

<b>BSE SENSEX</b>	<b>S&amp;P CNX</b>
34,951	10,524
<b>Bloomberg</b>	<b>TTCH IN</b>
Equity Shares (m)	255
M.Cap.(INRb)/(USDb)	173.2 / 2.4
52-Week Range (INR)	782 / 624
1, 6, 12 Rel. Per (%)	2/-10/-11
Avg Val, INRm	560
Free float (%)	69.4

**CMP: INR680**
**TP: INR933(+37%)**
**Buy**

## One-offs impact operating performance

### US, India businesses to lead recovery

- In-line revenue and PAT; EBITDA below estimate:** TTCH's revenue grew 10% YoY to INR29,607m (our estimate: INR30,037m) in 2QFY19. EBITDA declined 5.6% YoY to INR6,020m (our estimate: INR7,116m), with the margin contracting 340bp YoY to 20.3% (our estimate: 23.7%). Adj. PAT grew 25% YoY to INR3,217m (our estimate: INR3,201m), primarily led by higher other income of INR1,233m (our estimate: INR750m).
- 1HFY19 performance:** Revenue grew 11% YoY to INR57,298m. EBITDA remained flat YoY at INR11,177m, with the margin shrinking 220bp YoY. Adj. PAT grew 24% YoY to INR5,357m. In 2HFY19, we expect revenue growth of 13% YoY, with margin expansion of 20bp YoY.
- One-offs constrain 2Q; 2HFY19 to be better:** Margins shrank significantly by 640bp YoY to 13.7% in Basic Chemistry business due to (1) installation of environmental equipment at the US plant, which led to a volumes loss of 50,000MT, (2) lower trading of soda ash in Europe and cost pressure and (3) higher plant spending in Magadi due to repair of machineries, which were damaged during floods. However, the volumes loss in the US is likely to recover to some extent in the coming quarters and the global soda ash market is likely to remain tight, with Turkish capacity being nearly completely absorbed.
- Valuation and view:** Considering the muted 1HFY19 profitability, we cut our earnings estimates for FY19/20 by 9%/6%. We value TTCH on an SOTP basis, with implied EV/EBITDA of 9.8x (~30% premium to its five-year average). We believe the premium is justified by the recent business transformation toward higher-RoCE segments (Specialty and Consumer Products), the favorable demand-supply scenario in the soda ash industry (which is likely to provide price hike opportunities) and continuous robust growth in the Consumer business. Our TP of INR933 implies 37% upside. Maintain **Buy**.

### Financials & Valuations (INR b)

Y/E Mar	2018	2019E	2020E
Net Sales	102.7	115.5	128.4
EBITDA	21.9	23.5	26.7
PAT	12.3	11.3	13.9
EPS (INR)	48.2	44.4	54.4
Gr. (%)	39.7	-7.9	22.4
BV/Sh (INR)	435.7	467.0	506.4
RoE (%)	24.9	9.8	11.2
RoCE (%)	9.4	8.2	9.2
P/E (x)	14.1	15.3	12.5
P/BV (x)	1.6	1.5	1.3

**Estimate change**

**TP change**

**Rating change**


### Consolidated - Quarterly Earning Model

Y/E March	FY18				FY19				FY18	FY19E	FY19	Var
	1Q	2Q	3Q	4Q	1Q	2Q	3QE	4QE	2018	2019E	2019	%
Net Sales	24,517	26,902	25,739	25,551	27,691	29,607	29,102	29,107	102,709	115,507	30,037	-1
YoY Change (%)	-23.7	-20.4	5.8	1.7	12.9	10.1	13.1	13.9	-0.7	12.5	11.7	
Total Expenditure	19,740	20,523	20,114	20,426	22,535	23,586	22,669	23,209	80,802	91,998	22,921	
EBITDA	4,778	6,379	5,626	5,124	5,157	6,020	6,434	5,898	21,907	23,509	7,116	-15
Margins (%)	19.5	23.7	21.9	20.1	18.6	20.3	22.1	20.3	21.3	20.4	23.7	
Depreciation	1,263	1,292	1,286	1,339	1,351	1,417	1,400	1,455	5,180	5,623	1,315	
Interest	755	751	894	855	887	921	900	890	3,256	3,598	750	
Other Income	187	498	172	738	817	1,233	1,000	1,000	1,595	4,050	750	
PBT before EO expense	2,947	4,834	3,618	3,668	3,735	4,916	5,134	4,553	15,066	18,337	5,801	-15
Extra-Ord expense	0	0	-596	-48	0	0	0	0	-643	0	0	
PBT	2,947	4,834	4,213	3,715	3,735	4,916	5,134	4,553	15,709	18,337	5,801	-15
Tax	759	1,365	-1,874	351	1,258	1,199	1,155	1,028	601	4,640	1,624	
Rate (%)	25.8	28.2	-44.5	9.5	33.7	24.4	22.5	22.6	3.8	25.3	28.0	
Minority Interest & Profit/Loss of Asso. Cos.	461	887	633	221	338	499	810	730	2,202	2,376	976	
Reported PAT	1,726	2,582	5,455	3,143	2,140	3,217	3,169	2,795	12,906	11,321	3,201	1
Adj PAT	1,726	2,582	4,594	3,100	2,140	3,217	3,169	2,795	12,002	11,321	3,201	1
YoY Change (%)	-12.8	43.2	132.7	21.0	23.9	24.6	-31.0	-9.8	36.4	-5.7	24.0	
Margins (%)	7.0	9.6	17.8	12.1	7.7	10.9	10.9	9.6	11.7	9.8	10.7	
Profits from Discontinued Operations(DO)	53	0	2,136	8,543	-80	0	0	0			0	

E: MOSL Estimates

**Sumant Kumar – Research Analyst** (Sumant.Kumar@MotilalOswal.com); +91 22 6129 1569

**Aksh Vashishth – Research Analyst** (Aksh.Vashishth@MotilalOswal.com); +91 22 6129 1553

**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-line revenue and PAT; EBITDA misses as soda ash margins contract****Consolidated**

- TTCH reported overall revenue of INR29,607m (est. INR30,037m) in 2QFY19 marking a YoY growth of 10%.
- **Basic Chemistry Products** business witnessed a growth of 7.4% YoY to INR20,327m. However, the margins declined 640bp YoY to 13.7%. **Consumer products** witnessed a robust growth of 21.9% YoY to INR4,595m. The margins witnessed an expansion of 160bp YoY to 18.8%. **Specialty products** business witnessed a growth of 12.2% YoY to INR6,686m. The margins contracted by 190bp to 15.7% YoY.
- **EBITDA margin** contracted 340bp YoY to 20.3% (est. 23.7%) due to rise of 100bp in raw material cost (to 20.1%), a rise of 70bp (to 12.2%) in power and fuel cost, a rise of 110bp (to 20.6%) in other expenses. Employee expense and freight cost too witnessed an increase of 30bp each.
- **EBITDA** witnessed a de-growth of 5.6% YoY to INR6,020m (est. INR7,116m).
- **Adj. PAT** however grew 25% YoY to INR3,217m (est. INR3,201m) primarily led by higher than anticipated other income of INR1,233m (est. INR750m) and lower tax rate of 24.4% v/s 28.2% in 2QFY18.

**Standalone**

- Standalone **revenue** witnessed a growth of 22.7% YoY to INR10,136m. **EBITDA** grew 12% YoY to INR2,562m with margins contracting 240bp to 25.3%. **Adj. PAT** increased to 2.1x to INR2,951m primarily on account of significantly higher other income of INR1,894m v/s INR469m in 2QFY18.
- **Basic chemistry** business witnessed a growth of 20.2% YoY to INR7,386m. The margins contracted 390bp to 23.1%.
- **Consumer Products** witnessed a growth of 21.9% YoY to INR4,595m. The margins expanded 160bp YoY to 18.8%.
- **Specialty products** business witnessed a growth of 40% YoY to INR124m. The margins stood at -50.6% v/s -40% in 2QFY18.

**Exhibit 1: Consolidated Revenue Trend**

INRm	2QFY18	1QFY19	2QFY19	%YoY	%QoQ
Basic Chemistry Products	18,934	19,415	20,327	7.4%	4.7%
Consumer Products	3,770	4,383	4,595	21.9%	4.8%
Specialty Products	5,958	5,844	6,686	12.2%	14.4%
Less : Inter segment revenue	1,820	2,007	2,073		
Add : Unallocated	60	57	72		
<b>Total Revenue</b>	<b>26,902</b>	<b>27,691</b>	<b>29,607</b>	<b>10.1%</b>	<b>6.9%</b>

Source: Company, MOSL

**Exhibit 2: Consolidated EBIT trend**

INRm	2QFY18	1QFY19	2QFY19	%YoY	%QoQ
Basic Chemistry Products	3,798	2,753	2,779	-26.8%	0.9%
Margin %	20.1%	14.2%	13.7%		
Consumer Products	648	823	864	33.3%	4.9%
Margin %	17.2%	18.8%	18.8%		
Specialty Products	1,048	671	1,051	0.3%	56.6%
Margin %	17.6%	11.5%	15.7%		
<b>Total EBIT</b>	<b>5,494</b>	<b>4,247</b>	<b>4,694</b>		
Less : Finance Cost	751	887	921		
Less : Unallocated (Income)/Expense	-91	-375	-1,143		
<b>PBT</b>	<b>4,834</b>	<b>3,735</b>	<b>4,916</b>	<b>1.7%</b>	<b>31.6%</b>

Source: Company, MOSL

**Exhibit 3: Consolidated capital employed trend**

INRm	2QFY18	1QFY19	2QFY19
Basic Chemistry Products	110,968	119,816	125,667
Consumer Products	373	93	514
Specialty Products	11,733	13,251	14,526

Source: Company, MOSL

**Exhibit 4: Standalone revenue trend**

INRm	2QFY18	1QFY19	2QFY19	%YoY	%QoQ
Basic Chemistry Products	6,142	7,397	7,386	20.2%	-0.2%
Consumer Products	3,770	4,383	4,595	21.9%	4.8%
Specialty Products	89	112	124	40.0%	10.3%
Less : Inter segment revenue	1,799	1,976	2,005		
Add : Unallocated	60	41	37		
<b>Total Revenue</b>	<b>8,262</b>	<b>9,958</b>	<b>10,136</b>	<b>22.7%</b>	<b>1.8%</b>

Source: Company, MOSL

**Exhibit 5: Standalone EBIT trend**

INRm	2QFY18	1QFY19	2QFY19	%YoY	%QoQ
Basic Chemistry Products	1,661	2,033	1,709	2.9%	-15.9%
Margin %	27.0%	27.5%	23.1%		
Consumer Products	648	823	864	33.3%	4.9%
Margin %	17.2%	18.8%	18.8%		
Specialty Products	-35	-46	-63	77.1%	37.8%
Margin %	-40.0%	-40.5%	-50.6%		
<b>Total EBIT</b>	<b>2,274</b>	<b>2,811</b>	<b>2,510</b>	<b>10.4%</b>	<b>-10.7%</b>
Less : Finance Cost	211	232	287		
Less : Unallocated (Income)/Expense	-176	-1,096	-1,581		
<b>PBT</b>	<b>2,240</b>	<b>3,675</b>	<b>3,805</b>	<b>69.9%</b>	<b>3.5%</b>

Source: Company, MOSL

**Exhibit 6: Standalone capital employed trend**

INRm	2QFY18	1QFY19	2QFY19
Basic Chemistry Products	13,636	14,373	14,210
Consumer Products	373	93	514
Specialty Products	693	1,744	2,020

Source: Company, MOSL

### Healthy standalone growth driven by Consumer business

- TTCH's standalone business witnessed a growth of 22.7% YoY to INR10,136m albeit with a margin contraction of 240bp to 25.3%. EBITDA grew 12% YoY to INR2,562m. Adj. PAT increased to 2.1x to INR2,951m primarily on account of significantly higher other income of INR1,894m v/s INR469m in 2QFY18.
- The growth was driven by consumer products business which registered a growth of 22% YoY. Tata Salt maintained its leadership position with both increase in volumes and realization. The volume growth in branded salt stood at 7% YoY.
- Pulses and spices portfolio too registered healthy growth of ~130% YoY (to INR400m) in 2QFY19 majorly contributed by higher volumes YoY. The consumer revenues (ex-Salt) stood at INR540m in 2QFY19 and achieved break-even.
- Going forward, the management has guided to undertake capacity expansion of 400,000MT in salt with an investment of USD100m to further drive growth.
- The basic chemistry business grew 20.2% YoY with a margin contraction of 390bp, while specialty products business grew 40% YoY with margins worsening to -50.6% v/s -40% in 2QFY18.

### One-offs in US and Africa; Outlook stable

- Tata Chemicals Africa revenue grew 11.3% YoY to INR1,280m in 2QFY19.
- EBITDA margin of Africa business contracted 890bp to 10.2%. EBITDA/MT also declined 35% YoY to USD25.7/MT.
- The pressure on operating performance was primarily due to higher plant spending on account of repair of machineries which were impacted due to floods in 1QFY19. Barring the one-offs the performance of Africa business is back on track with revenue improving due to higher sales realization.
- Tata Chemicals North America revenue remained flat at INR8,580m in 2QFY19 as the company had to install environmental equipment in US plant owing to tightening of air pollution norms. On account of this, the plant lost 50,000MT of volume as the company had to run only a single line while the equipment was being installed.
- EBITDA margin of the North America business contracted 560bp to 19.8% with EBITDA/MT declining 19.6% to USD43.6/MT.
- Tata Chemical Europe revenue remained flat at INR3,530m with margins contracting 630bp YoY to 9.3%. EBITDA/MT also declined 32.4% YoY to GBP33/MT.
- Going forward, the lost volume in US is expected to be recovered in coming quarters to some extent. Additionally, the incremental capacity in Turkey has nearly been absorbed entirely. The global soda ash market is expected to remain tight which also presents with an opportunity for price hikes. The company has already taken 2 price hike in India soda ash market so far.

**Exhibit 7: Tata Chemicals North America**

INRm	2QFY17	3QFY17	4QFY17	1QFY18	2QFY18	3QFY18	4QFY18	1QFY19	2QFY19	%YoY	%QoQ
Sales Volume ('000MT)	572	556	544	569	630	562	589	536	555	-12%	4%
Realization (INR/MT)	14,441	14,550	14,430	13,972	13,603	14,395	13,905	14,272	15,459	14%	8%
Realization (USD/MT)	216	216	215	217	212	222	216	213	220	4%	3%
EBITDA/MT (USD)	49	45	32	41	54	50	37	37	44	-19%	19%
Net Sales	8,260	8,090	7,850	7,950	8,570	8,090	8,190	7,650	8,580	0%	12%
EBITDA	1,890	1,700	1,170	1,490	2,180	1,830	1,410	1,320	1,700	-22%	29%
EBITDA (%)	23%	21%	15%	19%	25%	23%	17%	17%	20%		
PBT	1,180	920	520	700	1,410	1,600	680	520	890	-37%	71%
PAT	520	400	130	270	690	3,270	1,040	210	450	-35%	114%

Source: Company, MOSL

**Exhibit 8: Tata Chemicals Europe**

INRm	2QFY17	3QFY17	4QFY17	1QFY18	2QFY18	3QFY18	4QFY18	1QFY19	2QFY19	%YoY	%QoQ
Sales Volume ('000MT)	148	152	142	132	134	133	108	108	109	-19%	1%
Realization (INR/MT)	26,689	26,250	28,803	25,682	26,567	30,000	34,074	33,056	32,385	22%	-2%
Realization (GBP/MT)	303	314	347	311	316	349	380	363	353	12%	-3%
EBITDA/MT (GBP)	44	40	71	20	49	45	81	46	33	-32%	-28%
Net Sales	3,950	3,990	4,090	3,390	3,560	3,990	3,680	3,570	3,530	-1%	-1%
EBITDA	570	510	840	220	550	510	780	450	330	-40%	-27%
EBITDA (%)	14%	13%	21%	6%	15%	13%	21%	12.6%	9.3%		
PBT	340	230	490	-110	180	250	280	50	60	-67%	20%
PAT	340	230	490	-110	180	240	280	50	60	-67%	20%

Source: Company, MOSL

**Exhibit 9: Tata Chemicals Africa**

INRm	2QFY17	3QFY17	4QFY17	1QFY18	2QFY18	3QFY18	4QFY18	1QFY19	2QFY19	%YoY	%QoQ
Sales Volume ('000MT)	62	68	76	86	86	78	85	55	72	-16%	31%
Realization (INR/MT)	25,323	21,324	13,947	13,140	19,302	18,590	16,000	17,273	17,778	-8%	3%
Realization (USD/MT)	378	316	208	204	300	287	249	258	253	-16%	-2%
EBITDA/MT (USD)	14	26	27	36	47	24	38	-33	26	-45%	-179%
Net Sales	1,570	1,450	1,060	1,130	1,660	1,450	1,360	950	1,280	-23%	35%
EBITDA	60	120	140	200	260	120	210	-120	130	-50%	-208%
EBITDA (%)	4%	8%	13%	18%	16%	8%	15%	-13%	10%		
PBT	0	60	110	80	170	110	110	-250	40	-76%	-116%
PAT	0	40	110	80	160	110	110	-250	40	-75%	-116%

Source: Company, MOSL

**Conference Call Takeaways****■ Basic Chemistry Business**

- The dip in soda ash margins was largely attributable to multiple on-offs viz.
  - The company had to install environmental equipment in US plant owing to tightening of air pollution norms. On account of this, the plant lost 50,000MT of volume as the company had to run only a single line while the equipment was being installed. Some portion of the lost volume is expected to be recovered in the coming quarter.
  - The plant in Magadi recovered from the losses during floods in 1QFY19 and the management expects the strength to continue going forward. 2QFY18 however witnessed an increased expenditure on plant on the repair of machineries which were rendered obsolete during floods. This resulted in higher fixed cost and suppressed margins.

- The increasing tightness in the market is allowing for passing on the rising energy cost. To a large extent, this rising energy cost would be passed on by 4QFY19.
- The Turkish capacity which commenced recently has been completely absorbed and the market is tight despite nearly full absorption of incremental capacity.
- Management expects margins in this business to move northwards by 4QFY19, overcoming the headwinds due to rising energy cost.
- The company has taken two price increases in soda ash business in India. The most recent price hike has been of INR750/MT in the month of September. Going forward, there is an opportunity to increase the prices further.
- The global soda ash industry is expected to remain tight for the coming 3-4 years. Demand in Indian market stands at 150,000-200,000MT per year which grows at 4-5% CAGR.
- **Consumer Business**
  - The company reported growth of 130% YoY (to INR400m) in pulses and spices owing to the small base.
  - Going forward, the company would focus on introducing new categories from time to time.
  - The consumer revenues (ex Salt) stood at INR540m in 2QFY19 and achieved break-even.
- The silica plant is being upgraded to meet the environment and safety norms of the Tata group and the trial runs are expected to begin in November.
- The nutritional solution business is in investment phase and the plant at Nellore is expected to commence by 4QFY19.
- The company is planning capex enhancement in its Mithapur plant with capex of USD370m/~INR25b (largely funded through internal accruals) over a period of three years. Out of this, INR2.5b has already been spent. The break-up of remaining capex is as follows:
  - USD90m for energy and environment norms
  - USD25m to enhance cement capacity by 300,000MT
  - USD15m as an investment in pharma grade bicarbonate. A capacity of 35,000MT is expected
  - USD100m each for soda ash (capacity expansion of 200,000MT) and salt (capacity expansion of 400,000MT)
- The company is venturing into lithium Ion batteries (have already signed 2 MoUs). As of now, the company is sourcing technologies and evaluating plant setup. The target is to set up 4GW capacity initially. Typically, a 1.5GW capacity costs USD200m. India's demand of lithium ion batteries is pegged at 40GW, and the company is eyeing a 25% market share of it in the long run.
- The consolidated net debt stands at INR21.8b as on Sept'18. Standalone net cash stands at INR2.5b as on Sept'18.

**Exhibit 10: Valuation Methodology**

Business	Methodology	Metrics		
		FY20	Multiple	EV/ MCAP (INR)
<b>Commodity (INR m)</b>				
Inorganic Chemical India (Soda Ash & others) (Excluding	EV/EBITDA (x)	EBITDA 6090	7	42632
Tata Chemicals North America	EV/EBITDA (x)	EBITDA 8350	10	83502
Tata Chemicals Europe and Tata Chemicals Africa	EV/EBITDA (x)	EBITDA 3313	6	19878
Sub Total		<b>1775</b>		<b>146013</b>
<b>Speicalty and Consumer (INR m)</b>				
Consumer (Incl Salt) (INR mn)	EV/EBITDA (x)	EBITDA 5316	17	90367
Rallis India Ltd (Tata Chemicals hold 50% ) (INR mn)	20% discount to Current	Attributable Mcap 3267	0.8	13068
Total EV (INR mn)				<b>249448</b>
Less: Debt FY20 (INR mn)				51005
Less: Minority Interest (INR mn)				27172
Add: Cash & Liquid investment (INR mn)				54291
Add: Value of quoted Investment (INR mn)		Market 1538	0.8	12304
Target Mcap (INR mn)				<b>237867</b>
Outstanding share (mn)				255
Target Price (INR)				933
CMP (INR)				680
Upside (%)				37%
Implied EV				261753
Implied EV/EBITDA (X)				9.8

Source: MOSL

**Valuation and view**

Considering the muted 1HFY19 profitability, we cut our earnings estimates for FY19/20 by 9%/6%. We value TTCH on an SOTP basis, with implied EV/EBITDA of 9.8x (~30% premium to its five-year average). We believe the premium is justified by the recent business transformation toward higher-RoCE segments (Specialty and Consumer Products), the favorable demand-supply scenario in the soda ash industry (which is likely to provide price hike opportunities) and continuous robust growth in the Consumer business. Our TP of INR933 implies 37% upside. Maintain **Buy**.



## Financials and Valuations

### Consolidated - Income Statement

(INR m)

Y/E March	FY13	FY14	FY15	FY16	FY17	FY18	FY19E	FY20E
<b>Total Income from Operations</b>	<b>150,343</b>	<b>162,274</b>	<b>175,708</b>	<b>152,202</b>	<b>103,461</b>	<b>102,697</b>	<b>115,507</b>	<b>128,447</b>
Change (%)	7.0	7.9	8.3	-13.4	-32.0	-0.7	12.5	11.2
Raw Materials	58,131	62,629	69,757	59,454	20,743	17,555	19,983	22,221
Employees Cost	11,256	12,145	13,199	12,712	12,614	12,702	14,438	16,056
Power, Oil & Fuel	16,812	21,562	20,406	12,465	11,631	12,725	14,690	16,313
Freight & forwarding charges	16,377	18,319	19,111	17,589	15,305	15,787	17,904	19,909
Other Expenses	26,140	29,523	31,593	29,066	22,225	22,020	24,983	27,231
<b>Total Expenditure</b>	<b>128,715</b>	<b>144,178</b>	<b>154,065</b>	<b>131,285</b>	<b>82,518</b>	<b>80,790</b>	<b>91,998</b>	<b>101,730</b>
% of Sales	85.6	88.8	87.7	86.3	79.8	78.7	79.6	79.2
<b>EBITDA</b>	<b>21,628</b>	<b>18,096</b>	<b>21,643</b>	<b>20,917</b>	<b>20,943</b>	<b>21,907</b>	<b>23,509</b>	<b>26,717</b>
Margin (%)	14.4	11.2	12.3	13.7	20.2	21.3	20.4	20.8
Depreciation	5,339	4,712	4,631	5,261	5,122	5,180	5,623	5,947
<b>EBIT</b>	<b>16,289</b>	<b>13,384</b>	<b>17,012</b>	<b>15,657</b>	<b>15,821</b>	<b>16,727</b>	<b>17,886</b>	<b>20,770</b>
Int. and Finance Charges	4,639	5,795	4,609	5,255	2,973	3,256	3,598	3,289
Other Income	4,178	1,424	1,180	1,253	1,661	1,595	4,050	4,504
<b>PBT bef. EO Exp.</b>	<b>15,828</b>	<b>9,013</b>	<b>13,582</b>	<b>11,655</b>	<b>14,510</b>	<b>15,066</b>	<b>18,338</b>	<b>21,984</b>
EO Items	-6,699	-14,202	-1,997	0	0	643	0	0
<b>PBT after EO Exp.</b>	<b>9,129</b>	<b>-5,189</b>	<b>11,585</b>	<b>11,655</b>	<b>14,510</b>	<b>15,709</b>	<b>18,338</b>	<b>21,984</b>
Total Tax	3,025	2,888	3,511	2,484	3,460	601	4,640	5,562
Tax Rate (%)	33.1	-55.7	30.3	21.3	23.8	3.8	25.3	25.3
Minority Interest	2,100	2,243	2,109	2,207	2,254	2,202	2,378	2,568
<b>Reported PAT - Continuing Ops.</b>	<b>4,004</b>	<b>-10,320</b>	<b>5,965</b>	<b>6,964</b>	<b>8,796</b>	<b>12,906</b>	<b>11,321</b>	<b>13,854</b>
<b>Adjusted PAT - Continuing Ops.</b>	<b>8,483</b>	<b>11,786</b>	<b>7,356</b>	<b>6,964</b>	<b>8,796</b>	<b>12,287</b>	<b>11,321</b>	<b>13,854</b>
Change (%)	-10.9	38.9	-37.6	-5.3	26.3	39.7	-7.9	22.4
Margin (%)	5.6	7.3	4.2	4.6	8.5	12.0	9.8	10.8
Reported PAT - Discontinuing Ops.	0	0	0	742	1,135	11,425	0	0
<b>Reported PAT</b>	<b>4,004</b>	<b>-10,320</b>	<b>5,965</b>	<b>7,706</b>	<b>9,931</b>	<b>24,331</b>	<b>11,321</b>	<b>13,854</b>
<b>Adjusted PAT</b>	<b>8,483</b>	<b>11,786</b>	<b>7,356</b>	<b>7,706</b>	<b>9,931</b>	<b>23,712</b>	<b>11,321</b>	<b>13,854</b>

### Consolidated - Balance Sheet

(INR m)

Y/E March	FY13	FY14	FY15	FY16	FY17	FY18	FY19E	FY20E
Equity Share Capital	2,548	2,548	2,548	2,548	2,548	2,548	2,548	2,548
Total Reserves	61,587	53,107	52,969	65,995	76,534	108,469	116,452	126,489
<b>Net Worth</b>	<b>64,136</b>	<b>55,655</b>	<b>55,517</b>	<b>68,543</b>	<b>79,082</b>	<b>111,017</b>	<b>119,000</b>	<b>129,037</b>
Minority Interest	5,361	6,552	6,735	25,985	26,239	27,172	27,172	27,172
Total Loans	83,840	83,931	83,788	90,904	70,483	61,028	55,793	51,005
Deferred Tax Liabilities	-56	1,910	2,062	12,348	12,381	11,916	11,916	11,916
<b>Capital Employed</b>	<b>153,281</b>	<b>148,048</b>	<b>148,102</b>	<b>197,780</b>	<b>188,185</b>	<b>211,132</b>	<b>213,881</b>	<b>219,130</b>
Gross Block	106,053	112,504	120,084	120,671	120,011	126,061	134,061	141,061
Less: Accum. Deprn.	65,282	69,677	76,081	5,490	10,612	15,792	21,415	27,362
<b>Net Fixed Assets</b>	<b>40,771</b>	<b>42,827</b>	<b>44,003</b>	<b>115,181</b>	<b>109,400</b>	<b>110,269</b>	<b>112,646</b>	<b>113,699</b>
Goodwill on Consolidation	66,287	67,243	69,586	17,619	16,984	17,319	17,319	17,319
Capital WIP	5,916	4,676	1,893	5,015	3,331	4,089	4,089	4,089
<b>Total Investments</b>	<b>5,997</b>	<b>4,409</b>	<b>4,429</b>	<b>21,879</b>	<b>27,931</b>	<b>28,683</b>	<b>28,683</b>	<b>28,683</b>
<b>Curr. Assets, Loans&amp;Adv.</b>	<b>81,830</b>	<b>81,705</b>	<b>88,109</b>	<b>83,769</b>	<b>78,459</b>	<b>98,427</b>	<b>105,084</b>	<b>115,323</b>
Inventory	16,018	16,490	26,264	19,319	13,861	14,623	12,592	14,003
Account Receivables	34,401	32,409	34,267	35,656	20,922	13,079	14,241	15,836
Cash and Bank Balance	18,414	17,530	14,643	12,654	16,648	44,830	49,375	53,373
Loans and Advances	12,997	15,276	12,936	16,140	27,028	25,895	28,877	32,112
<b>Curr. Liability &amp; Prov.</b>	<b>47,519</b>	<b>52,812</b>	<b>59,918</b>	<b>45,682</b>	<b>47,919</b>	<b>47,654</b>	<b>53,940</b>	<b>59,983</b>
Account Payables	15,572	13,992	18,891	16,818	13,182	14,786	16,972	18,873
Other Current Liabilities	14,753	17,080	16,341	7,923	14,117	14,060	15,814	17,586
Provisions	17,194	21,740	24,686	20,941	20,621	18,808	21,154	23,524
<b>Net Current Assets</b>	<b>34,311</b>	<b>28,893</b>	<b>28,191</b>	<b>38,086</b>	<b>30,540</b>	<b>50,773</b>	<b>51,144</b>	<b>55,340</b>
<b>Appl. of Funds</b>	<b>153,281</b>	<b>148,048</b>	<b>148,102</b>	<b>197,780</b>	<b>188,185</b>	<b>211,132</b>	<b>213,881</b>	<b>219,130</b>



## Financials and Valuations

### Ratios

Y/E March	FY13	FY14	FY15	FY16	FY17	FY18	FY19E	FY20E
<b>Basic (INR)</b>								
<b>EPS</b>	<b>33.3</b>	<b>46.3</b>	<b>28.9</b>	<b>27.3</b>	<b>34.5</b>	<b>48.2</b>	<b>44.4</b>	<b>54.4</b>
Cash EPS	54.2	64.7	47.0	48.0	54.6	68.5	66.5	77.7
BV/Share	251.7	218.4	217.9	269.0	310.3	435.7	467.0	506.4
DPS	10.0	10.0	12.5	10.0	11.0	22.0	10.6	12.2
Payout (%)	75.7	-29.0	65.7	45.0	39.2	53.4	29.5	27.6
<b>Valuation (x)</b>								
P/E			23.6	24.9	19.7	14.1	15.3	12.5
Cash P/E			14.5	14.2	12.4	9.9	10.2	8.8
P/BV			3.1	2.5	2.2	1.6	1.5	1.3
EV/Sales			1.4	1.8	2.4	2.1	1.8	1.5
EV/EBITDA			11.5	13.3	12.0	9.8	8.8	7.4
Dividend Yield (%)	1.5	1.5	1.8	1.5	1.6	3.2	1.6	1.8
FCF per share	-14.3	68.4	27.8	64.6	113.3	89.3	59.0	54.8
<b>Return Ratios (%)</b>								
RoE	13.3	19.7	13.2	11.2	11.9	24.9	9.8	11.2
RoCE	9.7	16.0	9.1	8.9	8.6	9.4	8.2	9.2
Core RoCE	23.9	38.5	22.2	14.0	10.8	15.8	15.2	17.6
RoIC	9.4	17.0	9.5	8.6	8.1	11.8	10.1	11.7
<b>Working Capital Ratios</b>								
Fixed Asset Turnover (x)	1.4	1.4	1.5	1.3	0.9	0.8	0.9	0.9
Asset Turnover (x)	1.0	1.1	1.2	0.8	0.5	0.5	0.5	0.6
Inventory (Days)	101	96	137	119	244	304	230	230
Debtor (Days)	84	73	71	86	74	46	45	45
Creditor (Days)	98	82	99	103	232	307	310	310
<b>Leverage Ratio (x)</b>								
Current Ratio	1.7	1.5	1.5	1.8	1.6	2.1	1.9	1.9
Interest Cover Ratio	3.5	2.3	3.7	3.0	5.3	5.1	5.0	6.3
Net Debt/Equity	1.0	1.2	1.2	1.1	0.7	0.14	0.05	-0.03

### Consolidated - Cash Flow Statement

(INR m)

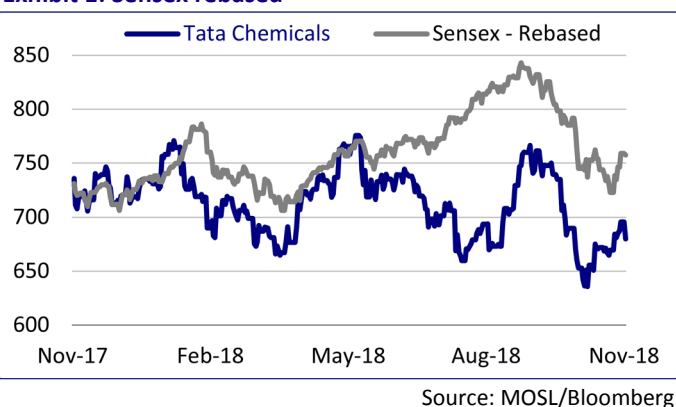
Y/E March	FY13	FY14	FY15	FY16	FY17	FY18	FY19E	FY20E
OP/(Loss) before Tax	9,130	-5,189	11,585	12,935	16,522	15,066	18,338	21,984
Depreciation	5,339	4,712	4,631	5,714	5,522	5,180	5,623	5,947
Interest & Finance Charges	4,468	5,133	4,241	5,946	4,645	1,661	-452	-1,214
Direct Taxes Paid	-3,584	-2,307	-3,612	-3,645	-4,516	-601	-4,640	-5,562
(Inc)/Dec in WC	-17,107	3,795	-11,245	-652	12,103	7,949	4,173	-198
<b>CF from Operations</b>	<b>-1,755</b>	<b>6,144</b>	<b>5,600</b>	<b>20,298</b>	<b>34,276</b>	<b>29,255</b>	<b>23,042</b>	<b>20,957</b>
Others	3,965	17,232	7,136	3,022	1,033	643	0	0
<b>CF from Operating incl EO</b>	<b>2,210</b>	<b>23,376</b>	<b>12,736</b>	<b>23,319</b>	<b>35,309</b>	<b>29,898</b>	<b>23,042</b>	<b>20,957</b>
(Inc)/Dec in FA	-5,842	-5,938	-5,649	-6,865	-6,429	-7,142	-8,000	-7,000
<b>Free Cash Flow</b>	<b>-3,632</b>	<b>17,438</b>	<b>7,087</b>	<b>16,454</b>	<b>28,880</b>	<b>22,756</b>	<b>15,042</b>	<b>13,957</b>
(Pur)/Sale of Investments	201	-59	-29	-90	-2,064	-752	0	0
Others	3,772	390	928	-337	588	1,595	4,050	4,504
<b>CF from Investments</b>	<b>-1,869</b>	<b>-5,607</b>	<b>-4,750</b>	<b>-7,292</b>	<b>-7,905</b>	<b>-6,300</b>	<b>-3,950</b>	<b>-2,496</b>
Issue of Shares	0	0	0	0	0	0	0	0
Inc/(Dec) in Debt	8,966	-9,894	-3,417	-6,098	-14,117	-9,455	-5,235	-4,788
Interest Paid	-4,641	-5,798	-4,430	-6,202	-4,456	-3,256	-3,598	-3,289
Dividend Paid	-3,033	-2,961	-3,026	-3,820	-3,056	-6,895	-3,337	-3,817
Others	0	0	0	-1,897	-1,781	24,190	-2,378	-2,568
<b>CF from Fin. Activity</b>	<b>1,292</b>	<b>-18,653</b>	<b>-10,873</b>	<b>-18,017</b>	<b>-23,409</b>	<b>4,584</b>	<b>-14,548</b>	<b>-14,463</b>
<b>Inc/Dec of Cash</b>	<b>1,633</b>	<b>-883</b>	<b>-2,887</b>	<b>-1,989</b>	<b>3,995</b>	<b>28,182</b>	<b>4,544</b>	<b>3,998</b>
Opening Balance	16,780	18,414	17,530	14,643	12,654	16,649	44,831	49,375
<b>Closing Balance</b>	<b>18,414</b>	<b>17,530</b>	<b>14,643</b>	<b>12,654</b>	<b>16,649</b>	<b>44,831</b>	<b>49,375</b>	<b>53,373</b>

## Corporate profile

### Company description

Tata Chemicals (TTCH) is a 78-year-old commodities company, reinventing itself as a specialty and consumer products company. It has a diversified portfolio of businesses: (a) soda ash and sodium bicarbonate, where it enjoys global leadership, (b) fertilizers, which it is exiting from, (c) agricultural inputs, through subsidiary, Rallis India, (d) consumer products such as branded iodized salt, pulses and spices, and (e) a fledging specialty products business – materials such as highly dispersible silica (HDS) and nanomaterial, and nutritional products like oligosaccharides and polyols. It also has sizable financial investments that it can liquidate to fund its growth.

### Exhibit 1: Sensex rebased



### Exhibit 2: Shareholding pattern (%)

	Sep-18	Jun-18	Sep-17
Promoter	30.6	30.6	30.8
DII	36.8	36.5	27.9
FII	11.1	10.9	15.1
Others	21.5	22.0	26.1

Note: FII Includes depository receipts

Source: Capitaline

### Exhibit 3: Top holders

Holder Name	% Holding
HDFC TRUSTEE COMPANY LIMITED-HDFC EQUITY FUND	9.0
ICICI PRUDENTIAL BALANCED ADVANTAGE FUND	3.7
LIC OF INDIA CHILD FORTUNE PLUS BALANCED FUND	3.5
ICICI PRUDENTIAL LIFE INSURANCE COMPANY LIMITED	2.8
ADITYA BIRLA SUN LIFE TRUSTEE PRIVATE LIMITED A/C ADITYA BIRLA SUN LIFE ARBITRAGE FUND	2.2

Source: Capitaline

### Exhibit 4: Top management

Name	Designation
Ratan N Tata	Chairman Emeritus
R Mukundan	Managing Director & CEO
Rajiv Chandan	Company Secretary

Source: Capitaline

### Exhibit 5: Directors

Name	Name
Meenakshi Gopinath	L Lakshman
Pramod Bhasin	Tejpreet S Chopra
Vellayan Subbiah	Vinayak Chatterjee
Pramod Gopaldas Gujarathi	

\*Independent

### Exhibit 6: Auditors

Name	Type
D C Dave & Co	Cost Auditor
Parikh & Associates	Secretarial Audit
B S R & Co LLP	Statutory

Source: Capitaline

### Exhibit 7: MOSL forecast v/s consensus

EPS (INR)	MOSL forecast	Consensus forecast	Variation (%)
FY19	44.4	47.4	-6.3
FY20	54.4	53.4	1.8

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 becomes inconsistent with the investment rating legend, the Research Analyst shall within 28 days of the inconsistency, 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 Securities Ltd. (MOSL)\* is a SEBI Registered Research Analyst having registration no. INH000000412. MOSL, 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. MOSL is a subsidiary company of Motilal Oswal Financial Service Ltd. (MOFSL). MOFSL is a listed public company, the details in respect of which are available on [www.motilaloswal.com](http://www.motilaloswal.com). 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 (MCX) & National Commodity & Derivatives Exchange Ltd. (NCDEX) for its stock broking activities & is Depository participant with Central Depository Services Limited (CDSL) & National Securities Depository Limited (NSDL) and is member of Association of Mutual Funds of India (AMFI) for distribution of financial products. Details of associate entities of Motilal Oswal Securities Limited are available on the website at <http://onlinereports.motilaloswal.com/Dormant/documents/List%20of%20Associate%20companies.pdf>

MOSL 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 MOSL even though there might exist an inherent conflict of interest in some of the stocks mentioned in the research report

MOSL 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 MOSL 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 Securities 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 MOSL or its associates maintains arm's length distance with Research Team as all the activities are segregated from MOSL 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 MOSL & 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 Securities Limited (MOSL) 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 MOSL 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 MOSL, 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., MOSL 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 MOSL 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 MOSL 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 MOSL 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 MOSL which are opened for proprietary investments only. While calculating beneficial holdings, It does not consider demat accounts which are opened in name of MOSL for other purposes (i.e holding client securities, collaterals, error trades etc.). MOSL 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 MOSL 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 MOSL. 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. MOSL 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. MOSL, 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 MOSL. 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 MOSL 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 MOSL or any of its affiliates or employees from, any and all responsibility/liability arising from such misuse and agrees not to hold MOSL or any of its affiliates or employees responsible for any such misuse and further agrees to hold MOSL or any of its affiliates or employees free and harmless from all losses, costs, damages, expenses that may be suffered by the person accessing this information due to any errors and delays.

Registered Office Address: Motilal Oswal Tower, Rahimtullah Sayani Road, Opposite Parel ST Depot, Prabhadevi, Mumbai-400025; Tel No.: 022-3980 4263; www.motilaloswal.com. Correspondence Address: Palm Spring Centre, 2nd Floor, Palm Court Complex, New Link Road, Malad (West), Mumbai- 400 064. Tel No: 022 3080 1000. Compliance Officer: Neeraj Agarwal, Email Id: [na@motilaloswal.com](mailto:na@motilaloswal.com), Contact No.:022-38281085.

Registration details: MOSL: SEBI Registration: INZ000158836 (BSE/NSE/MCX/NCDEX); CDSL: IN-DP-16-2015; NSDL: IN-DP-NSDL-152-2000; Research Analyst: INH000000412. AMFI: ARN 17397. Investment Adviser: INA000007100. Motilal Oswal Asset Management Company Ltd. (MOAMC): PMS (Registration No.: INP000000670) offers PMS and Mutual Funds products. Motilal Oswal Wealth Management Ltd. (MOWML): PMS (Registration No.: INP000004409) offers wealth management solutions. \*Motilal Oswal Securities Ltd. is a distributor of Mutual Funds, PMS, Fixed Deposit, Bond, NCDs, Insurance and IPO products. \*Motilal Oswal Real Estate Investment Advisors II Pvt. Ltd. offers Real Estate products. \* Motilal Oswal Private Equity Investment Advisors Pvt. Ltd. offers Private Equity products.

\* 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. The existing registration no(s) of MOSL would be used until receipt of new MOFSL registration numbers.