

BSE SENSEX	S&P CNX
40,165	11,891
Bloomberg	JSW IN
Equity Shares (m)	1,640
M.Cap.(INRb)/(USDb)	115.3 / 1.6
52-Week Range (INR)	77 / 58
1, 6, 12 Rel. Per (%)	7/-3/-9
12M Avg Val (INR M)	63
Free float (%)	25.1

CMP: INR70

TP: INR76(+8%)

Neutral

Lower fuel cost, higher hydro gen. aid earnings

Visibility on earnings improving; Maintain Neutral

JSW Energy's (JSWE) EBITDA increased 9% YoY to INR9.4b (our estimate: INR9.8b) in 2QFY20, led by lower fuel cost and strong hydro generation, partly offset by the impact from the new CERC norms. PBT grew 21% YoY to INR4.8b on the back of a decline in finance cost (-12% YoY), while adj. PAT was up ~12% YoY to INR3.5b (our estimate: INR3.7b).

- Standalone generation was up ~1% YoY to 2.5BU. Realization was down 12% YoY (-INR0.6/kWh) to INR4.37/kWh. Fuel cost declined ~19% YoY (-INR0.7/kWh) to INR3.12/kWh. In our view, this was driven by some benefit from the lag between the decline in fuel cost and tariff in Ratnagiri Maharashtra PPA. Volumes from Telangana PPA (300MW from 1st July) were low. However, tariff related to the back down has not been recognized.
- Hydro's generation was ~9% higher YoY and helped offset the impact from the new CERC norms. Hydro EBITDA declined 3% YoY to INR4.9b (7% beat).
- EBITDA at JSW Barmer was up 22% YoY to INR2.7b, as the previous year had an impact of INR0.5b related to certain tariff true ups.
- JSWE noted that it is yet to elect for a switch to the new tax regime. However, there are certain benefits, which it expects its subsidiaries to accrue given the lower MAT rate.

1HFY20 performance: Consol. EBITDA increased 7% YoY. PBT/PAT was higher by 23/10% YoY on account of lowering interest costs. Operating cash flows post taxes declined 1% YoY to INR9.6b. Capex was at INR0.6b, while FCF stood at INR9.0b.

Visibility improving, but capital allocation remains the key; Maintain Neutral

- Around 80% of JSWE's 4.4GW capacity is under long-term PPAs and generate predictable cash flows. Another ~7% could soon get tied up under group captive, further de-risking cash flows. Further ~7% is L1 under a 300MW contract of three years. It has also secured short-term contracts for ~300MW open capacity at attractive prices and is benefiting from the recent fall in global thermal coal prices. As these contracts fructify, it will de-risk earnings.
- Given its strong balance sheet, JSWE can also benefit from the consolidation in the generation sector. JSW noted that it is under discussions for acquiring GMR Kamalanga (1,050MW) and has received CoC approval for Ind Barath Utkal (700MW). However, successful closure and further details related to these deals are awaited which will determine value creation. Maintain **Neutral** with a target price of INR76.

Financials & Valuations (INR b)

Y/E Mar	2019	2020E	2021E
Net Sales	913.8	876.2	963.0
EBITDA	28.5	30.1	31.2
PAT	7.0	7.4	9.2
EPS (INR)	4.2	4.5	5.6
Gr. (%)	40.2	6.4	24.3
BV/Sh (INR)	72.1	74.2	77.4
RoE (%)	6.1	6.2	7.4
RoCE (%)	7.5	7.7	8.2
P/E (x)	16.6	15.6	12.5
P/BV (x)	1.0	0.9	0.9

Estimate change



TP change



Rating change



Quarterly Performance (Consolidated) – INR million

Y/E March	FY19				FY20				FY19	FY20E	FY20 2QE	vs Est (%)
	1Q	2Q	3Q	4Q	1Q	2Q	3QE	4QE				
Net Sales	23,606	24,308	24,217	19,246	24,122	21,186	21,357	20,954	91,376	87,618	22,887	-7
YoY Change (%)	5.8	18.6	21.5	8.4	2.2	-12.8	-11.8	8.9			-5.8	
Total Expenditure	15,843	15,694	16,830	14,478	16,029	11,838	14,795	14,860	62,845	57,522	13,105	-10
EBITDA	7,762	8,613	7,387	4,768	8,093	9,348	6,562	6,094	28,531	30,097	9,782	-4
Margins (%)	32.9	35.4	30.5	24.8	33.5	44.1	30.7	29.1	31.2	34.3	42.7	
Depreciation	2,899	2,933	2,933	2,872	2,913	2,943	2,951	2,902	11,637	11,709	2,951	0
Interest	3,130	3,083	2,948	2,764	2,698	2,722	2,700	2,684	11,924	10,804	2,700	1
Other Income	673	1,370	701	936	518	1,133	457	292	3,680	2,400	894	27
PBT before EO expense	2,407	3,967	2,208	68	3,000	4,816	1,368	800	8,650	9,984	5,024	-4
Extra-Ord expense	0	0	0	0	0	0	0	0	0	0	0	
PBT	2,407	3,967	2,208	68	3,000	4,816	1,368	800	8,650	9,984	5,024	-4
Tax	236	1,125	638	126	883	1,338	312	63	2,124	2,596	1,278	
Rate (%)	9.8	28.3	28.9	185.6	29.4	27.8	22.8	7.9	24.6	26.0	25.4	
MI and Associates	-121	-317	109	-97	-327	-51	26	418	-426	66	9	
Reported PAT	2,292	3,160	1,461	39	2,444	3,530	1,030	319	6,951	7,323	3,737	-6
Adj PAT	2,292	3,160	1,461	39	2,444	3,530	1,030	319	6,951	7,323	3,737	
YoY Change (%)	5.5	6.4	211.8	-106.1	6.6	11.7	-29.5	723.5	40.2	5.3	18.3	

Takeaways from analyst meet

- **Growth plans:** The company plans to reach ~10GW in the next 3-5 years. It is looking at completing acquisition of Ind Bharat Utkal (700MW) and GMR Kamalanga (1,050MW). Kutehr (240MW) is also expected to get PPA approval soon. JSWE has been building capability within RE and plans to execute 400MW under RE for group captive. It also plans to participate for potential 1,200MW PPA bids from Rajasthan DISCOM through its lignite mines. In terms of returns, the company is focused on earning normative equity returns on these assets (15-15.5%). Buying assets at the bottom quartile of power purchase cost is an important criteria being considered. JSWE believes that there is sufficient balance sheet headroom for the above expansion.
- **Renewables:** JSWE believes that more RE will be added in the coming years. It does not expect a significant increase in thermal capacity from current levels. The company believes that the current bidding environment for RE has become more prudent. It is building capability within RE and has executed 11MW within group. It is planning for 400MW of renewables for group within the next 24-36 months.
- **Ind-Barath Utkal:** The plant has been shut-down for the past 2-3 years. It would take 12-24 months for both the units to operationalize. Expected investment (including own investment for capex) would be at INR30-32.5m/MW. PPA, though, has been in default and the company is under discussion with the TN DISCOM for its renewal. Coal linkage for the plant is from MCL mine, which is 13km away. At current coal prices, fuel cost is INR1.28/kWh.
- **GMR Kamalanga:** FSA is in place with mine 20-30km away. Fuel price is at INR1.55-1.6/kWh. The company is looking to earn normative returns. JSWE is hopeful of concluding the deal this financial year.
- **Barmer:** Rajasthan is expected to invite bids for 1,200MW of PPA in which JSWE is looking to participate with supply from its lignite mines.
- **Hydro (Kutehr project):** Haryana Power Purchase Centre has accepted the offer and filed the petition for approval with the Haryana Electricity Regulatory Commission. Estimated cost of the project is INR27b with timeline of 54months. Levelized tariff would be at INR4.5/kWh. INR2.7b has already been spent.
- **Receivables:** Receivables have increased due to poor financial health of DISCOMs.

Exhibit 1: Generation and PLF

		FY19				FY20		YoY %	QoQ %
		1Q	2Q	3Q	4Q	1Q	2Q		
Ratnagiri	MU	2,032	1,559	1,969	1,793	1,954	1,781	14.2	-8.9
	Deemed PLF	85.0	64.0	83.7	80.0	81.7	73.7		
Vijaynagar	MU	960	905	1,002	649	662	701	-22.5	5.9
	Deemed PLF	55.0	52.0	57.0	37.0	38.2	40.1		
Barmer	MU	1,651	1,531	1,457	1,377	1,379	1,281	-16.3	-7.1
	Deemed PLF	86.0	85.0	79.5	86.0	80.8	60.0		
Hydro	MU	1,443	2,675	689	397	1,868	2,926	9.4	56.6
	Deemed PLF	50.7	94.0	24.2	14.0	66.3	102.7		
Total		6,086	6,670	5,117	4,216	5,867	6,701	0.5	14.2

Source: MOFSL, Company

Exhibit 2: Key performance parameters

		FY19				FY20		YoY %	QoQ %
		1Q	2Q	3Q	4Q	1Q	2Q		
Standalone									
Units	MU	2,992	2,464	2,971	2,442	2,616	2,482	0.7	-5.1
Realization	INR/kWh	4.38	4.87	5.04	4.55	4.37	4.28	-12.0	-1.9
	Fuel cost	3.51	3.85	3.70	3.53	3.14	3.12	-18.9	-0.5
	Other cost	0.27	0.33	0.29	0.44	0.29	0.37	10.7	26.3
EBITDA	INR/kWh	0.61	0.69	1.05	0.58	0.94	0.80	16.1	-15.3
EBITDA	INR m	1,817	1,690	3,110	1,426	2,459	1,975	16.9	-19.7
Barmer									
Units	MU	1,651	1,531	1,457	1,377	1,379	1,281	-16.3	-7.1
Realization	INR/kWh	3.86	4.18	4.51	4.59	6.26	4.19	0.3	-33.0
EBITDA	INR/kWh	1.61	1.46	1.85	1.70	1.82	2.14	46.2	17.5
EBITDA	INR m	2,650	2,240	2,700	2,340	2,510	2,740	22.3	9.2
Hydro									
Units	MU	1,443	2,675	689	397	1,868	2,926	9.4	56.6
Realization	INR/kWh	2.54	2.03	2.96	3.30	2.09	1.77	-12.5	-15.0
EBITDA	INR/kWh	2.34	1.86	2.41	2.57	1.79	1.66	-11.0	-7.3
EBITDA	INR m	3,370	4,980	1,660	1,020	3,340	4,850	-2.6	45.2
Consolidated									
Realization	INR/kWh	3.88	3.64	4.73	4.56	4.11	3.16	-13.2	-23.1
Fuel (ex-hydro)	INR/kWh	2.99	3.33	3.27	3.12	3.42	2.60	-21.7	-23.8

Source: Company, MOFSL

Exhibit 3: JSWE's portfolio of assets

S.N.	Asset	Location		Fuel	Capacity (MW)	LT. PPA (MW)			Open (MW)	PLF (%)			
		State	Region			free	PPA	Total		FY18	FY19	FY20E	FY21E
1	Vijaynagar	K'taka	SR	Imp. coal	860		316	316	544	53.3	50.5	65.0	70.0
2	Ratnagiri	Maha.	WR	Imp. coal	1,200		873	873	328	64.0	76.3	81.5	85.0
3	RajWest	Raj.	NR	Lignite	1,080		1,080	1,080		72.5	71.0	80.0	80.0
4	Baspa-II	HP	NR	Hydro	300	36	264	300		50.9	50.0	50.0	50.0
5	K. Wangtoo	HP	NR	Hydro	1,000	120	880	1,000		52.2	52.0	51.0	51.0
					4,440	156	3,413	3,569	872	56.1	56.6	62.1	63.9

Source: MOFSL, Company

Exhibit 4: SOTP valuation

	MW	FY19	FY20E	FY21E
NPV of PPAs	3,569		164,565	157,525
Merchant capacity	872		34,860	34,860
Vijaynagar	544			
Ratnagiri	328			
Jaigarh Power Transco		4,300	4,300	4,300
JSW Steel		15,408	15,408	15,408
Total value			219,134	212,093
Less: Net Debt			102,304	87,810
Add: Advance to JSPL			3,310	3,310
Equity value				124,283
No. of shares (mn)				1,640
Value per share (INR/sh)				76

Source: MOFSL, Company

Financials and Valuations

Income Statement							(INR Million)	
Y/E Mar	2014	2015	2016	2017	2018	2019	2020E	2021E
Net Sales	87,054	93,802	98,245	82,634	80,490	91,376	87,618	96,298
Change (%)	-2.6	7.8	4.7	-15.9	-2.6	13.5	-4.1	9.9
EBITDA	32,514	36,234	40,261	33,244	27,625	28,531	30,097	31,184
EBITDA Margin (%)	37.3	38.6	41.0	40.2	34.3	31.2	34.3	32.4
Depreciation	8,100	7,898	8,543	9,692	9,661	11,637	11,709	11,781
EBIT	24,415	28,337	31,719	23,552	17,965	16,894	18,388	19,403
Interest	12,059	11,375	14,981	16,848	14,559	11,924	10,804	9,521
Other Income	2,022	2,301	2,351	2,170	4,650	3,680	2,500	2,460
Extraordinary items	-3,777	-342	1,500	0	-4,179	0	0	0
PBT	10,600	18,921	20,589	8,875	3,876	8,650	10,084	12,342
Tax	2,836	5,150	5,563	2,690	2,532	2,124	2,622	3,086
Tax Rate (%)	26.8	27.2	27.0	30.3	65.3	24.6	26.0	25.0
Min. Int. & Assoc. Share	51	86	129	-65	69	-106	86	86
Reported PAT	7,547	13,495	14,474	6,290	780	6,951	7,397	9,191
Adjusted PAT	11,324	13,837	12,974	6,290	4,959	6,951	7,397	9,191
Change (%)	2.9	22.2	-6.2	-51.5	-21.2	40.2	6.4	24.3

Balance Sheet							(INR Million)	
Y/E Mar	2014	2015	2016	2017	2018	2019	2020E	2021E
Share Capital	16,401	16,401	16,268	16,280	16,401	16,409	16,409	16,409
Reserves	49,311	58,780	80,773	87,405	94,697	101,814	105,254	110,490
Net Worth	65,712	75,180	97,041	103,685	111,097	118,222	121,663	126,898
Debt	114,643	105,127	166,607	158,803	136,452	119,225	108,225	92,225
Deferred Tax	1,933	2,930	4,341	5,801	4,280	4,561	5,368	6,232
Total Capital Employed	182,791	183,784	268,002	268,312	251,789	241,888	235,221	225,406
Gross Fixed Assets	166,247	169,858	204,963	206,625	210,352	211,303	213,105	214,905
Less: Acc Depreciation	30,006	38,047	8,443	18,167	27,977	39,456	51,165	62,946
Net Fixed Assets	136,241	131,810	196,520	188,457	182,376	171,847	161,940	151,959
Capital WIP	6,146	4,536	3,206	5,269	2,935	4,000	3,998	3,998
Investments	2,535	2,327	9,369	13,599	20,782	21,083	21,083	21,083
Current Assets	47,416	55,430	69,834	72,115	54,718	55,933	58,777	59,371
Inventory	4,158	5,483	6,358	5,967	5,355	4,547	6,241	6,860
Debtors	11,976	11,723	29,063	21,828	11,512	14,278	14,883	16,357
Cash & Bank	12,016	17,376	4,327	10,032	6,479	5,458	6,002	4,504
Loans & Adv, Others	19,266	20,849	30,086	34,288	31,372	31,650	31,650	31,650
Curr Liabs & Provns	9,653	10,416	17,386	17,577	15,420	17,373	16,975	17,403
Curr. Liabilities	5,449	6,062	16,874	17,015	14,107	16,360	15,961	16,389
Provisions	4,204	4,353	513	562	1,313	1,014	1,014	1,014
Net Current Assets	37,763	45,014	52,448	54,538	39,298	38,560	41,802	41,968
Total Assets	182,791	183,784	268,001	268,312	251,789	241,888	235,221	225,406

Financials and Valuations

Ratios

Y/E Mar	2014	2015	2016	2017	2018	2019	2020E	2021E
Basic (INR)								
EPS	6.9	8.4	7.9	3.8	3.0	4.2	4.5	5.6
Cash EPS	11.8	13.3	13.1	9.7	8.9	11.3	11.6	12.8
Book Value	40.1	45.8	59.2	63.2	67.7	72.1	74.2	77.4
DPS	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Payout (incl. Div. Tax.)	29.0	23.7	25.3	52.1	66.1	47.2	44.3	35.7
Valuation(x)								
P/E	8.6	14.1	8.8	18.3	23.2	16.6	15.6	12.5
Cash P/E	5.0	9.0	5.3	7.2	7.9	6.2	6.0	5.5
Price / Book Value	1.5	2.6	1.2	1.1	1.0	1.0	0.9	0.9
EV/Sales	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EV/EBITDA	6.1	7.8	6.9	7.9	8.9	8.0	7.2	6.5
Dividend Yield (%)	3.4	1.7	2.9	2.8	2.8	2.8	2.8	2.8
Profitability Ratios (%)								
RoE	17.7	19.6	15.1	6.3	4.6	6.1	6.2	7.4
RoCE	12.8	13.9	12.6	8.6	7.7	7.5	7.7	8.2
Turnover Ratios (%)								
Asset Turnover (x)	0.5	0.5	0.4	0.3	0.3	0.4	0.4	0.4
Debtors (No. of Days)	50.2	45.6	108.0	96.4	52.2	57.0	62.0	62.0
Inventory (No. of Days)	17.4	21.3	23.6	26.4	24.3	18.2	26.0	26.0
Leverage Ratios (%)								
Net Debt/Equity (x)	1.5	1.2	1.7	1.4	1.2	1.0	0.8	0.7

Cash Flow Statement

(INR Million)

Y/E Mar	2014	2015	2016	2017	2018	2019	2020E	2021E
Adjusted EBITDA	32,514	36,234	40,261	33,244	27,625	28,531	30,097	31,184
Non cash opr. exp (inc)	-2,341	861	3,006	740	1,472	1,386	0	0
(Inc)/Dec in Wkg. Cap.	-4,894	1,322	-4,902	6,929	11,796	-3,266	-2,698	-1,665
Tax Paid	-2,588	-4,489	-2,989	-2,387	-1,556	-2,007	-1,815	-2,222
Other operating activities	0	0	0	0	0	0	0	0
CF from Op. Activity	22,691	33,929	35,376	38,526	39,338	24,644	25,583	27,298
(Inc)/Dec in FA & CWIP	-4,940	-6,772	-349	-3,715	-1,208	-2,335	-1,800	-1,800
Free cash flows	17,751	27,156	35,027	34,811	38,131	22,310	23,783	25,498
(Pur)/Sale of Invt	0	0	0	0	0	0	0	0
Others	2,030	1,475	-31,852	-3,156	-2,008	1,844	2,500	2,460
CF from Inv. Activity	-2,910	-5,297	-32,201	-6,871	-3,216	-491	700	660
Inc/(Dec) in Net Worth	0	0	0	62	733	51	0	0
Inc / (Dec) in Debt	-2,701	-8,124	2,768	-5,289	-24,906	-13,503	-11,000	-16,000
Interest Paid	-12,052	-11,328	-14,891	-16,796	-14,318	-11,453	-10,804	-9,521
Divd Paid (incl Tax) & Others	-3,838	-3,820	-4,102	-3,927	-1,185	-43	-3,936	-3,936
CF from Fin. Activity	-18,591	-23,272	-16,224	-25,949	-39,676	-24,948	-25,740	-29,457
Inc/(Dec) in Cash	1,191	5,359	-13,049	5,706	-3,553	-794	544	-1,499
Add: Opening Balance	10,825	12,016	17,376	4,327	10,032	6,479	5,458	6,002
Closing Balance	12,016	17,376	4,327	10,033	6,479	5,685	6,002	4,504

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, Investment Advisory Services, Depository participant services & distribution of various financial products. MOFSL is a subsidiary company of Passionate Investment Management Pvt. Ltd.. (PIMPL). MOFSL is a listed public company, the details in respect of which are available on www.motilaloswal.com. MOFSL (erstwhile Motilal Oswal Securities Limited - MOSL) is registered with the Securities & Exchange Board of India (SEBI) and is a registered Trading Member with National Stock Exchange of India Ltd. (NSE) and Bombay Stock Exchange Limited (BSE), Multi Commodity Exchange of India Limited (MCX) and National Commodity & Derivatives Exchange Limited (NCDEX) for its stock broking activities & is Depository participant with Central Depository Services Limited (CDSL) National Securities Depository Limited (NSDL), NERL, COMRIS and CCRL and is member of Association of Mutual Funds of India (AMFI) for distribution of financial products and Insurance Regulatory & Development Authority of India (IRDA) as Corporate Agent for insurance products. Details of associate entities of Motilal Oswal Financial Services Limited are available on the website at <http://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, 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 MOSL, 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 MOSL, Research Analyst and/or his relatives do not have actual/beneficial ownership of 1% or more securities in the subject company
- 3 MOSL, Research Analyst and/or his relatives have not received compensation/other benefits from the subject company in the past 12 months
- 4 MOSL, 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 MOSL has not acted as a manager or co-manager of public offering of securities of the subject company in past 12 months
- 7 MOSL has not received compensation for investment banking/ merchant banking/brokerage services from the subject company in the past 12 months
- 8 MOSL has not received compensation for other than investment banking/merchant banking/brokerage services from the subject company in the past 12 months
- 9 MOSL has not received any compensation or other benefits from third party in connection with the research report
- 10 MOSL 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
- received compensation/other benefits from the subject company in the past 12 months
- 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.

The associates of MOFSL has not received any compensation or other benefits from third party in connection with the research report

Above disclosures include beneficial holdings lying in demat account of MOFSL which are opened for proprietary investments only. While calculating beneficial holdings, It does not consider demat accounts which are opened in name of MOFSL for other purposes (i.e holding client securities, collaterals, error trades etc.). MOFSL also earns DP income from clients which are not considered in above disclosures.

Analyst Certification

The views expressed in this research report accurately reflect the personal views of the analyst(s) about the subject securities or issues, and no part of the compensation of the research analyst(s) was, is, or will be directly or indirectly related to the specific recommendations and views expressed by research analyst(s) in this report.

Terms & Conditions:

This report has been prepared by MOFSL and is meant for sole use by the recipient and not for circulation. The report and information contained herein is strictly confidential and may not be altered in any way, transmitted to, copied or distributed, in part or in whole, to any other person or to the media or reproduced in any form, without prior written consent of MOFSL. The report is based on the facts, figures and information that are considered true, correct, reliable and accurate. The intent of this report is not recommendatory in nature. The information is obtained from publicly available media or other sources believed to be reliable. Such information has not been independently verified and no guaranty, representation of warranty, express or implied, is made as to its accuracy, completeness or correctness. All such information and opinions are subject to change without notice. The report is prepared solely for informational purpose and does not constitute an offer document or solicitation of offer to buy or sell or subscribe for securities or other financial instruments for the clients. Though disseminated to all the customers simultaneously, not all customers may receive this report at the same time. MOFSL will not treat recipients as customers by virtue of their receiving this report.

Disclaimer:

The report and information contained herein is strictly confidential and meant solely for the selected recipient and may not be altered in any way, transmitted to, copied or distributed, in part or in whole, to any other person or to the media or reproduced in any form, without prior written consent. This report and information herein is solely for informational purpose and may not be used or considered as an offer document or solicitation of offer to buy or sell or subscribe for securities or other financial instruments. Nothing in this report constitutes investment, legal, accounting and tax advice or a representation that any investment or strategy is suitable or appropriate to your specific circumstances. The securities discussed and opinions expressed in this report may not be suitable for all investors, who must make their own investment decisions, based on their own investment objectives, financial positions and needs of specific recipient. This may not be taken in substitution for the exercise of independent judgment by any recipient. Each recipient of this document should make such investigations as it deems necessary to arrive at an independent evaluation of an investment in the securities of companies referred to in this document (including the merits and risks involved), and should consult its own advisors to determine the merits and risks of such an investment. The investment discussed or views expressed may not be suitable for all investors. Certain transactions -including those involving futures, options, another derivative products as well as non-investment grade securities - involve substantial risk and are not suitable for all investors. No representation or warranty, express or implied, is made as to the accuracy, completeness or fairness of the information and opinions contained in this document. The Disclosures of Interest Statement incorporated in this document is provided solely to enhance the transparency and should not be treated as endorsement of the views expressed in the report. This information is subject to change without any prior notice. The Company reserves the right to make modifications and alternations to this statement as may be required from time to time without any prior approval. MOFSL, its associates, their directors and the employees may from time to time, effect or have effected an own account transaction in, or deal as principal or agent in or for the securities mentioned in this document. They may perform or seek to perform investment banking or other services for, or solicit investment banking or other business from, any company referred to in this report. Each of these entities functions as a separate, distinct and independent of each other. The recipient should take this into account before interpreting the document. This report has been prepared on the basis of information that is already available in publicly accessible media or developed through analysis of MOFSL. The views expressed are those of the analyst, and the Company may or may not subscribe to all the views expressed therein. This document is being supplied to you solely for your information and may not be reproduced, redistributed or passed on, directly or indirectly, to any other person or published, copied, in whole or in part, for any purpose. This report is not directed or intended for distribution to, or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction, where such distribution, publication, availability or use would be contrary to law, regulation or which would subject MOFSL to any registration or licensing requirement within such jurisdiction. The securities described herein may or may not be eligible for sale in all jurisdictions or to certain category of investors. Persons in whose possession this document may come are required to inform themselves of and to observe such restriction. Neither the Firm, not its directors, employees, agents or representatives shall be liable for any damages whether direct or indirect, incidental, special or consequential including lost revenue or lost profits that may arise from or in connection with the use of the information. The person accessing this information specifically agrees to exempt MOFSL or any of its affiliates or employees from, any and all responsibility/liability arising from such misuse and agrees not to hold MOFSL or any of its affiliates or employees responsible for any such misuse and further agrees to hold MOFSL or any of its affiliates or employees free and harmless from all losses, costs, damages, expenses that may be suffered by the person accessing this information due to any errors and delays.

Registered Office Address: Motilal Oswal Tower, Rahimtullah Sayani Road, Opposite Parel ST Depot, Prabhadevi, Mumbai-400025; Tel No.: 022 71934200/ 022-71934263; Website www.motilaloswal.com.CIN no.: L67190MH2005PLC153397. Correspondence Office Address: Palm Spring Centre, 2nd Floor, Palm Court Complex, New Link Road, Malad(West), Mumbai- 400 064. Tel No: 022 7188 1000.

Registration Nos.: Motilal Oswal Financial Services Limited (MOFSL)*: INZ000158836(BSE/NSE/MCX/NCDEX); CDSL and NSDL: IN-DP-16-2015; Research Analyst: INH000000412. AMFI: ARN - 146822; Investment Adviser: INA000007100; Insurance Corporate Agent: CA0579;PMS:INP000006712. Motilal Oswal Asset Management Company Ltd. (MOAMC): PMS (Registration No.: INP000000670); PMS and Mutual Funds are offered through MOAMC which is group company of MOFSL. Motilal Oswal Wealth Management Ltd. (MOWML): PMS (Registration No.: INP000004409) is offered through MOWML, which is a group company of MOFSL. Motilal Oswal Financial Services Limited is a distributor of Mutual Funds, PMS, Fixed Deposit, Bond, NCDs, Insurance Products and IPOs. Real Estate is offered through Motilal Oswal Real Estate Investment Advisors II Pvt. Ltd. which is a group company of MOFSL. Private Equity is offered through Motilal Oswal Private Equity Investment Advisors Pvt. Ltd which is a group company of MOFSL. Research & Advisory services is backed by proper research. Please read the Risk Disclosure Document prescribed by the Stock Exchanges carefully before investing. There is no assurance or guarantee of the returns. Investment in securities market is subject to market risk, read all the related documents carefully before investing. Details of Compliance Officer: Name: Neeraj Agarwal, Email ID: na@motilaloswal.com, Contact No.:022-71881085.

* MOSL has been amalgamated with Motilal Oswal Financial Services Limited (MOFSL) w.e.f August 21, 2018 pursuant to order dated July 30, 2018 issued by Hon'ble National Company Law Tribunal, Mumbai Bench.