

Petronet LNG

BSE SENSEX	S&P CNX
37,393	11,257
Bloomberg	PLNG IN
Equity Shares (m)	1,500
M.Cap.(INRb)/(USD\$b)	336.8 / 4.8
52-Week Range (INR)	255 / 197
1, 6, 12 Rel. Per (%)	-2/-1/5
12M Avg Val (INR M)	733
Free float (%)	50.0

CMP: INR224
TP: INR300 (+34%)
Buy

LNG spot prices hit hard, EBITDA miss on inventory markdown

- 4QFY19 PAT missed est. by 21% at INR4.4b (-16% YoY, -22% QoQ), while EBITDA too missed est. by ~27% at INR6.3b (-24% YoY, -26% QoQ), led by inventory markdown of INR1,190m.
- Spot LNG price for PLNG declined to USD4.3/mmbtu from USD8.3/mmbtu leading to inventory loss.
- 4QFY19 volumes were ~2% lower than est. at 205.1tbu (-4% YoY, +1% QoQ), while FY19 volumes were at ~844tbu (v/s 847tbu in FY18). Volume loss was a seasonal effect due to shutdown of (a) refineries at Panipat and Koyali, (b) fertilizer plants.
- For the quarter, utilization at Dahej stood at 104% (108% in FY19; flat YoY in FY18); while utilization at Kochi increased to 11% (10% in FY19; 12% in FY18).
- Re-gas tariff charges for the quarter were ~USD0.7/mmbtu at Dahej and ~USD1.4/mmbtu at Kochi.
- Company plans to set up two more tanks (in addition to six currently) at Dahej, increasing throughput to ~19.5mtpa over the next 2-3 years.
- Capex for the year stood at INR4.5b with guidance of INR6b for FY20.

Financials & Valuations(INR b)

Y/E March	2019	2020E	2021E
Sales	384.0	426.3	523.2
EBITDA	32.9	41.2	48.8
Adj. PAT	21.6	27.7	32.6
Adj. EPS (INR)	14.4	18.5	21.7
EPS Gr. (%)	3.7	28.5	17.6
BV/Sh.(INR)	67.1	72.6	79.2
RoE (%)	21.8	26.4	28.6
RoCE (%)	21.5	26.3	28.5
Payout (%)	68.0	70.0	70.0

Valuation

P/E (x)	15.6	12.1	10.3
P/BV (x)	3.3	3.1	2.8
EV/EBITDA (x)	9.3	7.3	5.9
Div. Yield (%)	4.0	4.8	5.6

Estimate change

TP change

Rating change


Valuation and view

- For FY19, EBITDA came in at INR32.9b (flat YoY v/s INR33.1b in FY18), while PAT stood at INR21.6b (+3.7% YoY v/s INR20.8b in FY18) due to higher other income.
- We assume total volume growth of ~7%/~9% in FY20/21 with competition concerns having subsided and delays in ramp-up of domestic gas production.
- The stock trades at 12.1x FY20E EPS of INR18.5. Modeling in capex guidance of INR6b for FY20 in line with the company's guidance, we value PLNG on DCF (WACC: 12.0%, TGR: 3%) to arrive at fair value of INR300 (from INR315). Reiterate **Buy**, with an implied upside of ~34% to the current market price.

Standalone - Quarterly Earning Model

Y/E March	(INR Million)											
	FY18				FY19				FY18	FY19	FY19	Var. v/s
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q		4QE	Est.	
Net Sales	64,351	77,702	77,571	86,362	91,692	1,07,453	1,00,977	83,832	3,05,986	3,83,954	99,609	-16%
YoY Change (%)	20.6	17.5	23.1	35.7	42.5	38.3	30.2	-2.9	24.3	25.5	15.3	
Total Expenditure	56,909	68,715	69,097	78,142	82,347	98,616	92,497	77,560	2,72,863	3,51,020	91,050	-15%
EBITDA	7,442	8,987	8,474	8,221	9,344	8,837	8,481	6,272	33,124	32,935	8,558	-27%
Margins (%)	11.6	11.6	10.9	9.5	10.2	8.2	8.4	7.5	10.8	8.6	8.6	
Depreciation	1,027	1,039	1,039	1,013	1,022	1,037	1,037	1,016	4,117	4,112	1,070	-5%
Interest	465	465	367	335	300	249	215	225	1,630	989	196	15%
Other Income	707	1,019	414	1,034	990	1,115	884	1,514	3,174	4,503	1,037	46%
PBT	6,658	8,504	7,482	7,908	9,012	8,666	8,113	6,545	30,551	32,336	8,329	-21%
Tax	2,282	2,616	2,194	2,681	3,142	3,037	2,460	2,143	9,773	10,782	2,748	-22%
Rate (%)	34.3	30.8	29.3	33.9	34.9	35.0	30.3	32.7	32.0	33.3	33.0	
Adj PAT	4,376	5,888	5,288	5,227	5,870	5,629	5,653	4,402	20,778	21,554	5,580	-21%
YoY Change (%)	15.8	28.1	33.0	11.0	34.1	-4.4	6.9	-15.8	21.8	3.7	6.8	
Margins (%)	6.8	7.6	6.8	6.1	6.4	5.2	5.6	5.3	6.8	5.6	5.6	
Key Assumptions												
Total Volumes (Tbtu)	191.7	220.0	223.0	212.7	220.2	217.0	202.0	205.1	847.4	844.3	210.0	-2%

E: MOFSL Estimates

Swarnendu Bhushan- Research Analyst (Swarnendu.Bhushan@MotilalOswal.com); +91 22 6129 1529

Sarfraz Bhimani - Research Analyst (Sarfraz.Bhimani@MotilalOswal.com); +91 22 6129 1566

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, Bloomberg, Thomson Reuters, Factset and S&P Capital.

Key Highlights

- Throughput volumes for the quarter at Dahej were ~198tbtu (820tbtu for FY19) and Kochi was ~7.1tbtu (24tbtu for FY19).
- Long-term contract at Dahej declined to ~100tbtu (v/s 115tbtu in 4QFY18 and 109tbtu in 3QFY19), while spot/short-term volumes increased ~3tbtu QoQ to ~7tbtu (flat YoY).
- Long-term contract at Kochi increased to ~7tbtu (v/s 5.8tbtu in 4QFY18 and 5tbtu in 3QFY19), while spot/short-term volumes increased ~0.1tbtu QoQ (flat YoY).
- Utilization at Dahej stood at 104% (v/s 109% in 4QFY18 and 104% in 3QFY19), and at 108% in FY19 (flat YoY).
- Utilization at Kochi increased to 11% (v/s 9% in 4QFY18 and 8% in 3QFY19), and at ~10% in FY19 (down from 12% in FY18).
- Company proposed a dividend of INR4.5/share for the quarter, totaling to INR9/share for FY19 (~70% payout).

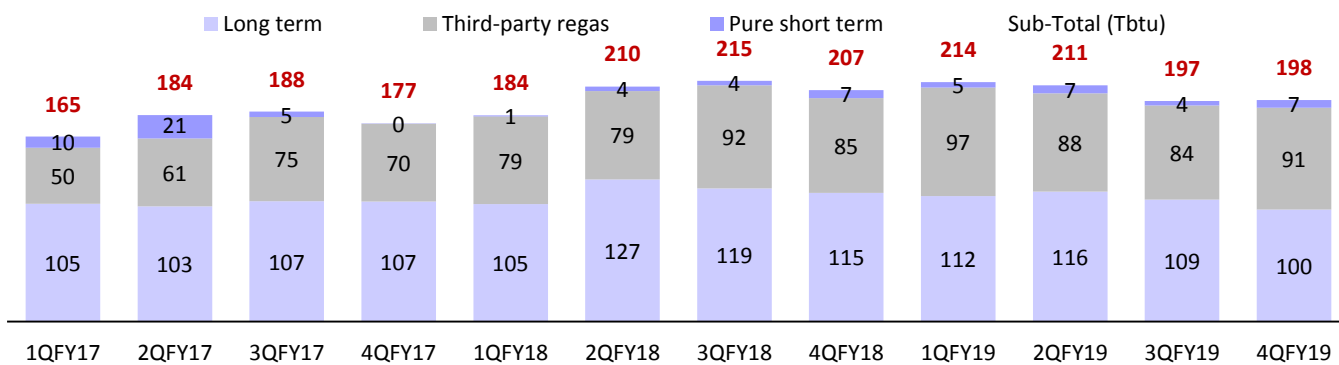
Dahej and Kochi for FY20/21

- Incremental gas demand in India will be a function of liquid v/s gas economics; take-or-pay contracts offer earnings certainty for PLNG.
- Dahej continues to enjoy >100% utilization with ~16mmt (RasGas: 8.5, others: 7.25) long-term take-or-pay contracts.
- The company doesn't have any "take-or-pay" contract tied for the additional 2.5mtpa capacity expected to be commissioned in the month of June'19.
- An increase in short-term contracts could nigggle in inventory gain/loss going forward, in line with global spot price behavior.
- Kochi-Mangalore pipeline is expected to be completed by June-end, post which we expect ~20% utilization at Kochi in FY21, with ~40% utilization by FY22.

Valuation and view

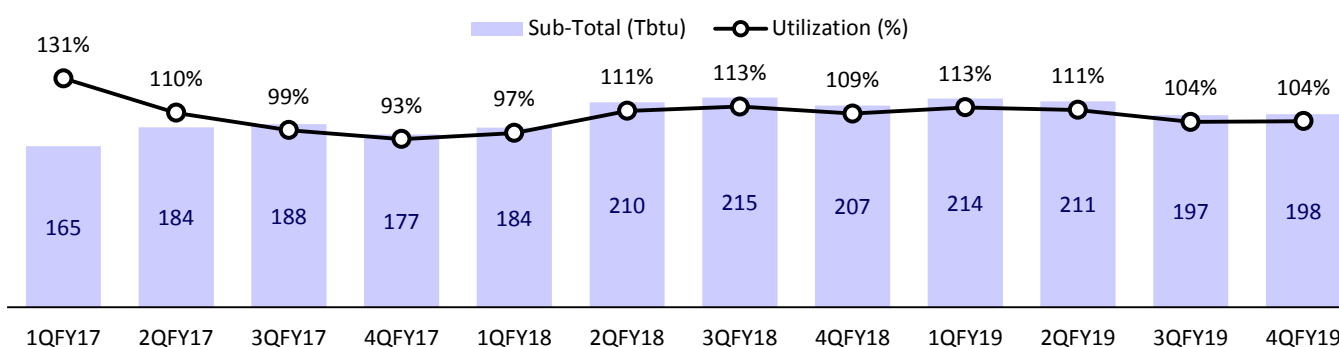
- Competition remains weak for PLNG; with continued delays in upcoming H-Energy's 4mmtpa Jaigarh FSRU and lack of volumes at GSPC-Adani's 5mmtpa Mundra LNG terminal.
- Domestic gas production failed to ramp up, with actual production over the past one year ~7% lower on an average than the estimates submitted to the ministry.
- Factoring in aforementioned volume positives, we expect total volume growth of ~7% at 17.8mmtpa in FY20 and ~9% at 19.5mmtpa in FY21 with improved utilization at both Dahej (for additional 2.5mmtpa) and Kochi. We expect EBITDA growth of ~25%/18% in FY20/21.
- Company guidance for capex stands at INR6b in FY20. Company expects capex of ~INR13b with introduction of a third jetty at Dahej (over next 3-4 years) and ~INR20b capex for setting up 2.5mtpa FSRu in Sri Lanka.
- We model in capex of INR6b (up from INR5b) for FY20 and INR5b (up from INR2.5b) in FY21.
- The stock trades at 12.1x FY20E EPS of INR18.5. We value PLNG on DCF (WACC: 12.0%, TGR: 3%) to arrive at a fair value of INR300, implying an upside of 34%. Reiterate **Buy**.

Exhibit 1: Dahej total volume at 198tbtu, -4% YoY, +1% QoQ



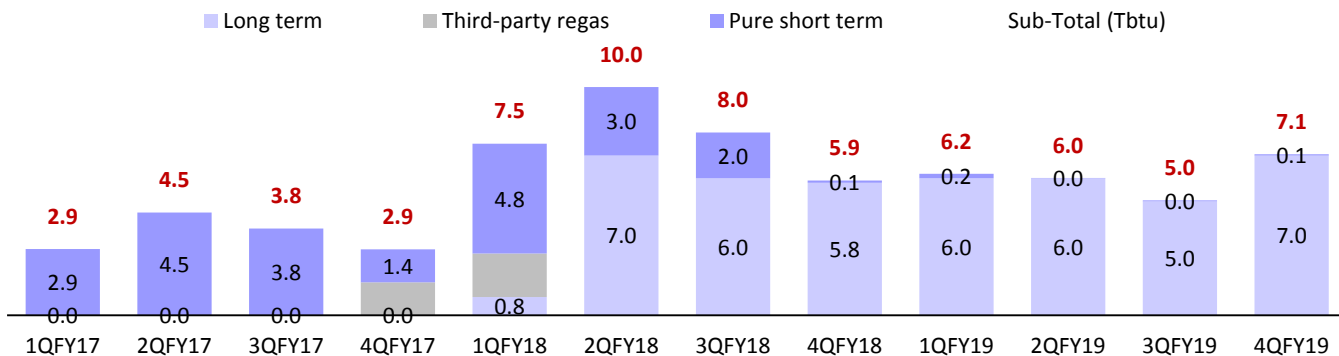
Source: Company, MOFSL

Exhibit 2: Dahej terminal utilization at 104% in 4QFY19



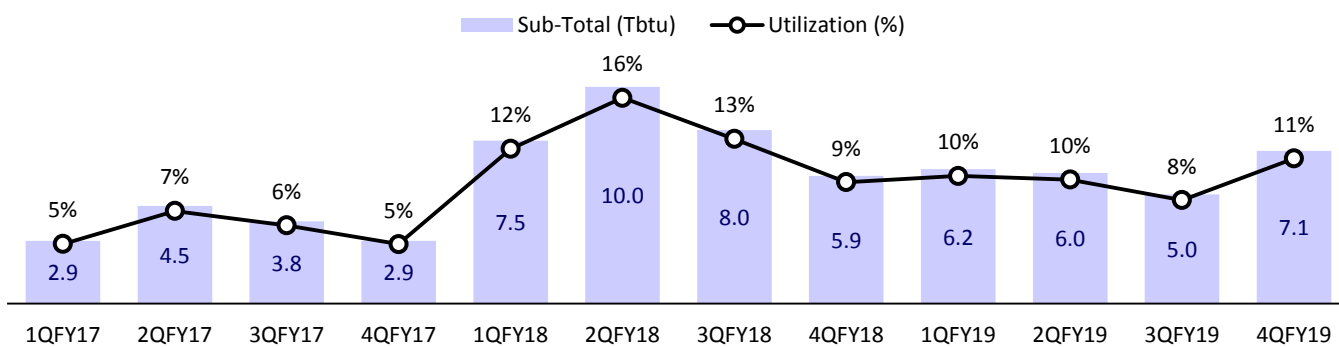
Source: Company, MOFSL

Exhibit 3: Kochi volume at 7.1tbtu, +19% YoY, +40% QoQ



Source: Company, MOFSL

Exhibit 4: Kochi terminal utilization at 11% in 4QFY19



Source: Company, MOFSL

Exhibit 5: Petronet LNG - Key earnings model assumptions

Y/E March	FY14	FY15	FY16	FY17	FY18	FY19	FY20E	FY21E
Key assumptions								
Exchange Rate (INR/USD)	60.6	61.4	65.5	67.1	64.4	70.0	71.8	73.6
Brent (USD/bbl)	107.6	85.5	47.5	49.0	57.6	70.1	70.0	70.0
Capacity (mmt)	15.0	15.0	15.0	18.3	20.0	20.0	22.5	22.5
Dahej terminal	10.0	10.0	10.0	13.3	15.0	15.0	17.5	17.5
Kochi terminal	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Capacity utilization (%)	65%	69%	77%	79%	84%	84%	79%	87%
Dahej terminal	97%	103%	112%	106%	108%	108%	96%	100%
Kochi terminal	2%	2%	6%	6%	12%	10%	20%	40%
Volume sold (mmtpa)	9.8	10.4	11.5	14.4	16.8	16.7	17.8	19.5
Dahej terminal	9.7	10.3	11.2	14.1	16.1	16.2	16.8	17.5
Kochi terminal	0.1	0.1	0.3	0.3	0.6	0.5	1.0	2.0

Source: Company, MOFSL

Exhibit 6: DCF fair value of INR300 (WACC: 12.0%, TGR: 3%)

PLNG - DCF Valuation	FY18	FY19	FY20E	FY21E	FY22E	FY23E	FY24E	FY25E
PLNG EBITDA (INRm)	33,124	32,935	41,165	48,755	51,366	55,603	55,466	57,316
Depreciation	4,117	4,112	4,260	4,502	4,697	4,828	4,904	4,955
EBIT	29,007	28,822	36,904	44,252	46,669	50,775	50,562	52,361
Tax rate (%)	32	33	33	33	33	33	33	33
Capital expenditure	1,899	1,746	6,000	4,000	3,000	1,000	1,000	1,000
Change in WC	-10,407	12,731	-507	-1,160	-500	-730	0	-250
FCFF (INRm)	32,352	8,847	23,448	31,179	33,325	38,425	37,629	39,129
PV(FCFF)			23,448	27,833	26,557	27,336	23,897	22,184

Source: Company, MOFSL

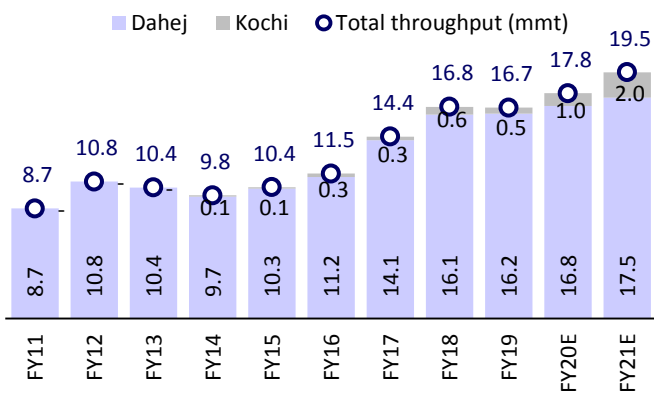
Exhibit 7: DCF valuation - Valued at FY12

Terminal cash flow (INRm)	39,129
Terminal growth rate	3.0%
Terminal value (INRm)	4,46,849
PV (Terminal Value)	2,53,334
PV	1,51,255
Enterprise value (INRm)	4,04,589
Net debt (INRm)	-45,561
Equity value (INRm)	4,50,150
Target price (INR)	300

Source: Company, MOFSL

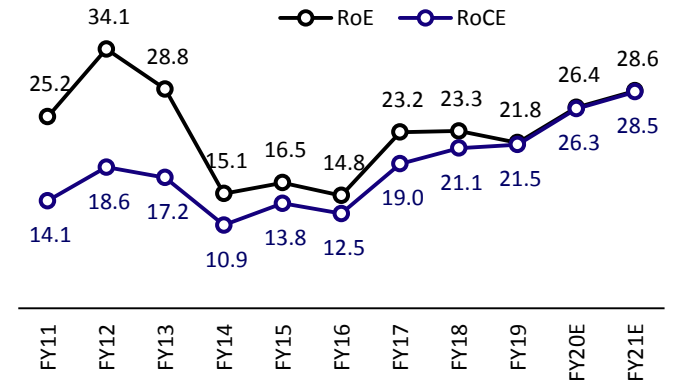
Story in charts

Exhibit 8: Volume growth led by capacity ramp-up



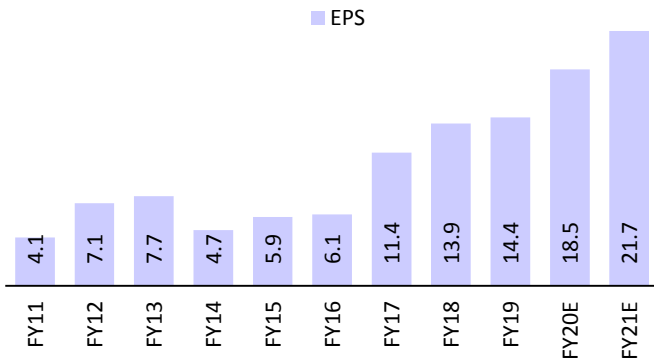
Source: Company, MOFSL

Exhibit 9: Stable return ratios



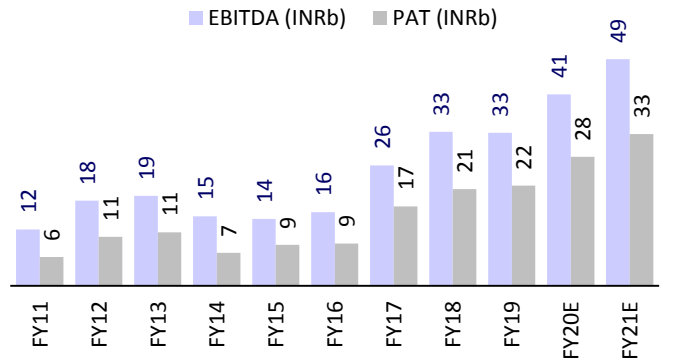
Source: Company, MOFSL

Exhibit 10: Strong EPS growth (INR)



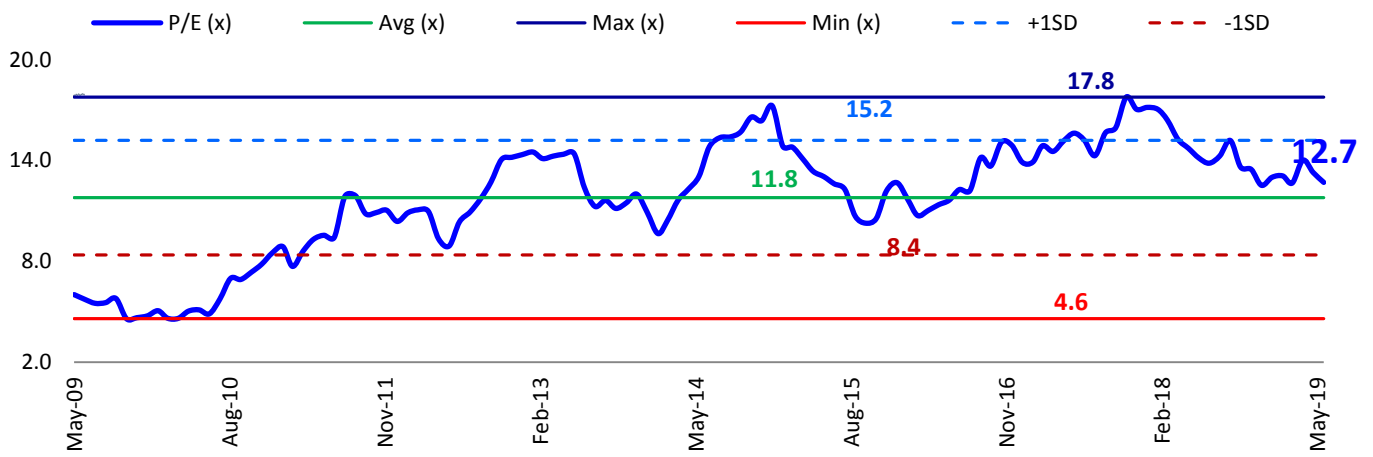
Source: Company, MOFSL

Exhibit 11: EBITDA/PAT to grow



Source: Company, MOFSL

Exhibit 12: 1-year forward P/E



Source: Company, MOFSL

Financials and Valuations

Standalone - Income Statement

(INR Million)

Y/E March	FY14	FY15	FY16	FY17	FY18	FY19	FY20E	FY21E
Total Income from Operations	3,77,476	3,95,010	2,71,334	2,46,160	3,05,986	3,83,954	4,26,312	5,23,235
Change (%)	20.0	4.6	-31.3	-9.3	24.3	25.5	11.0	22.7
EBITDA	14,984	14,390	15,863	25,923	33,124	32,935	41,165	48,755
Margin (%)	4.0	3.6	5.8	10.5	10.8	8.6	9.7	9.3
Depreciation	3,081	3,154	3,216	3,691	4,117	4,112	4,260	4,502
EBIT	11,903	11,236	12,647	22,232	29,007	28,822	36,904	44,252
Int. and Finance Charges	2,196	2,935	2,388	2,097	1,630	989	100	80
Other Income	838	1,548	1,733	3,466	3,174	4,503	4,615	4,681
PBT bef. EO Exp.	10,545	9,849	11,992	23,602	30,551	32,336	41,420	48,853
PBT after EO Exp.	10,545	9,849	11,992	23,602	30,551	32,336	41,420	48,853
Total Tax	3,426	1,024	2,860	6,545	9,773	10,782	13,720	16,268
Tax Rate (%)	32.5	10.4	23.8	27.7	32.0	33.3	33.1	33.3
Reported PAT	7,119	8,825	9,133	17,057	20,779	21,554	27,700	32,585
Adjusted PAT	7,119	8,825	9,133	17,057	20,779	21,554	27,700	32,585
Change (%)	-38.1	24.0	3.5	86.8	21.8	3.7	28.5	17.6
Margin (%)	1.9	2.2	3.4	6.9	6.8	5.6	6.5	6.2

Standalone - Balance Sheet

(INR Million)

Y/E March	FY14	FY15	FY16	FY17	FY18	FY19	FY20E	FY21E
Equity Share Capital	7,500	7,500	7,500	7,500	15,000	15,000	15,000	15,000
Total Reserves	42,361	49,386	58,640	73,439	82,205	85,661	93,971	1,03,746
Net Worth	49,861	56,886	66,140	80,939	97,205	1,00,661	1,08,971	1,18,746
Total Loans	32,669	26,541	26,146	22,180	7,334	1,012	810	648
Deferred Tax Liabilities	5,530	7,270	5,886	7,302	10,482	13,360	13,360	13,360
Capital Employed	88,061	90,697	98,171	1,10,421	1,15,021	1,15,033	1,23,141	1,32,754
Gross Block	77,946	87,869	71,321	91,134	91,316	91,783	97,569	1,02,526
Less: Accum. Deprn.	15,295	18,443	3,216	6,903	11,020	15,132	19,393	23,895
Net Fixed Assets	62,650	69,426	68,105	84,230	80,296	76,651	78,176	78,631
Capital WIP	8,799	7,469	15,505	486	2,203	3,482	3,696	2,739
Total Investments	1,399	900	900	29,351	41,223	9,893	9,893	9,893
Curr. Assets, Loans&Adv.	46,278	33,441	39,751	24,224	32,815	60,823	71,142	90,299
Inventory	9,557	8,826	2,461	5,405	4,911	5,694	6,323	7,760
Account Receivables	20,157	13,428	9,885	12,108	16,505	14,335	15,917	19,536
Cash and Bank Balance	12,327	3,621	21,829	3,273	8,625	29,603	36,478	47,754
Loans and Advances	4,237	7,566	5,576	3,438	2,774	11,190	12,425	15,249
Curr. Liability & Prov.	31,066	20,538	26,090	27,870	41,517	35,815	39,766	48,807
Account Payables	20,482	5,969	8,695	9,952	15,699	12,952	14,381	17,651
Other Current Liabilities	7,855	12,584	17,241	17,758	25,619	22,585	25,076	30,777
Provisions	2,729	1,985	155	160	199	278	309	379
Net Current Assets	15,212	12,903	13,661	-3,646	-8,702	25,007	31,375	41,491
Appl. of Funds	88,061	90,697	98,171	1,10,421	1,15,021	1,15,033	1,23,141	1,32,754

E: MOFSL Estimates

Financials and Valuations

Ratios

Y/E March	FY14	FY15	FY16	FY17	FY18	FY19	FY20E	FY21E
EPS	4.7	5.9	6.1	11.4	13.9	14.4	18.5	21.7
Cash EPS	6.8	8.0	8.2	13.8	16.6	17.1	21.3	24.7
BV/Share	33.2	37.9	44.1	54.0	64.8	67.1	72.6	79.2
DPS	1.0	1.0	1.3	2.5	4.5	9.0	10.7	12.6
Payout (%)	24.7	20.4	23.9	25.7	38.0	68.0	70.0	70.0
Valuation (x)								
P/E		38.1	36.8	19.7	16.2	15.6	12.1	10.3
Cash P/E		28.1	27.2	16.2	13.5	13.1	10.5	9.1
P/BV		5.9	5.1	4.2	3.5	3.3	3.1	2.8
EV/Sales		0.9	1.3	1.4	1.1	0.8	0.7	0.6
EV/EBITDA		25.0	21.5	13.7	10.1	9.3	7.3	5.9
Dividend Yield (%)	0.4	0.4	0.6	1.1	2.0	4.0	4.8	5.6
FCF per share	-0.6	-0.9	12.3	10.7	24.4	9.4	17.6	22.8
Return Ratios (%)								
RoE	15.1	16.5	14.8	23.2	23.3	21.8	26.4	28.6
RoCE	10.9	13.8	12.5	19.0	21.1	21.5	26.3	28.5
RoIC	18.5	14.0	13.9	23.4	28.1	28.5	34.0	40.6
Working Capital Ratios								
Fixed Asset Turnover (x)	4.8	4.5	3.8	2.7	3.4	4.2	4.4	5.1
Asset Turnover (x)	4.3	4.4	2.8	2.2	2.7	3.3	3.5	3.9
Inventory (Days)	9	8	3	8	6	5	5	5
Debtor (Days)	19	12	13	18	20	14	14	14
Creditor (Days)	20	6	12	15	19	12	12	12
Leverage Ratio (x)								
Current Ratio	1.5	1.6	1.5	0.9	0.8	1.7	1.8	1.9
Interest Cover Ratio	5.4	3.8	5.3	10.6	17.8	29.1	368.4	552.1
Net Debt/Equity	0.4	0.4	0.1	-0.1	-0.4	-0.4	-0.4	-0.5

Standalone - Cash Flow Statement

(INR Million)

Y/E March	FY14	FY15	FY16	FY17	FY18	FY19	FY20E	FY21E
OP/(Loss) before Tax	10,545	9,849	11,992	23,602	30,551	32,336	41,420	48,853
Depreciation	3,081	3,154	3,216	3,691	4,117	4,112	4,260	4,502
Deferred tax	1,620	1,740	-1,384	1,416	3,180	2,879	0	0
Direct Taxes Paid	-3,426	-1,024	-2,860	-6,545	-9,773	-10,782	-13,720	-16,268
(Inc)/Dec in Wkg. Capital	-5,104	-6,397	17,450	-1,248	10,407	-12,731	507	1,160
CF from Op. Activity	6,716	7,322	28,414	20,915	38,482	15,814	32,467	38,247
(Inc)/Dec in FA & CWIP	-7,647	-8,599	-9,931	-4,796	-1,899	-1,746	-6,000	-4,000
Free Cash Flow	-931	-1,277	18,483	16,119	36,583	14,068	26,467	34,247
(Pur)/Sale of Investments	0	499	0	-28,451	-11,872	31,331	0	0
CF from Inv. Activity	-7,647	-8,100	-9,931	-33,248	-13,772	29,584	-6,000	-4,000
Issue of Shares	0	0	0	0	0	0	0	0
Inc / (Dec) in Debt	2,328	-6,128	-396	-3,966	-14,846	-6,322	-202	-162
Dividends Paid (incl.tax)	-1,755	-1,800	-2,180	-4,388	-7,898	-14,648	-19,390	0
Others	0	0	2,301	2,130	3,385	-3,451	0	-22,809
CF from Fin. Activity	573	-7,928	-275	-6,223	-19,359	-24,420	-19,592	-22,971
Inc / (Dec) in Cash	-358	-8,706	18,208	-18,556	5,352	20,978	6,875	11,276
Add: Opening Balance	12,685	12,327	3,621	21,829	3,273	8,625	29,603	36,478
Closing Balance	12,327	3,621	21,829	3,273	8,625	29,603	36,478	47,754

E: MOFSL Estimates

Corporate profile

Company description

Petronet LNG (PLNG) was formed as a joint venture by the government of India to import LNG and set up LNG terminals in India. Each promoter - GAIL, ONGC, IOCL and BPCL, holds 12.5% stake in PLNG. The company owns India's first LNG receiving and regasification terminal of 10mmtpa at Dahej and 5mmtpa terminal at Kochi commissioned in 2QFY14. It has a tied up long-term off-take contracts of 15.75mmtpa effective from its capacity expansion to 15mmtpa at Dahej in 2016.

Exhibit 1: Sensex rebased

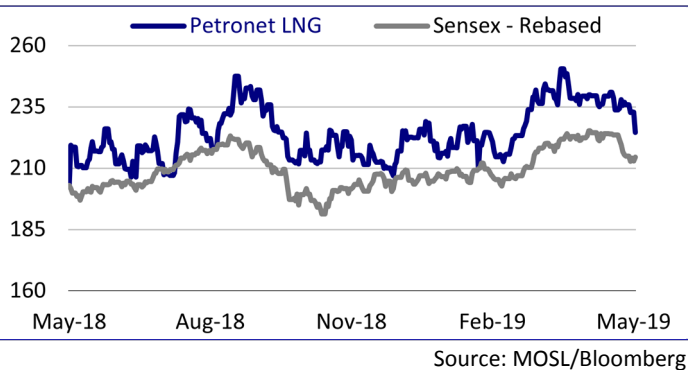


Exhibit 2: Shareholding pattern (%)

	Mar-19	Dec-18	Mar-18
Promoter	50.0	50.0	50.0
DII	11.0	12.1	9.8
FII	25.7	23.4	25.1
Others	13.3	14.5	15.1

Note: FII Includes depository receipts Source: Capitaline

Exhibit 3: Top holders

Holder Name	% Holding
KOTAK EQUITY SAVINGS FUND	2.0
FRANKLIN INDIA EQUITY SAVINGS FUND	1.9
ADITYA BIRLA SUN LIFE TRUSTEE PRIVATE LIMITED A/C ADITYA BIRLA SUN LIFE CAPITAL PROTECTION ORIENTED	1.4
MOTILAL OSWAL MULTICAP 35 FUND	1.2
GOVERNMENT OF SINGAPORE	1.1

Source: Capitaline

Exhibit 4: Top management

Name	Designation
M M Kutty	Chairman
Prabhat Singh	Managing Director & CEO
Rajender Singh	Director (Technical)
Rajan Kapur	Company Secretary

Source: Capitaline

Exhibit 5: Directors

Name	Name
Arun Kumar*	B C Tripathi
Jyoti Kiran Shukla*	Shashi Shankar
Siddharth Shekhar Singh*	Sidhartha Pradhan
Sunil Kumar Srivastava*	V K Mishra
D Rajkumar	Sanjiv Singh
	T Natarajan

*Independent

Exhibit 6: Auditors

Name	Type
A N Kukreja & Co	Secretarial Audit
K L Jaisingh & Co	Cost Auditor
T R Chadha & Co LLP	Statutory

Source: Capitaline

Exhibit 7: MOSL forecast v/s consensus

EPS (INR)	MOSL forecast	Consensus forecast	Variation (%)
FY20	18.5	19.8	-6.7
FY21	21.7	21.1	2.8

Source: Bloomberg

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 alterations 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.