

# AAVAS Financiers

BSE SENSEX

61,774

S&amp;P CNX

18,285

CMP: INR1,388

TP: INR1,530 (+10%)

Neutral



## Stock Info

Bloomberg	AAVAS IN
Equity Shares (m)	78
M.Cap.(INRb)/(USDb)	109.7 / 1.3
52-Week Range (INR)	2410 / 1377
1, 6, 12 Rel. Per (%)	-14/-26/-49
12M Avg Val (INR M)	262
Free float (%)	60.9

## Financials Snapshot (INR b)

INR b	FY23	FY24E	FY25E
NII	8.0	9.8	12.3
PPP	5.6	7.0	9.0
PAT	4.3	5.3	6.8
EPS (INR)	54.4	66.4	85.9
EPS Gr. (%)	20	22	29
BV/Sh. (INR)	414	480	566

## Ratios (%)

NIM	6.2	6.1	6.0
C/I ratio	44.9	44.0	41.6
Credit cost	0.12	0.23	0.22
RoA	3.5	3.5	3.6
RoE	14.2	14.9	16.4

## Valuation

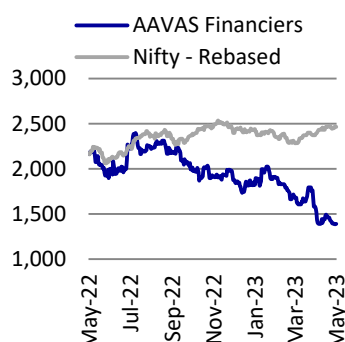
P/E (x)	25.5	20.9	16.1
P/BV (x)	3.4	2.9	2.5

## Shareholding pattern (%)

As On	Mar-23	Dec-22	Mar-22
Promoter	39.1	39.2	39.2
DII	12.5	10.9	9.9
FII	38.8	37.9	39.9
Others	9.5	12.0	11.0

FII Includes depository receipts

## Stock Performance (1-year)



## Poised to capitalize on the significant growth opportunities

We attended AAVAS's analyst meet where the management was represented by the entire senior leadership including the MD & CEO Mr. Sachinder Bhinder and the President & CFO Mr. Ghanshyam Rawat.

## We highlight the key takeaways from the meet below:

- Mr. Sachinder Bhinder, the recently appointed MD & CEO of AAVAS, presented the company's strategic vision of capitalizing on the opportunities within the affordable housing sector by leveraging its expansive geographical presence, robust technology infrastructure, and disciplined liability management strategy. AAVAS by: a) maintaining a customer-centric approach, b) continuously improving its underwriting processes, and c) effectively leveraging data analytics, aims to grow its loan book sustainably and deliver superior value to its stakeholders.
- Management highlighted that with the ongoing IT transformation, there will be a significant improvement in the average turnaround time (TAT) for loan sanctioning and disbursals. With the loan files moving to digital, there will be productivity improvements that will translate into operating efficiencies and sustainable decline in operating cost ratios.
- The company stated that it has always been ahead of its peers in managing risk and with the implementation of various ERP solutions (incl. Oracle Fusion) as well as newer and more extensive analytics it will be able to monitor risk much more closely than before. This will help deliver the same pristine asset quality.
- AAVAS has an AUM of ~INR142b as of Mar'23 and has delivered an AUM CAGR of 28% over FY18-FY23 while maintaining GNPA's of <1% all through the 13 years of its operations.
- Despite having a ~60% self-employed customer mix, the superior execution on asset quality and the benign credit costs (across cycles, over the last 13 years) have corroborated that this asset quality is indeed an outcome of its robust underwriting and collections infrastructure.
- We now model a ~28% AUM CAGR over FY23-FY25E. This translates into a 26% consol. PAT CAGR over the same period and an RoA/RoE of 3.6%/16% in FY25.
- Valuations have significantly de-rated over the last one month and the stock now trades at 2.9x FY25E P/BV. Before turning constructive, we would closely monitor the execution on AUM growth and asset quality under the new leadership of Mr. Bhinder. Moreover, we would also keenly observe how the IT transformation accelerates disbursements and improves productivity for AAVAS. **Retain Neutral with a TP of INR1,530 (based on 2.7x Mar'25E BVPS).**

## Opening remarks from Mr. Sachinder Bhinder (MD & CEO)

- AAVAS places a strong emphasis on governance, which is further reinforced by the composition of its Board of Directors. The Board consists of seasoned and skilled professionals, underscoring the company's commitment to sound governance practices.
- The company attributes its strong asset quality to its robust quality metrics, which have been rigorously tested and proven effective across various credit cycles and economic downturns.

Abhijit Tibrewal - Research Analyst (Abhijit.Tibrewal@MotilalOswal.com)

Research Analyst: Nitin Aggarwal (Nitin.Aggarwal@MotilalOswal.com) | Parth Desai (Parth.Desai@MotilalOswal.com)

Investors are advised to refer through important disclosures made at the last page of the Research Report.

Motilal Oswal research is available on [www.motilaloswal.com/Institutional-Equities](http://www.motilaloswal.com/Institutional-Equities), Bloomberg, Thomson Reuters, Factset and S&P Capital.

- In pursuit of sustainable growth, the company aims to improve profitability and expand its loan portfolio by catering to the underserved segments in tier III-V cities, and leveraging advanced technology.
- AAVAS's growth strategy rests on four core pillars: a) performing prudent risk underwriting, b) managing financial capital efficiently, c) leveraging the potential of human capital, and d) harnessing the power of technology.
- Further, the company prioritizes a customer-centric approach by designing products and services that are tailored to meet the specific needs and preferences of its customers.

#### **Driving growth through wide market reach**

- AAVAS has established a strong presence with a wide network of 346 branches operating across 13 states and 2,500 towns in India.
- In line with its growth strategy, the company aims to enhance its market penetration in these existing geographies by leveraging its in-depth understanding of the local dynamics and utilizing its accumulated knowledge to drive loan book expansion.
- Moreover, it harnesses the power of analytics to identify and explore new geographies that present significant growth opportunities.
- By leveraging both its physical branch network and robust technology infrastructure, the company is well-positioned to achieve its growth targets and capitalize on the emerging market prospects.

#### **Navigating crises through prudent liability management**

- It is worth noting that AAVAS has consistently maintained a positive asset-liability management (ALM) across all time buckets, with an average asset tenor of eight years and an average liability maturity of 11 years.
- The company's credit rating has steadily improved over the years, positively impacting its CoF. Further, the company has consistently maintained spreads of over 5% across economic cycles.
- AAVAS has maintained a prudent funding strategy by not raising short-term funding through CPs. This approach has proven beneficial, allowing the company to navigate through challenging periods such as the IL&FS crisis and the pandemic without experiencing significant adverse effects on CoF.
- Further, its active participation in promotional funding schemes initiated by the Reserve Bank of India (RBI) and the National Housing Bank (NHB) has helped maintain competitive CoF.
- In terms of capital raising, AAVAS does not have any plans to raise capital in the coming five years.
- The company has undertaken assignment and securitization transactions as part of its strategy to diversify its loan portfolio and improve its CoF and RoA profile. By earning a spread of 7% on these assignment transactions, the company has witnessed an improvement in its RoA.
- Currently, around 7% of its total assets are funded through assignment and securitization transactions.
- Looking ahead, management anticipates that co-lending activities will constitute 10% of its borrowing mix within the next three-to-five years.

**Well-positioned to achieve sustainable growth**

- Management has expressed confidence in the growth potential of the affordable housing segment in India. It believes that the share of AHFCs in the affordable housing finance market will improve sustainably over the years, indicating significant headroom for growth.
- AAVAS has been actively expanding its presence across the country, with branches reporting a CAGR of 16% over FY18-23. During the same period, the company's AUM recorded a robust CAGR of 28%.
- Management has guided for ~20-25% AUM growth in the subsequent years.
- New branches reach break-even within 12-15 months and ~90% of the new branches have achieved positive RoE within the same timeframe. The company has not closed down any branches in the last 10 years.
- States with a vintage of 5+ years have consistently delivered growth with superior asset quality, highlighting the company's ability to sustain healthy performance in well-established markets.
- While AAVAS primarily focuses on serving Economically Weaker Sections (EWS) and Low-Income Group (LIG) segment customers, the company has developed underwriting capabilities that extend across the entire customer pyramid, from EWS to High-Income Group (HIG) and affluent customers.
- Digital channels have also played a key role in the company's business, contributing ~10% of the overall business as of Mar'23.

**Robust underwriting practices to safeguard long-term stability**

- AAVAS has established a robust team structure to support its operations and risk management. The company's legal team consists of 97 in-house professionals – including 70 lawyers – complemented by a network of 390 empanelled law firms.
- In terms of technical expertise, AAVAS has built an in-house team of 177 professionals – including 170 civil engineers – supported by 170 valuation firms. This technical team plays a crucial role in assessing the quality and value of properties, and providing valuable insights for the lending process.
- To manage risk effectively, AAVAS has established a dedicated Risk Control Unit (RCU) team with 102 in-house professionals. This team conducts an average of 50 visits per month, ensuring thorough risk assessment and due diligence on the properties financed by the company.
- The company's commitment to leveraging technology is evident in its practice of geo-tagging 100% of the properties.
- AAVAS has invested in developing customized credit assessment templates, combining them with a core touch and feel model. This approach strengthens the underwriting process, enabling the company to take informed lending decisions based on comprehensive credit assessments.
- Having underwritten more than 0.8m customers over the years, AAVAS has built a valuable customer database. It leverages this database to gain insights into customer behavior and patterns, thereby facilitating better customer engagement and risk management.
- AAVAS has maintained a healthy asset quality track record, with year-to-date write-offs amounting to a mere 0.11% of its cumulative disbursements.
- Besides, the average credit costs over FY20-23 stood at 0.23% of the AUM.

**Leveraging technology to drive growth and improve processes**

- AAVAS is committed to continuously upgrading its IT infrastructure to drive sustainable growth, improve operational efficiency, and deliver superior customer experiences. The company aims to create robust and scalable systems that facilitate seamless business expansion and provide flexibility to introduce new products.
- To enhance operational efficiency, AAVAS is focused on optimizing its cost structure and improving employee efficiency through advanced technology and digital operations.
- Over FY20-23, the company has introduced various technological advancements, including the launch of the tech app, customer app 2.0, chat-bot, and digital collections. Additionally, it has collaborated with Deloitte to develop a comprehensive tech roadmap, referred to as tech 3.0.
- Two key transformation initiatives undertaken by AAVAS are GATI and UNNATI. Under the GATI initiative, the company plans to leverage Sales-force to implement a new digital loan origination platform (LOS). The initial phase of rolling out the customer service system has already been completed.
- As part of the UNNATI initiative, AAVAS intends to adopt Oracle Flex-cube, a modern loan management system (LMS), to facilitate scalability. Moreover, the company plans to implement Oracle ERP Cloud, a next-generation cloud-based ERP system, for back-office process automation and enhanced financial control monitoring.

**Developing analytic tools to enhance business operations**

- AAVAS has made significant advancements in leveraging analytics to enhance its business operations. It has developed various analytical tools classified under descriptive, prescriptive, and predictive analytics, to gain valuable insights into customer behavior and trends.
- In collaboration with Deloitte, AAVAS has established an end-to-end cloud-based and scalable data architecture system. This robust infrastructure enables efficient data management and analysis, supporting the company's decision-making processes.
- One notable achievement is the development of a churn prediction model. This model identifies customers who are likely to request for balance transfers in future, providing AAVAS with valuable time to proactively engage with these customers and deploy retention strategies. This proactive approach helps improve customer retention and strengthens the company's business performance.
- Additionally, AAVAS has implemented a bounce prediction model that forecasts cases of loan bounces in advance, providing the company with a window of 10-15 days to take appropriate actions. By identifying potential bounce cases early on, AAVAS can tailor its strategies based on factors such as loan tenor, customer profile, loan type, and geographical considerations.
- Through the utilization of analytics and technology, AAVAS has successfully managed its collections while maintaining the same team size over the past three years.

**Valuation and View**

- AAVAS delivered a healthy RoA/RoE of 3.5%/14.2% in FY23. It has a sustainable business model that it can utilize to scale up profitably across geographies over the long term.
- Its constant endeavor to improve its technological edge and relentless focus on asset quality has made it a standout player among peers. Notably, its 1+DPD remains below the comfortable level of ~4%, driven by its prudent underwriting process and efficient collection efforts.
- The company's focused and customer-centric approach, combined with its penetration in Tier 3 and 4 cities, has enabled it to achieve steady disbursement growth.
- Given the investments being made in sourcing, distribution and technology, AAVAS will embark on a very strong disbursement growth trajectory in FY24. However, it will be vital to closely monitor the execution under the new MD & CEO Mr. Bhinder and how he maintains cohesion in the senior/middle management to achieve the desired outcomes on AUM growth and asset quality.
- The stock trades at 2.9x FY25E P/BV and any re-rating in valuation multiples will depend on consistent delivery of strong asset quality and robust AUM growth, which could potentially be pursued by the new leadership. **Reiterate Neutral with a TP of INR1,530 (based on 2.7x Mar'25E BVPS).**

Story in charts

Exhibit 1: Disbursement CAGR of ~28% over FY23-25E...

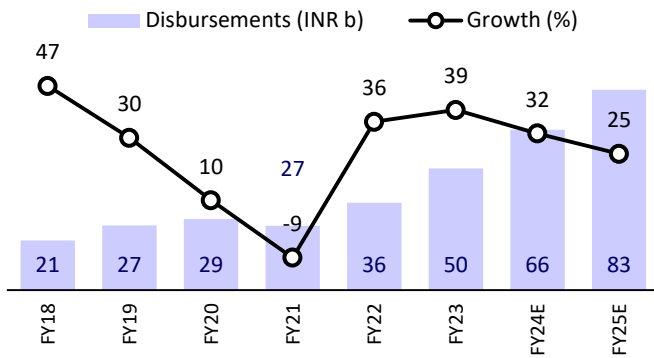


Exhibit 2: ...driving AUM CAGR of 28% over the same period

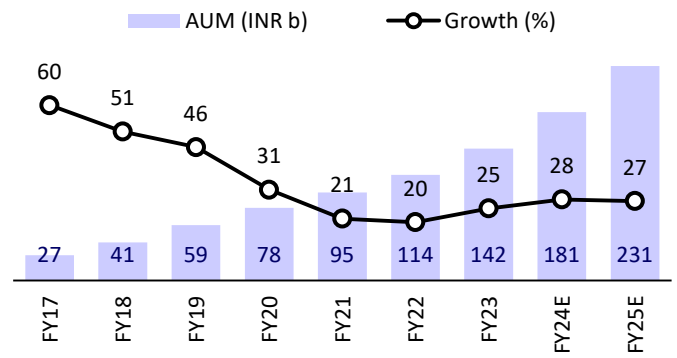


Exhibit 3: Spreads expected to normalize at ~7%...

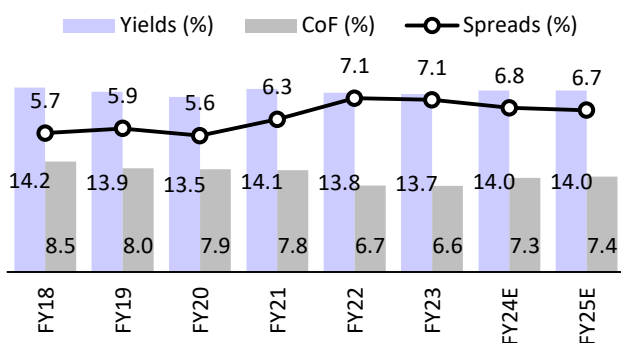


Exhibit 4: ...leading to NIM of ~6% over FY25E

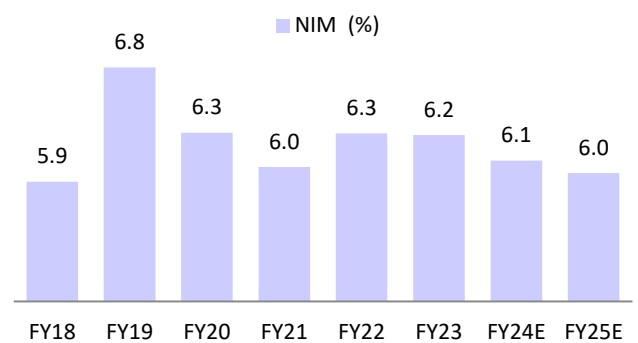


Exhibit 5: CIR to moderate to 42% over FY25E...

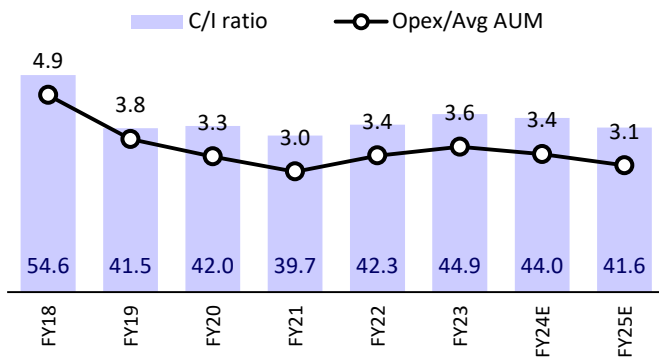


Exhibit 6: ...driven by improving productivity metrics

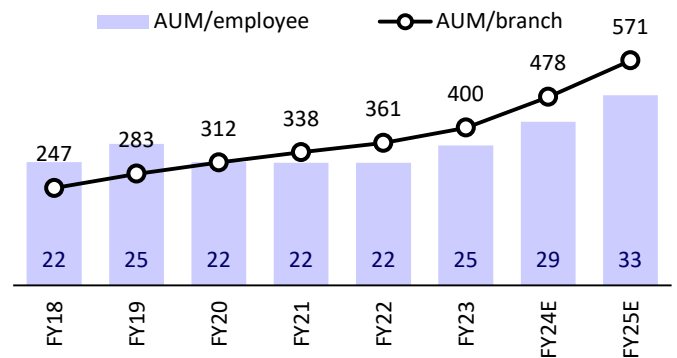


Exhibit 7: Expect credit costs to normalize at 0.2% over FY25

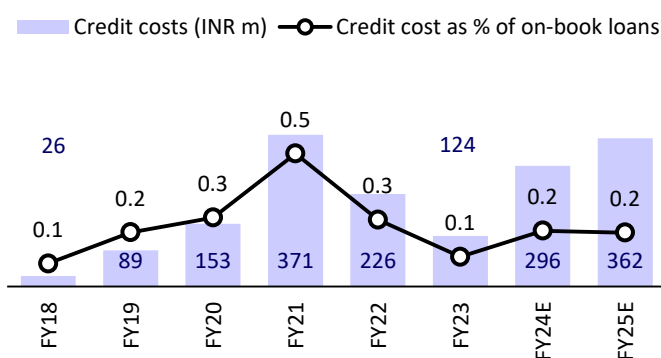
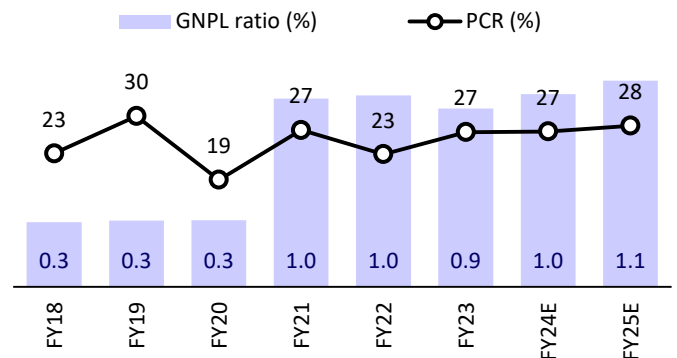


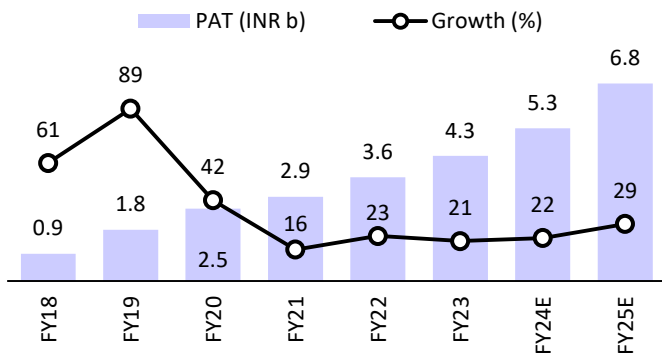
Exhibit 8: Asset quality to remain largely stable



Source: MOFSL, Company

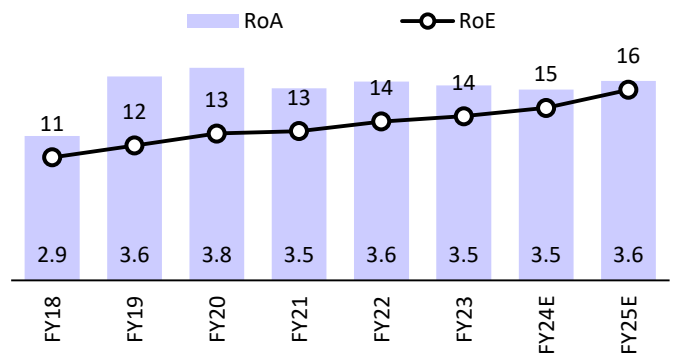
Source: MOFSL, Company

**Exhibit 9: Profitability expected to improve gradually...**



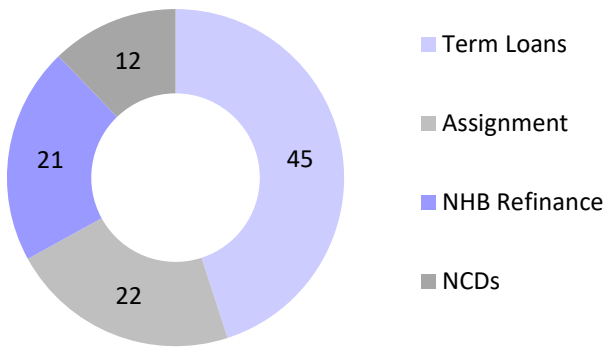
Source: MOFSL, Company

**Exhibit 10: ...leading to an RoA of ~3.5% in FY24/FY25 each**



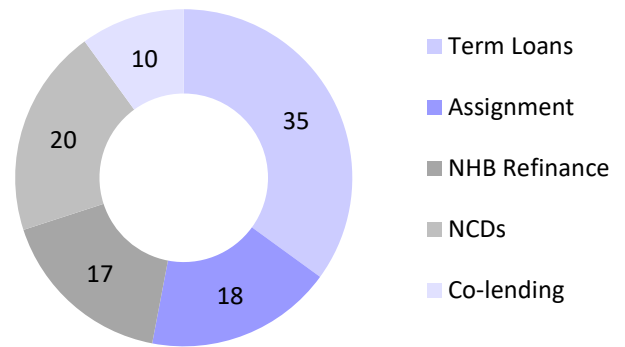
Source: MOFSL, Company

**Exhibit 11: Liability mix as of FY23**



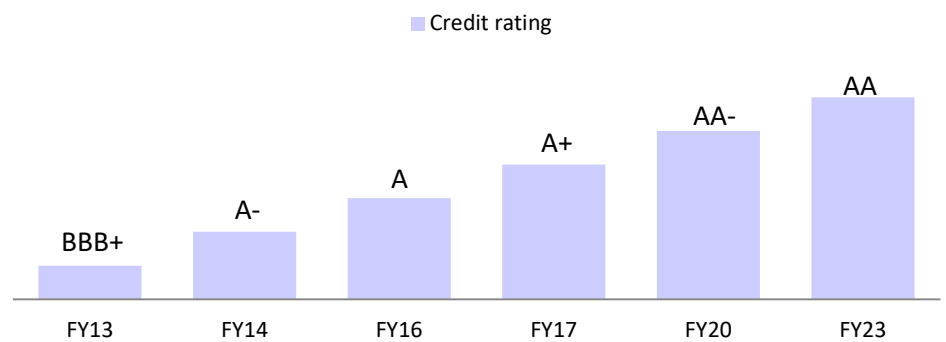
Source: MOFSL, Company

**Exhibit 12: Company expects co-lending to form 10% of the liability mix over the subsequent years**



Source: MOFSL, Company

**Exhibit 13: Progression of credit rating over the years**



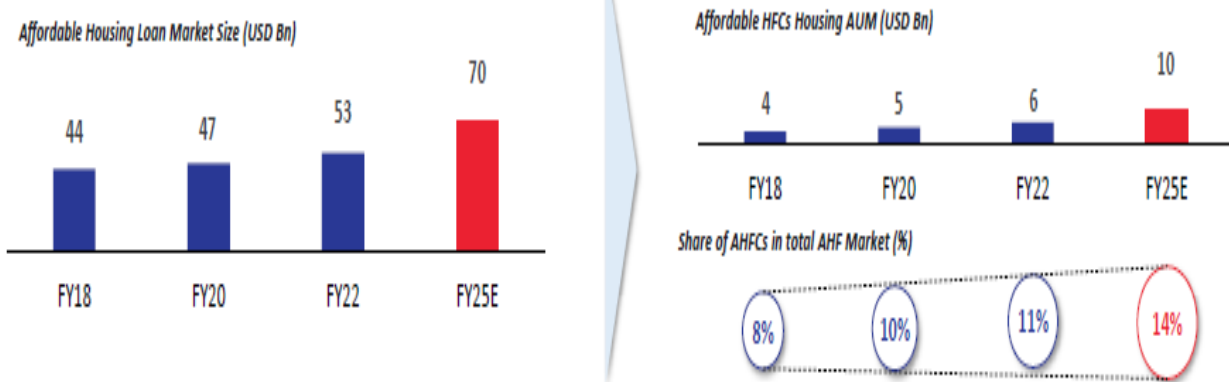
Source: MOFSL, Company

Exhibit 14: Strong track record of self-funding growth...

INR cr.	Period	Up to FY16	Up to FY23	Difference
Total Share Capital	Cumulative	151	1,410	1,258
Retained Earnings and Profit	Cumulative	52	1,860	1,808
AUM	As of	1,680	14,167	12,487
Liabilities	As of	1,463	9,841	8,377

Source: Company, MOFSL

Exhibit 15: ...backed by long-term structural tailwinds



Source: MOFSL, Company

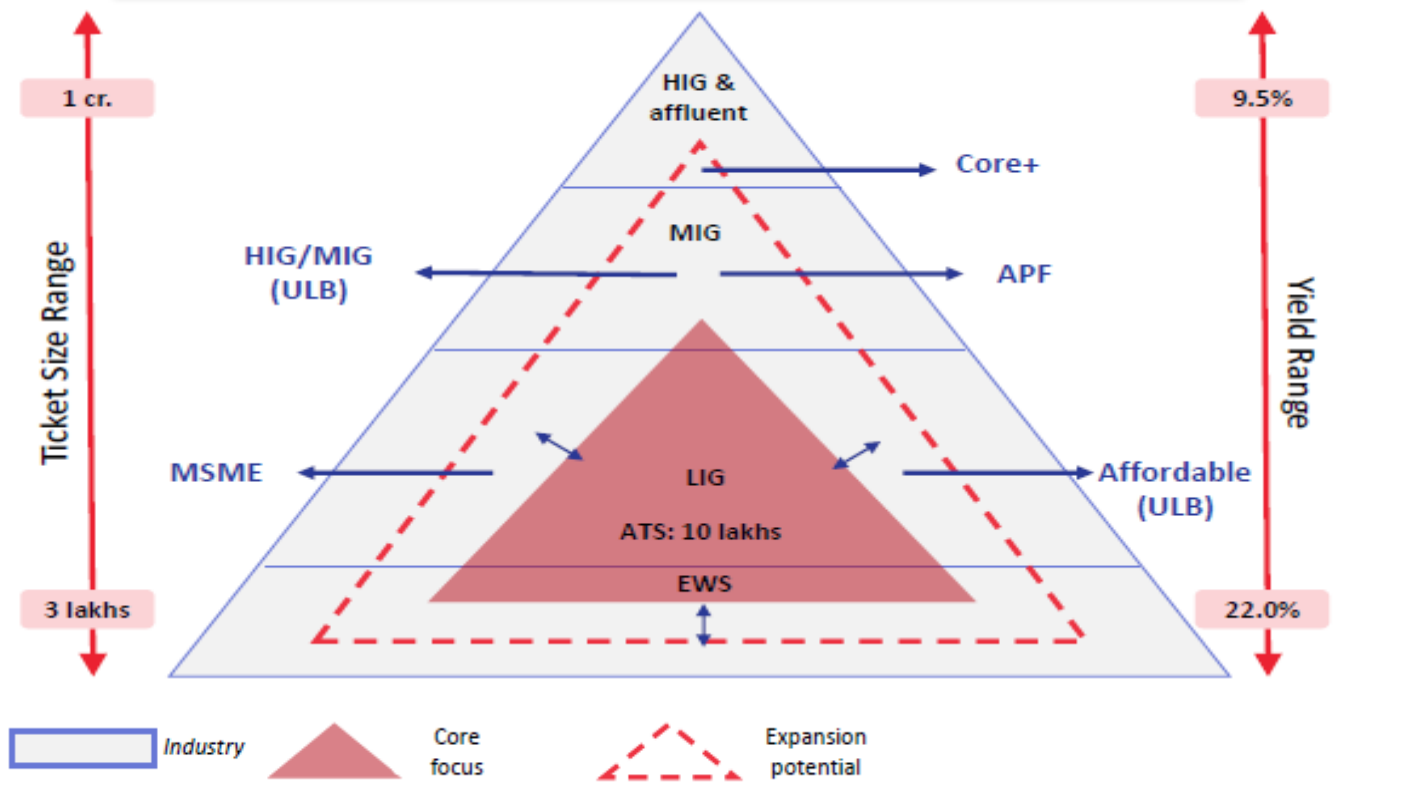
Exhibit 16: Deep penetration model ensures notable headroom for growth in core states

	Rajasthan	Maharashtra	Gujarat	Madhya Pradesh	Delhi
<b>Year of entry</b>	2012	2012	2012	2013	2013
<b>Branches at the end of FY23</b>	102	48	44	49	4
<b>New Branches added in FY23</b>	3	3	2	4	0
<b>AUM &amp; Disb. growth (FY22-FY23)</b>	AUM Growth: 19%, Disb. Growth: 27%	AUM Growth: 26%, Disb. Growth: 50%	AUM Growth: 16%, Disb. Growth: 28%	AUM Growth: 30%, Disb. Growth: 36%	AUM Growth: 26%, Disb. Growth: 39%
<b>5Y AUM CAGR</b>	23%	25%	23%	34%	34%

Source: MOFSL, Company

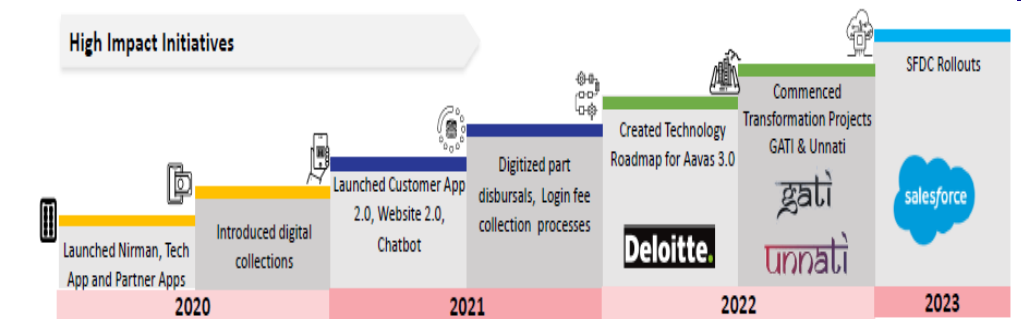


Exhibit 17: Ability to cater across segments with core focus on serving EWS and LIG segments



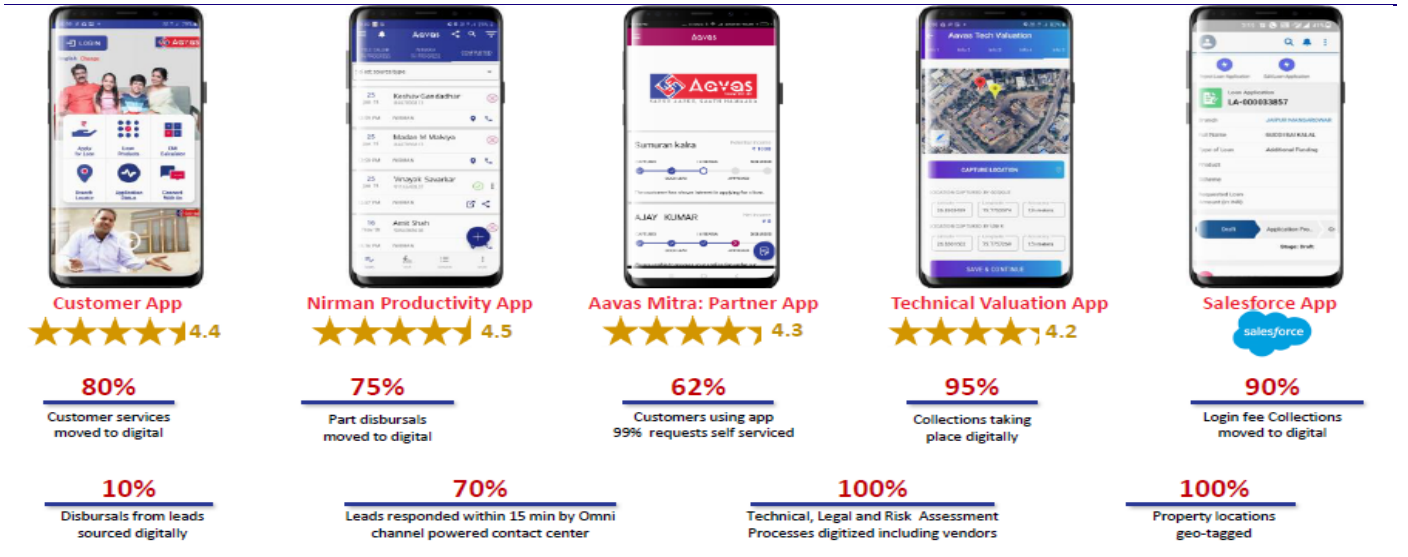
Source: MOFSL, Company

Exhibit 18: Evolution of technological initiatives



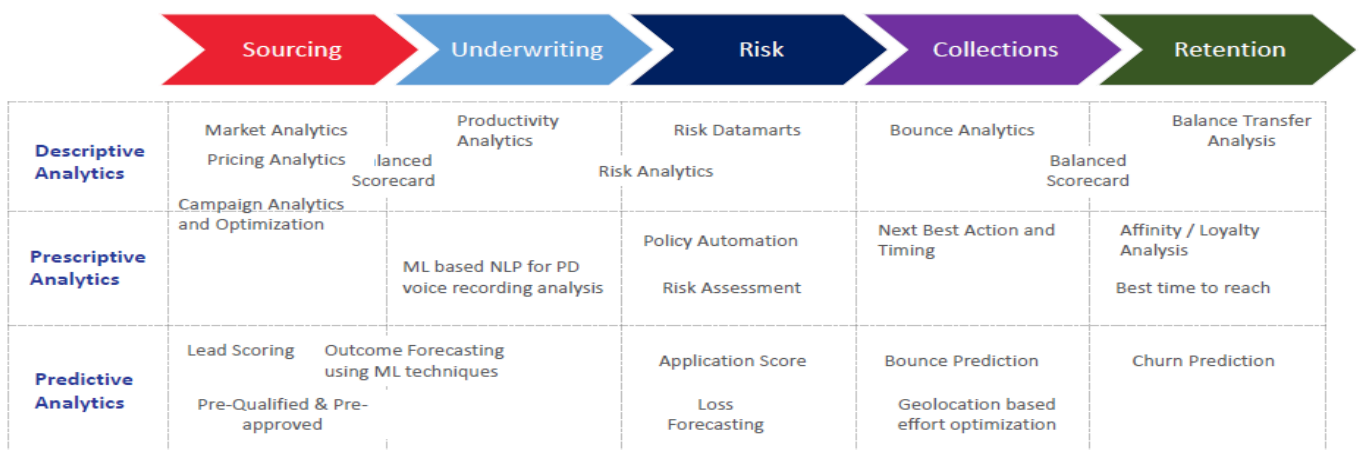
Source: MOFSL, Company

Exhibit 19: Developed user-friendly applications for both clients and employees



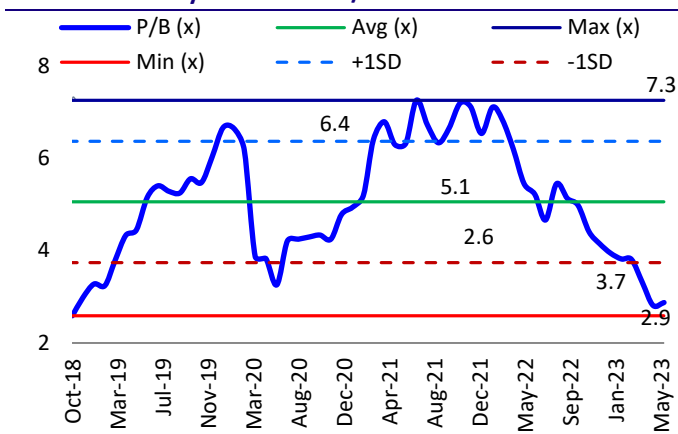
Source: MOFSL, Company

Exhibit 20: Leveraging data analytics across customer life cycle



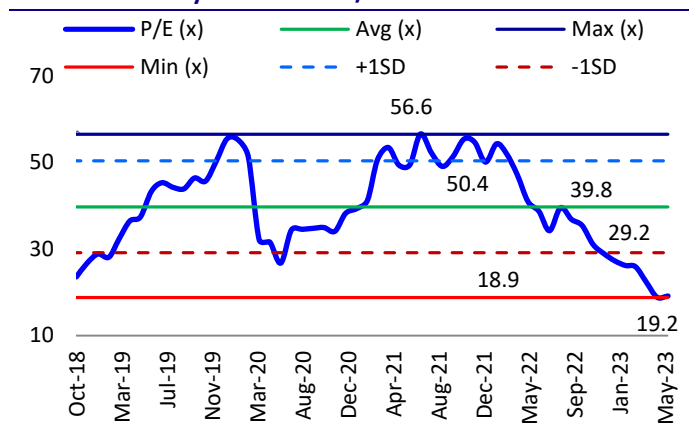
Source: MOFSL, Company

Exhibit 21: One-year forward P/B ratio



Source: MOFSL, Company

Exhibit 22: One-year forward P/E ratio



Source: MOFSL, Company

## AAVAS Financiers: Financials and valuations

Income statement									INR m
Y/E March	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24E	FY25E
Interest Income	2,707	3,926	5,935	7,864	9,764	11,288	13,882	17,965	22,925
Interest Expended	1,428	1,931	2,554	3,561	4,582	4,775	5,910	8,190	10,653
<b>Net Interest Income</b>	<b>1,279</b>	<b>1,995</b>	<b>3,382</b>	<b>4,304</b>	<b>5,182</b>	<b>6,513</b>	<b>7,971</b>	<b>9,775</b>	<b>12,273</b>
Change (%)	69.0	56.0	69.5	27.3	20.4	25.7	22.4	22.6	25.6
Gain on Securitisation	5	602	783	766	864	1,240	1,518	1,822	2,095
Other Operating Income	343	417	391	401	426	528	701	893	1,100
<b>Total Income</b>	<b>1,627</b>	<b>3,014</b>	<b>4,556</b>	<b>5,470</b>	<b>6,471</b>	<b>8,281</b>	<b>10,191</b>	<b>12,490</b>	<b>15,468</b>
Change (%)	62.5	85.3	51.2	20.1	18.3	28.0	23.1	22.6	23.8
Operating Expenses	673	1,645	1,890	2,296	2,566	3,506	4,577	5,495	6,439
<b>Operating Income</b>	<b>953</b>	<b>1,369</b>	<b>2,666</b>	<b>3,174</b>	<b>3,905</b>	<b>4,775</b>	<b>5,614</b>	<b>6,994</b>	<b>9,029</b>
Change (%)	78.1	43.6	94.7	19.1	23.0	22.3	17.6	24.6	29.1
Provisions	67	26	89	153	371	226	124	296	362
<b>PBT</b>	<b>887</b>	<b>1,343</b>	<b>2,577</b>	<b>3,020</b>	<b>3,533</b>	<b>4,549</b>	<b>5,490</b>	<b>6,699</b>	<b>8,667</b>
Tax	308	412	818	529	638	981	1,189	1,447	1,872
Tax Rate (%)	34.7	30.7	31.7	17.5	18.1	21.6	21.7	21.6	21.6
<b>PAT</b>	<b>579</b>	<b>931</b>	<b>1,759</b>	<b>2,491</b>	<b>2,895</b>	<b>3,568</b>	<b>4,301</b>	<b>5,252</b>	<b>6,795</b>
Change (%)	80.4	60.9	89.0	41.6	16.2	23.2	20.5	22.1	29.4
Proposed Dividend	0	0	0	0	0	0	0	0	0

### Balance sheet

Y/E March	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24E	FY25E
Capital	582	692	781	783	785	789	791	791	791
Reserves & Surplus	5,082	11,207	17,589	20,196	23,229	27,297	31,906	37,158	43,953
<b>Net Worth</b>	<b>5,663</b>	<b>11,899</b>	<b>18,370</b>	<b>20,979</b>	<b>24,014</b>	<b>28,086</b>	<b>32,697</b>	<b>37,949</b>	<b>44,743</b>
<b>Borrowings</b>	<b>17,935</b>	<b>27,376</b>	<b>36,533</b>	<b>53,520</b>	<b>63,454</b>	<b>79,725</b>	<b>98,407</b>	<b>1,27,515</b>	<b>1,62,352</b>
Change (%)	23.1	52.6	33.4	46.5	18.6	25.6	23.4	29.6	27.3
Other liabilities	908	1,126	1,366	2,081	2,132	2,392	3,002	3,302	3,797
<b>Total Liabilities</b>	<b>24,507</b>	<b>40,401</b>	<b>56,268</b>	<b>76,580</b>	<b>89,600</b>	<b>1,10,204</b>	<b>1,34,105</b>	<b>1,68,765</b>	<b>2,10,893</b>
<b>Loans</b>	<b>21,638</b>	<b>33,334</b>	<b>47,245</b>	<b>61,808</b>	<b>75,233</b>	<b>90,534</b>	<b>1,14,763</b>	<b>1,44,903</b>	<b>1,84,491</b>
Change (%)	47.2	54.1	41.7	30.8	21.7	20.3	26.8	26.3	27.3
<b>Investments</b>	<b>8</b>	<b>45</b>	<b>45</b>	<b>45</b>	<b>45</b>	<b>675</b>	<b>1,231</b>	<b>1,268</b>	<b>1,306</b>
Change (%)	NM	NM	0.0	0.0	0.0	1,400.4	82.3	3.0	3.0
Other assets	2,861	7,022	8,978	14,727	14,323	18,994	18,112	22,594	25,096
<b>Total Assets</b>	<b>24,507</b>	<b>40,401</b>	<b>56,268</b>	<b>76,580</b>	<b>89,600</b>	<b>1,10,204</b>	<b>1,34,105</b>	<b>1,68,765</b>	<b>2,10,893</b>

E: MOFSL Estimates

## AAVAS Financiers: Financials and valuations

<b>Ratios</b>	<b>(%)</b>								
<b>Y/E March</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>FY21</b>	<b>FY22</b>	<b>FY23</b>	<b>FY24E</b>	<b>FY25E</b>
<b>Spreads Analysis (%)</b>									
Avg Yield on Loan portfolio	14.8	14.2	13.9	13.5	14.1	13.8	13.7	14.0	14.0
Avg. Cost of borrowings	8.8	8.5	8.0	7.9	7.8	6.7	6.6	7.3	7.4
Interest Spread	6.1	5.7	5.9	5.6	6.3	7.1	7.1	6.8	6.7
Net Interest Margin (AUM)	5.8	5.9	6.8	6.3	6.0	6.3	6.2	6.1	6.0
<b>Profitability Ratios (%)</b>									
RoE	15.0	10.6	11.6	12.7	12.9	13.7	14.2	14.9	16.4
RoA	2.8	2.9	3.6	3.8	3.5	3.6	3.5	3.5	3.6
Loans/Equity (x)	3.8	2.8	2.6	2.9	3.1	3.2	3.5	3.8	4.1
Cost/Income	41.4	54.6	41.5	42.0	39.7	42.3	44.9	44.0	41.6
<b>Asset Quality (%)</b>									
Gross NPAs	169	107	158	210	739	904	1,067	1,466	1,989
Gross NPAs to Adv.	0.8	0.3	0.3	0.3	1.0	1.0	0.9	1.0	1.1
Net NPAs	129	83	112	171	538	695	780	1,070	1,432
Net NPAs to Adv.	0.6	0.2	0.2	0.3	0.7	0.8	0.7	0.7	0.8
<b>VALUATION</b>									
Book Value (INR)	97	172	235	268	306	356	414	480	566
<b>Price-BV (x)</b>					<b>4.5</b>	<b>3.9</b>	<b>3.4</b>	<b>2.9</b>	<b>2.5</b>
EPS (INR)	9.9	13.5	22.5	31.8	36.9	45.2	54.4	66.4	85.9
EPS Growth YoY	19	35	67	41	16	23	20	22	29.4
<b>Price-Earnings (x)</b>					<b>37.6</b>	<b>30.7</b>	<b>25.5</b>	<b>20.9</b>	<b>16.1</b>
Dividend per share (INR)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Dividend yield (%)</b>					<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

E: MOFSL Estimates

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

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](http://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://onlinereports.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](http://www.nseindia.com), [www.bseindia.com](http://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 Advisors Act (CAP 110) provided to MOCMSPL by Monetary Authority of Singapore. Persons in Singapore should contact MOCMSPL in respect of any matter arising from, or in connection with this report/publication/communication. This report is distributed solely to persons who qualify as "Institutional Investors", of which some of whom may consist of "accredited" institutional investors as defined in section 4A(1) of the Securities and Futures Act, Chapter 289 of Singapore ("the SFA"). Accordingly, if a Singapore person is not or ceases to be such an institutional investor, such Singapore Person must immediately discontinue any use of this Report and inform MOCMSPL.

#### Specific Disclosures

- 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.

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.