaction charges



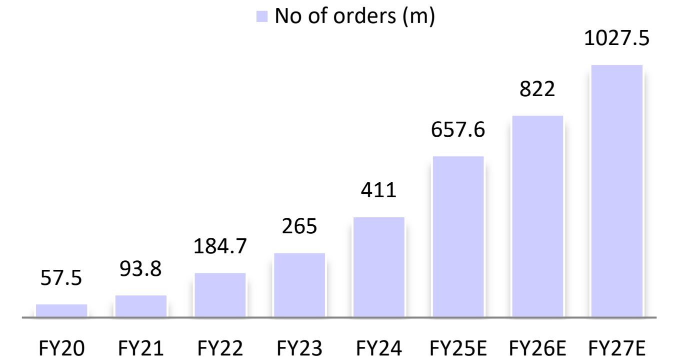
Source: MOFSL, Company

Exhibit 14: Improving market share of Star MF…



Source: MOFSL, Company

Exhibit 15: …driven by strong traction in Star MF orders



Source: MOFSL, Company

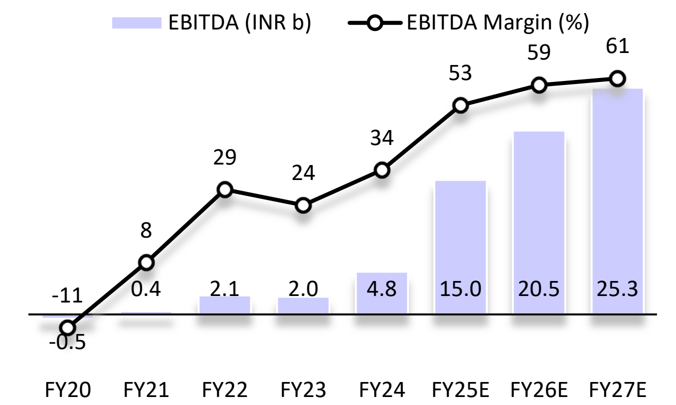
Volume decline will reduce regulatory cost pressure and boost profitability

- BSE's regulatory costs paid to SEBI and clearing & settlement costs paid to NSE are linked to notional turnover or number of contracts traded. Resultantly, the continuous decline in the option segment's notional turnover after the implementation of F&O regulations in Nov'24 and the increase in lot sizes will bode well for BSE's margins and profitability.
- We expect a CAGR of 22% in operating expenses for FY24-27, driven by 18%/13%/59%/18% growth in employee expenses/tech expenses/clearing house expenses/regulatory costs.
- EBITDA is expected to clock a CAGR of 74% during FY24-27, with margins almost doubling to 61% in FY27 (34% in FY24). PAT (excluding exceptional gain in FY24) is also expected to see a CAGR of 74% during FY24-27.

Valuation and view – Reiterate BUY; further improvement in premium turnover can lead to further upgrade in estimates

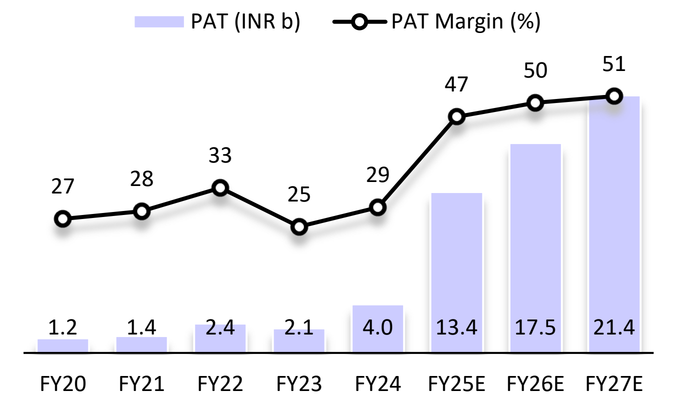
- The implementation of new F&O regulations can have a transitionary impact on volumes. However, we note that BSE will be relatively less impacted than NSE, and other revenue drivers like colocation and new products (commodities and power) will boost earnings growth.
- We have estimated premium ADTO of INR83b/INR108b for FY25E/FY26E. Premium ADTO so far in Jan'25 is at INR 137b. If the run rate continues, we will have to upgrade our estimates to accommodate strong growth in premium turnover.
- We expect BSE to register a CAGR of 44%/74%/74% in revenue/EBITDA/PAT during FY24-27, as we believe the improvement in the premium-to-notional turnover ratio will offset the decline in volumes. Lower regulatory and clearing costs will also boost profitability. We reiterate BUY with TP of INR6,500, based on 45x Sep'26E EPS.

Exhibit 16: Improving EBITDA margin



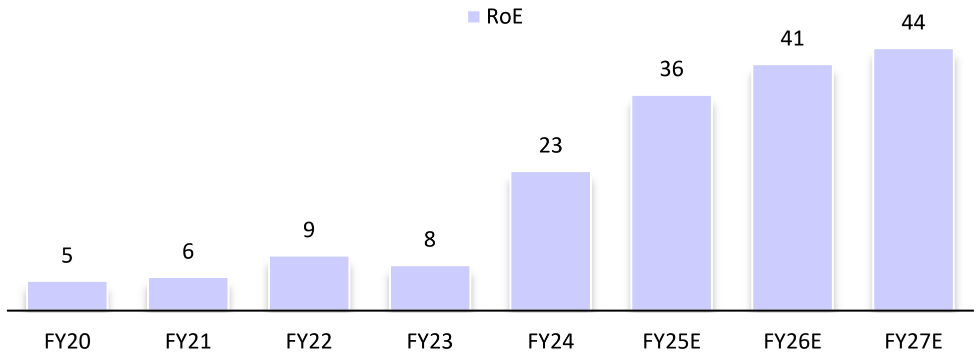
Source: MOFSL, Company

Exhibit 17: Improving PAT margin



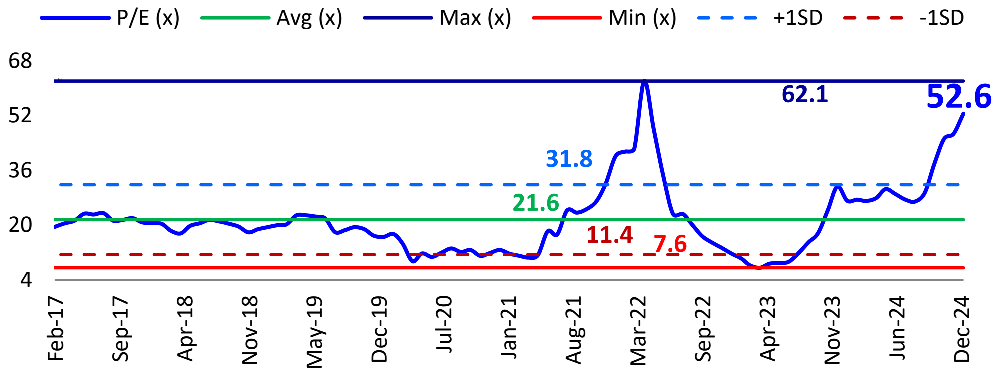
Source: MOFSL, Company

Exhibit 18: Rising RoE trajectory (%)



Source: MOFSL, Company

Exhibit 19: One-year forward P/E chart trend



Source: MOFSL, Company

Financials and valuations

Income Statement								(INR m)
Y/E March	**2020**	**2021**	**2022**	**2023**	**2024**	**2025E**	**2026E**	**2027E**
Revenue	**4,505**	**5,014**	**7,432**	**8,155**	**13,901**	**28,392**	**34,957**	**41,779**
Change (%)	***0.0***	***11.3***	***48.2***	***9.7***	***70.5***	***104.2***	***23.1***	***19.5***
Employee expenses	1,512	1,487	1,773	1,802	2,047	2,334	2,684	2,952
Technology expenses	1,176	948	969	1,239	1,374	1,621	1,816	1,997
Admin & Others	2,132	1,854	2,209	2,777	5,715	9,421	9,942	11,521
Liquidity enhancement expenses	178	337	350	363	0	0	0	0
EBITDA	**-493**	**388**	**2,131**	**1,974**	**4,765**	**15,015**	**20,515**	**25,308**
EBITDA %	**-10.9**	**7.7**	**28.7**	**24.2**	**34.3**	**52.9**	**58.7**	**60.6**
Depreciation / Amortization	510	579	483	603	954	1,122	1,302	1,482
EBIT	**-1,003**	**-190**	**1,649**	**1,371**	**3,810**	**13,893**	**19,213**	**23,826**
EBIT %	**-22.3**	**-3.8**	**22.2**	**16.8**	**27.4**	**48.9**	**55.0**	**57.0**
Finance costs	24	103	222	275	0	0	0	0
Other Income	1,795	1,533	1,204	1,384	2,279	2,668	2,447	2,713
PBT	**768**	**1,240**	**2,631**	**2,480**	**5,172**	**16,561**	**21,660**	**26,539**
Tax	149	109	823	916	1,848	4,140	5,415	6,635
ETR %	19.4	8.8	31.3	36.9	35.7	25.0	25.0	25.0
PAT before associate profits	**619**	**1,131**	**1,808**	**1,564**	**3,324**	**12,421**	**16,245**	**19,904**
Share of Associates profit	267	432	642	492	718	970	1,212	1,515
PAT after Associate profits	**886**	**1,562**	**2,449**	**2,056**	**4,042**	**13,391**	**17,457**	**21,419**
Change (%)	**-54.5**	**76.4**	**56.8**	**-16.0**	**96.6**	**231.3**	**30.4**	**22.7**
PAT margin %	**19.7**	**31.2**	**33.0**	**25.2**	**29.1**	**47.2**	**49.9**	**51.3**
Exceptional items	320	-145	0	0	3,675	0	0	0
PAT after exceptional items	**1,206**	**1,417**	**2,449**	**2,056**	**7,717**	**13,391**	**17,457**	**21,419**

Balance Sheet								(INR m)
Y/E March	**2020**	**2021**	**2022**	**2023**	**2024**	**2025E**	**2025E**	**2025E**
Total fixed assets	2,085	1,843	1,681	2,535	2,991	3,491	3,991	4,491
Non-current investments	9,252	8,005	6,298	8,961	11,529	12,106	12,711	13,347
Other non-current assets	4,207	4,914	4,339	9,871	20,283	20,689	21,102	21,524
Total non-current assets	**15,543**	**14,762**	**12,318**	**21,367**	**34,803**	**36,285**	**37,804**	**39,362**
Cash & Current investments	16,092	19,269	35,117	30,496	44,629	46,950	53,984	62,714
Trade receivables	700	876	634	909	2,109	4,543	5,593	6,685
Other current assets	12,425	11,364	13,785	7,166	12,962	13,592	14,254	14,949
Total current assets	**29,216**	**31,509**	**49,535**	**38,571**	**59,699**	**65,085**	**73,831**	**84,347**
TOTAL ASSETS	**44,759**	**46,271**	**61,854**	**59,938**	**94,502**	**1,01,370**	**1,11,636**	**1,23,709**
Share Capital	270	270	271	271	271	270	270	270
R&S	23,981	24,796	26,275	26,741	32,752	36,769	42,006	48,432
Shareholders equity	**24,251**	**25,066**	**26,545**	**27,012**	**33,023**	**37,039**	**42,276**	**48,702**
Core SGF	4,354	5,391	6,409	7,576	9,550	9,550	9,550	9,550
Minority Interest	186	235	1,352	1,278	1,524	1,524	1,524	1,524
Other LT liabilities	111	124	109	145	136	136	136	136
Total non-current liabilities	**113**	**124**	**109**	**145**	**136**	**136**	**136**	**136**
Outstanding dues to creditors	758	982	729	804	3,603	2,018	2,178	2,483
Other current liabilities	15,098	14,473	26,711	23,123	46,667	51,103	55,971	61,315
Total current liabilities	**15,856**	**15,455**	**27,439**	**23,927**	**50,270**	**53,121**	**58,150**	**63,797**
TOTAL LIABILITIES	**44,759**	**46,271**	**61,854**	**59,938**	**94,502**	**1,01,370**	**1,11,636**	**1,23,709**

Financials and valuations

Cash Flow (INR m)

Y/E March	2020	2021	2022	2023	2024	2025E	2026E	2027E
PAT	1,206	1,417	2,449	2,056	7,717	13,391	17,457	21,419
Dep	510	579	483	603	954	1,122	1,302	1,482
Changes in working capital	**3,755**	**(1,329)**	**13,007**	**(4,649)**	**26,401**	**394**	**3,954**	**4,532**
Op Cash flow	**5,471**	**666**	**15,940**	**(1,990)**	**35,072**	**14,907**	**22,713**	**27,433**
Capex	-414	-337	-321	-1,457	-1,410	-1,622.05	-1,802.05	-1,982.05
Investments	1,274	2,351	-920	-714	-20,033	(1,589)	(1,657)	(1,728)
Changes in equity	**-5,348**	**409**	**1,974**	**-44**	**570**	(1)	-	-
Debt	407	1,050	1,002	1,204	1,965	-	-	-
Dividend	-779	-962	-1,827	-1,620	-2,030	(9,373)	(12,220)	(14,993)
Cash generation	**-10,331**	**1,845**	**-16,032**	**-642**	**-56,011**	(27,492)	(38,392)	(46,135)
Op Cash	15480.8	16091.8	19268.7	35116.6	30495.7	44,629	46,950	53,984
Cl Cash	**16,092**	**19,269**	**35,117**	**30,496**	**44,629**	46,950	53,984	62,714
FCF	**5,057**	**329**	**15,619**	**-3,447**	**33,662**	13,285	20,911	25,451

Ratios

Y/E March	2020	2021	2022	2023	2024	2025E	2026E	2027E
Basic (INR)								
EPS	**8.9**	**10.5**	**18.1**	**15.2**	**57.0**	**98.9**	**129.0**	**158.2**
EPS (excl EOI)	**6.5**	**11.5**	**18.1**	**15.2**	**29.9**	**98.9**	**129.0**	**158.2**
Cash EPS	9.9	11.5	19.0	16.3	58.8	101.0	131.4	161.0
Book Value	179.2	185.2	196.1	199.6	244.0	273.7	312.3	359.8
DPS	5.8	7.1	13.5	12.0	15.0	69.3	90.3	110.8
Payout %	64.6	67.9	74.6	78.8	26.3	70.0	70.0	70.0
Valuation (x)								
P/E	788.1	446.8	285.0	339.4	172.7	52.1	40.0	32.6
Cash P/E	523.4	447.0	271.6	316.2	87.7	51.1	39.3	32.0
Price/Book Value	28.8	27.8	26.3	25.8	21.1	18.8	16.5	14.3
Dividend Yield (%)	0.1	0.1	0.3	0.2	0.3	1.3	1.8	2.1
Profitability Ratios (%)								
RoE	5.0	5.7	9.2	7.6	23.4	36.2	41.3	44.0
RoCE	3.3	5.4	10.7	10.2	18.4	44.7	51.2	54.5

E: MOFSL Estimates

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 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 Ltd. are available on the website at http://onlinereports.motilaloswal.com/Dormant/documents/Associate%20Details.pdf

Details of pending Enquiry Proceedings of Motilal Oswal Financial Services Limited are available on the website at https://galaxy.motilaloswal.com/ResearchAnalyst/PublishViewLitigation.aspx

MOFSL, it's associates, Research Analyst or their relatives may have any financial interest in the subject company. MOFSL and/or its associates and/or Research Analyst or their relatives may have 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. MOFSL and its associate company(ies), their directors and Research Analyst and their relatives may have any other potential conflict of interests at the time of publication of the research report or at the time of public appearance, 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.

In the past 12 months, MOFSL or any of its associates may have:
a) received any compensation/other benefits from the subject company of this report
b) managed or co-managed public offering of securities from subject company of this research report,
c) received compensation for investment banking or merchant banking or brokerage services from subject company of this research report,
d) received compensation for products or services other than investment banking or merchant banking or brokerage services from the subject company of this research report.

- MOFSL and it's associates have not received any compensation or other benefits from the subject company or third party in connection with the research report.
- Subject Company may have been a client of MOFSL or its associates during twelve months preceding the date of distribution of the research report.
- Research Analyst may have served as director/officer/employee in the subject company.
- MOFSL and research analyst may engage in market making activity for the subject company.

MOFSL and its associate company(ies), and Research Analyst and their relatives from time to time may have:
a) 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.
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.
To enhance transparency, MOFSL has incorporated a Disclosure of Interest Statement in this document. This should, however, not be treated as endorsement of the views expressed in the 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.

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.

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.

Disclosure of Interest Statement	**BSE**
Analyst ownership of the stock	No

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 Financial Services Limited (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. 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 of Singapore .Accordingly, if a Singapore person is not, or ceases to be, such an investor, they must immediately discontinue any use of this Report and inform MOCMSPL .

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.

This report is meant for the clients of Motilal Oswal only.

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 dpgrievances@motilaloswal.com.