Telecom

BSNL continues to gain at private telcos' expense in Aug

The Telecom Regulatory Authority of India (TRAI) released the subscriber data for Aug'24. The key highlights are as follows:

- **Wireless subs: SIM consolidation continues post tariff hikes; BSNL only gainer in Aug'24**
  - Industry's **wireless subscribers declined by further 5.8m MoM** (after 0.9m decline in Jul'24), due to SIM/spend consolidation post the tariff hikes by three private telcos in Jul'24. Excluding IoT devices, wireless subs base declined by ~6.2m in Aug'24.
  - Similar to Jul'24, BSNL (+2.5m) was the only telco to gain wireless subs, while RJio/Bharti/VIL lost 4.0m/2.4m/1.9m wireless subs in Aug'24.
  - Bharti lost **4.2m wireless subs in Jul-Aug'24** (vs. 2.3m paying net adds in 1Q). Bharti's **2Q subs decline could be higher than our est. of 1.5m.** Similarly, VIL lost **3.3m wireless subs in Jul-Aug'24** (vs. 2.5m paying subs decline in 1Q) and **2Q subs decline could be higher than our est. of 4m.**
  - Mobile Number Portability (MNP) requests further inched up to 14.7m in Aug'24 (vs. ~12m in FYTD25). We expect industry subscriber base to stabilize over the next few months.
- **VLR subs: Peak active subscriber base inches up, indicating subscriber churn is limited to inactive users for RJio**
  - **VLR (or peak active) subscriber base inched up by 2.0m MoM (vs. 1.5m decline in Jul'24).**
  - RJio added 2m VLR subs, indicating that the subscriber decline was limited to its inactive user base.
  - Similar to Jul'24, Bharti and VIL's VLR base declined again in Aug'24 by 1.7m and 2.6m, respectively, while BSNL gained further 4.1m VLR subs (after 2.9m additions in Jul'24).
- **Mobile Broadband (MBB) subs: MBB subs growth moderated in Aug'24 on RJio's clean-up of inactive base**
  - Industry's **MBB net adds moderated to 2.6m in Aug'24** (vs. ~5m monthly MBB net adds on average in FYTD25) as **BSNL's robust 6.6m MBB net adds** were offset by RJio's subs base decline.
  - Bharti's MBB net adds moderated to 0.4m in Aug (vs. ~2.6m monthly net add on average in FYTD25), while Vi's MBB subs declined by further 0.8m MoM in Aug'24.
  - Bharti added **modest ~2.9m MBB net adds in Jul-Aug'24**, posing a **downside risk to our estimate of 6m MBB net adds for 2Q.**
  - Vi **lost ~1.9m MBB subs in Jul-Aug'24** (vs. 0.1m net adds in 1Q), posing a **downside risk to our 2Q estimate of 0.2mn MBB net adds**.
  - Subscriber mix continues to improve, with ~78% of industry's wireless subs now opt for MBB data (up ~470bp YoY). Bharti's MBB subs proportion was up ~620bp YoY to ~72%.

Aditya Bansal - Research Analyst (Aditya.Bansal@MotilalOswal.com)

Research Analyst: Tanmay Gupta (Tanmay.Gupta@MotilalOswal.com) | **Siddhesh Chaudhari** (Siddhesh.Chaudhari@MotilalOswal.com)

- **Fixed Broadband (FBB) subs: RJio drives robust industry growth in Aug'24**
  - Industry FBB subs increased by 860k MoM to 42.84m (+18% YoY), driven largely by acceleration in RJio's FBB net adds (680k), likely on ramp-up in Jio AirFiber offering.
  - Bharti added 130k subscribers MoM in Aug'24, taking the total base to 8.3m (+21% YoY). Bharti's 250k FBB net adds in Jul-Aug'24 (vs. 350k in 1Q) is tracking in line with our 2Q estimate of 400k FBB net adds.
  - RJio and Bharti now account for ~50% market share in FBB. We expect the duo's market share to increase further, driven by the ramp-up in FWA offerings.

Exhibit 1: Subscriber trends and Sep'24 ask rate for Bharti

Bharti (m)	1QFY25	July-Aug'24	2QFY25E	Sep'24 ask rate
EoP wireless subs	**389**	**384.9**		
Net adds	3.3	-4.1		
Paying wireless subs	354.5		353	
Net adds	**2.3**	**-4.2**	**-1.5**	**2.7**
MBB subs	**273.3**	**276.3**		
Net adds	7.8	2.9		
Reported data subs	267.1		273.1	
Net adds	**6.3**	**2.8**	**6**	**3.2**
FBB subs	**8**	**8.3**		
Net adds	0.31	0.25		
Reported Homes subs	8		8.4	
Net adds	**0.35**	**0.25**	**0.4**	**0.15**

Source: TRAI, MOFSL

Exhibit 2: Subscriber trends and Sep'24 ask rate for VIL

VIL (m)	1QFY25	July-Aug'24	2QFY25E	Sep'24 ask rate
EoP wireless subs	**217.3**	**214**		
Net adds	-2.5	-3.3		
Paying wireless subs	210.1		206.1	
Net adds	**-2.5**	**-3.3**	**-4**	**-0.7**
MBB subs	**127.8**	**125.9**	**128**	
Net adds	**0.1**	**-1.9**	**0.2**	**2.1**

Source: TRAI, MOFSL

Exhibit 3: Visitor Location Registry (peak-active) subscriber base was up ~2m in Aug'24

VLR subscriber base (m)	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24
Bharti	376	376	375	375	378	381	383	385	383	384	385	384	382
VIL	199	200	198	199	197	195	194	193	193	191	188	185	183
RJio	417	420	422	423	425	426	427	430	433	437	441	441	443
Top Three players	**992**	**996**	**995**	**996**	**999**	**1,002**	**1,003**	**1,009**	**1,009**	**1,012**	**1,014**	**1,010**	**1,007**
BSNL/MTNL	51	51	50	50	49	49	49	49	48	48	47	50	54
Total	**1,043**	**1,047**	**1,045**	**1,046**	**1,048**	**1,051**	**1,052**	**1,058**	**1,058**	**1,060**	**1,061**	**1,060**	**1,062**

Source: TRAI, MOFSL

Exhibit 4: RJio added 2m VLR subs indicating churn was limited to inactive subs; BSNL continued to gain at Bharti/VIL's expense

VLR net adds (m)	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24
Bharti	-0.4	0.6	-1.2	-0.4	3.0	3.6	1.5	2.8	-2.1	0.9	0.7	-1.2	-1.7
VIL	-2.9	0.4	-1.4	0.1	-1.8	-1.7	-1.1	-0.6	-0.6	-1.7	-2.7	-3.0	-2.6
RJio	1.2	3.2	1.8	1.2	1.2	1.1	1.2	3.6	3.0	3.5	4.0	-0.2	2.0
Top Three players	**-2.2**	**4.2**	**-0.8**	**0.9**	**2.4**	**3.0**	**1.5**	**5.8**	**0.3**	**2.7**	**1.9**	**-4.4**	**-2.2**
BSNL/MTNL	-0.9	-0.7	-0.6	-0.4	-0.4	-0.2	-0.1	-0.2	-0.4	-0.6	-0.7	2.9	4.2
Total	**-3.0**	**3.5**	**-1.4**	**0.5**	**1.9**	**2.8**	**1.4**	**5.7**	**-0.1**	**2.1**	**1.3**	**-1.5**	**1.9**

Source: TRAI, MOFSL

Exhibit 5: RJio extended its lead further in VLR market share; BSNL market share up ~70bp in July-Aug 2024

VLR subscriber market share (%)	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24
Bharti	36.0	35.9	35.9	35.8	36.0	36.3	36.4	36.4	36.2	36.3	36.3	36.2	36.0
VIL	19.1	19.1	19.0	19.0	18.8	18.6	18.4	18.3	18.2	18.0	17.7	17.5	17.2
RJio	40.0	40.1	40.4	40.5	40.5	40.5	40.6	40.7	41.0	41.2	41.6	41.6	41.7
Top Three players	**95.1**	**95.2**	**95.2**	**95.3**	**95.3**	**95.3**	**95.4**	**95.4**	**95.4**	**95.5**	**95.6**	**95.3**	**94.9**
BSNL/MTNL	4.9	4.8	4.8	4.7	4.7	4.7	4.6	4.6	4.6	4.5	4.4	4.7	5.1

Source: TRAI, MOFSL

Exhibit 6: RJio's VLR proportion improved to ~94% on likely clean-up of inactive subscriber base; Bharti's remain in 99% range

VLR proportion (%)	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24
Bharti	99.8	99.6	99.2	98.6	98.9	99.6	99.6	99.9	99.2	99.1	98.9	99.1	99.2
VIL	87.3	87.8	88.0	88.5	88.2	88.0	87.9	87.9	87.9	87.5	86.6	85.8	85.3
RJio	93.6	93.6	93.3	92.9	92.3	91.7	91.3	91.6	91.7	92.1	92.5	92.6	93.9
BSNL	52.7	53.4	53.2	53.3	52.9	53.3	53.3	54.6	55.0	54.6	54.3	55.8	58.7
MTNL	35.8	32.3	26.8	26.4	26.0	26.4	25.9	25.7	23.2	22.4	22.0	23.3	26.0
Total	**90.9**	**91.0**	**90.8**	**90.6**	**90.5**	**90.5**	**90.3**	**90.8**	**90.6**	**90.7**	**90.7**	**90.6**	**91.2**

Source: TRAI, MOFSL

Exhibit 7: Wireless subs base declined further by ~6m in Aug (after ~1m decline in July) on SIM consolidation post tariff hikes

Wireless subscriber base (m)	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24
Bharti	376	378	378	380	382	382	384	386	387	388	389	387	385
VIL	228	228	225	224	223	222	221	220	219	218	217	216	214
RJio	446	449	452	456	460	464	468	470	472	475	477	476	472
Top Three players	**1,050**	**1,055**	**1,056**	**1,060**	**1,065**	**1,068**	**1,072**	**1,075**	**1,078**	**1,081**	**1,083**	**1,079**	**1,071**
BSNL/MTNL	98	96	95	94	94	93	93	90	89	88	88	91	93
Total	**1,148**	**1,150**	**1,151**	**1,154**	**1,158**	**1,161**	**1,165**	**1,165**	**1,167**	**1,169**	**1,171**	**1,170**	**1,164**

Source: TRAI, MOFSL

Exhibit 8: Similar to July, BSNL was the only telco to gain overall subs in Aug as it didn't hike tariffs

Wireless net adds (m)	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24
Bharti	1.2	1.3	0.4	1.7	1.9	0.8	1.5	1.8	0.8	1.3	1.3	-1.7	-2.4
VIL	0.0	-0.7	-2.0	-1.1	-1.4	-1.5	-1.0	-0.7	-0.7	-0.9	-0.9	-1.4	-1.9
RJio	3.2	3.5	3.2	3.4	4.0	4.2	3.6	2.1	2.7	2.2	1.9	-0.8	-4.0
Top Three players	**4.4**	**4.0**	**1.5**	**4.1**	**4.5**	**3.4**	**4.1**	**3.2**	**2.7**	**2.5**	**2.3**	**-3.9**	**-8.3**
BSNL/MTNL	-2.2	-2.3	-0.6	-0.9	-0.2	-1.2	-0.2	-2.4	-1.2	-0.5	-0.7	2.9	2.5
Total	**2.2**	**1.7**	**0.8**	**3.2**	**4.3**	**2.2**	**3.9**	**0.8**	**1.5**	**2.0**	**1.6**	**-0.9**	**-5.8**

Source: TRAI, MOFSL

Exhibit 9: BSNL gained 50bp in subscriber market share in July-Aug'24, while all three private telcos lost ~16-18bp market share

Wireless subscriber market share (%)	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24
Bharti	32.8	32.8	32.9	32.9	33.0	33.0	33.0	33.1	33.1	33.2	33.2	33.1	33.1
VIL	19.9	19.8	19.6	19.4	19.3	19.1	18.9	18.9	18.8	18.7	18.6	18.5	18.4
RJio	38.8	39.1	39.3	39.5	39.7	40.0	40.1	40.3	40.5	40.6	40.7	40.7	40.5
Top Three players	**91.5**	**91.7**	**91.7**	**91.9**	**91.9**	**92.0**	**92.1**	**92.3**	**92.4**	**92.4**	**92.5**	**92.3**	**92.0**
BSNL/MTNL	8.5	8.3	8.3	8.1	8.1	8.0	7.9	7.7	7.6	7.6	7.5	7.7	8.0

Source: TRAI, MOFSL

Exhibit 10: Mobile Broadband (MBB) subscriber base grew by modest 2.2m (vs. ~5m average in FYTD25) on RJio's subs decline

MBB subscriber base (m)	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24
Bharti	247	251	251	255	257	260	262	266	268	270	273	276	276
VIL	126	127	126	127	127	127	127	128	126	127	128	127	126
RJio	446	449	452	456	460	464	468	470	472	475	477	476	472
Top Three players	**818**	**826**	**829**	**838**	**844**	**851**	**856**	**863**	**866**	**872**	**878**	**878**	**874**
BSNL/MTNL	21	21	21	21	21	21	21	21	21	21	21	25	32
Total	**840**	**848**	**850**	**858**	**866**	**872**	**877**	**884**	**887**	**893**	**899**	**904**	**906**

Source: TRAI, MOFSL

Exhibit 11: BSNL gained further 6.6m MBB subs, while Bharti's MBB net adds moderated to 0.4m (vs. 2.5m on average in FYTD25)

MBB net adds (m)	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24
Bharti	2.6	3.6	0.5	4.0	2.3	2.4	2.3	3.5	2.1	2.6	3.2	2.6	0.4
VIL	1.3	1.0	-0.8	1.0	0.7	-0.5	-0.2	1.1	-1.3	0.8	0.6	-1.1	-0.8
RJio	3.2	3.5	3.2	3.4	4.0	4.2	3.6	2.1	2.7	2.2	1.9	-0.8	-4.0
Top Three players	**7.1**	**8.0**	**2.9**	**8.4**	**6.9**	**6.1**	**5.6**	**6.8**	**3.5**	**5.6**	**5.6**	**0.7**	**-4.4**
BSNL/MTNL	1.0	0.0	-0.1	-0.5	0.4	-0.1	-0.5	-0.1	0.2	0.5	-0.5	4.6	6.6
Total	**8.1**	**8.0**	**2.8**	**7.9**	**7.4**	**6.0**	**5.2**	**6.7**	**3.7**	**6.1**	**5.1**	**5.3**	**2.1**

Source: TRAI, MOFSL

Exhibit 12: BSNL gained ~120bp in MBB subs market share in 2QTDFY25, while RJio/VIL lost ~100bp/35bp market share

MBB subscriber market share (%)	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24
Bharti	29.4	29.6	29.5	29.7	29.7	29.8	29.9	30.0	30.2	30.2	30.4	30.5	30.5
VIL	15.0	14.9	14.8	14.8	14.7	14.5	14.4	14.5	14.2	14.2	14.2	14.0	13.9
RJio	53.1	53.0	53.2	53.1	53.1	53.2	53.3	53.2	53.2	53.1	53.0	52.6	52.1
Top Three players	**97.5**	**97.5**	**97.5**	**97.6**	**97.5**	**97.6**	**97.6**	**97.7**	**97.7**	**97.6**	**97.7**	**97.2**	**96.5**
BSNL/MTNL	2.5	2.5	2.5	2.4	2.5	2.4	2.4	2.3	2.3	2.4	2.3	2.8	3.5

Source: TRAI, MOFSL

Exhibit 13: Share of MBB subs in overall wireless subs improved further 60bp MoM in Aug'24 to ~78%, with Bharti at ~72%

MBB subs proportion (%)	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24
Bharti	65.6	66.3	66.4	67.1	67.4	67.9	68.2	68.8	69.2	69.7	70.3	71.2	71.8
VIL	55.0	55.6	55.7	56.4	57.1	57.2	57.4	58.1	57.7	58.3	58.8	58.7	58.8
RJio	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total	**73.2**	**73.7**	**73.9**	**74.4**	**74.8**	**75.1**	**75.3**	**75.8**	**76.1**	**76.5**	**76.8**	**77.3**	**77.9**

Source: TRAI, MOFSL

Exhibit 14: MNP requests inched up further to 14.7m in Aug'24

Mobile Number Portability (m)	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24
Monthly MNP requests	**12.7**	**12.7**	**12.7**	**12.0**	**12.4**	**12.4**	**11.5**	**11.4**	**11.1**	**12.0**	**11.8**	**13.7**	**14.7**
Cumulative MNP request	877.4	890.1	902.8	914.8	927.2	939.6	951.1	962.5	973.6	985.6	997.4	1011.1	1025.8
As % of wireless subscribers	1.1%	1.1%	1.1%	1.0%	1.1%	1.1%	1.0%	1.-%	0.9%	1.0%	1.0%	1.2%	1.3%

Source: TRAI, MOFSL

Exhibit 15: Fixed Broadband (FBB) subscriber base up by ~0.9m in Aug'24 to 42.8m (+18% YoY)

FBB subs (m)	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24
Bharti	6.9	7.0	7.2	7.3	7.4	7.5	7.6	7.7	7.8	8.0	8.0	8.2	8.3
RJio	9.6	9.8	10.0	10.2	10.4	10.6	10.9	11.3	11.6	12.0	12.4	12.9	13.5
BSNL	3.7	3.7	3.8	3.8	3.8	3.9	4.0	4.1	4.1	4.2	4.2	4.2	4.2
ACT	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3
Others	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	14.9	14.9	14.5	14.5
Total	**36.4**	**36.9**	**37.4**	**37.8**	**38.4**	**38.9**	**39.5**	**40.1**	**40.7**	**41.3**	**41.8**	**42.0**	**42.8**

Source: TRAI, MOFSL

Exhibit 16: RJio added record ~0.7m FBB subscribers in Aug'24 likely driven by ramp-up in Jio AirFiber offerings

FBB net adds (m)	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24
Bharti	0.16	0.16	0.14	0.11	0.11	0.11	0.11	0.12	0.11	0.11	0.09	0.12	0.13
RJio	0.19	0.16	0.22	0.18	0.23	0.25	0.29	0.35	0.35	0.38	0.41	0.45	0.68
BSNL	0.03	-	0.04	0.05	0.03	0.06	0.08	0.08	0.09	0.04	0.01	-	0.01
ACT	0.01	0.01	0.01	-	0.02	-	0.01	0.01	-	0.01	-	-	0.01
Others	0.32	0.13	0.07	0.10	0.17	0.10	0.10	0.04	0.10	0.06	0.01	(0.4)	0.03
Total	**0.71**	**0.46**	**0.48**	**0.44**	**0.56**	**0.52**	**0.59**	**0.60**	**0.65**	**0.60**	**0.52**	**0.15**	**0.86**

Source: TRAI, MOFSL

Exhibit 17: RJio's market share inch up ~100bp MoM in Aug'24; Bharti and RJio now accounts for ~50% market share in FBB

FBB market share (%)	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24
BSNL+MTNL	10.3	10.2	10.1	10.0	10.1	10.0	10.0	10.1	10.1	10.2	10.1	10.0	10.0
Bharti	18.8	18.9	19.1	19.2	19.3	19.3	19.3	19.3	19.3	19.3	19.2	19.2	19.4
RJio	26.3	26.3	26.4	26.7	26.9	27.1	27.3	27.7	28.1	28.5	29.0	29.7	30.6

Source: TRAI, MOFSL

NOTES

Explanation of Investment Rating	
Investment Rating	**Expected return (over 12-month)**
BUY	>=15%
SELL	< - 10%
NEUTRAL	> - 10 % to 15%
UNDER REVIEW	Rating may undergo a change
NOT RATED	We have forward looking estimates for the stock but we refrain from assigning recommendation

*In case the recommendation given by the Research Analyst is inconsistent with the investment rating legend for a continuous period of 30 days, the Research Analyst shall within following 30 days take appropriate measures to make the recommendation consistent with the investment rating legend.

Disclosures:
The following Disclosures are being made in compliance with the SEBI Research Analyst Regulations 2014 (herein after referred to as the Regulations).

Motilal Oswal Financial Services Ltd. (MOFSL) is a SEBI Registered Research Analyst having registration no. INH000000412. MOFSL, the Research Entity (RE) as defined in the Regulations, is engaged in the business of providing Stock broking services, Depository participant services & distribution of various financial products. MOFSL is a listed public company, the details in respect of which are available on www.motilaloswal.com. MOFSL (erstwhile Motilal Oswal Securities Limited - MOSL) is registered with the Securities & Exchange Board of India (SEBI) and is a registered Trading Member with National Stock Exchange of India Ltd. (NSE) and Bombay Stock Exchange Limited (BSE), Multi Commodity Exchange of India Limited (MCX) and National Commodity & Derivatives Exchange Limited (NCDEX) for its stock broking activities & is Depository participant with Central Depository Services Limited (CDSL) National Securities Depository Limited (NSDL),NERL, COMRIS and CCRL and is member of Association of Mutual Funds of India (AMFI) for distribution of financial products and Insurance Regulatory & Development Authority of India (IRDA) as Corporate Agent for insurance products. Details of associate entities of Motilal Oswal Financial Services Ltd. are available on the website at http://onlinereports.motilaloswal.com/Dormant/documents/Associate%20Details.pdf

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

MOFSL, it's associates, Research Analyst or their relatives may have any financial interest in the subject company. MOFSL and/or its associates and/or Research Analyst or their relatives may have actual beneficial ownership of 1% or more securities in the subject company at the end of the month immediately preceding the date of publication of the Research Report or date of the public appearance. MOFSL and its associate company(ies), their directors and Research Analyst and their relatives may have any other potential conflict of interests at the time of publication of the research report or at the time of public appearance, however the same shall have no bearing whatsoever on the specific recommendations made by the analyst(s), as the recommendations made by the analyst(s) are completely independent of the views of the associates of MOFSL even though there might exist an inherent conflict of interest in some of the stocks mentioned in the research report.

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

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

MOFSL and its associate company(ies), and Research Analyst and their relatives from time to time may have:
a) a long or short position in, act as principal in, and buy or sell the securities or derivatives thereof of companies mentioned herein.
(b) be engaged in any other transaction involving such securities and earn brokerage or other compensation or act as a market maker in the financial instruments of the company(ies) discussed herein or act as an advisor or lender/borrower to such company(ies) or may have any other potential conflict of interests with respect to any recommendation and other related information and opinions.; however the same shall have no bearing whatsoever on the specific recommendations made by the analyst(s), as the recommendations made by the analyst(s) are completely independent of the views of the associates of MOFSL even though there might exist an inherent conflict of interest in some of the stocks mentioned in the research report.
Above disclosures include beneficial holdings lying in demat account of MOFSL which are opened for proprietary investments only. While calculating beneficial holdings, It does not consider demat accounts which are opened in name of MOFSL for other purposes (i.e holding client securities, collaterals, error trades etc.). MOFSL also earns DP income from clients which are not considered in above disclosures.
To enhance transparency, MOFSL has incorporated a Disclosure of Interest Statement in this document. This should, however, not be treated as endorsement of the views expressed in the report. MOFSL and / or its affiliates do and seek to do business including investment banking with companies covered in its research reports. As a result, the recipients of this report should be aware that MOFSL may have a potential conflict of interest that may affect the objectivity of this report.

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

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

Disclosure of Interest Statement	**JSW Steel**
Analyst ownership of the stock	No

A graph of daily closing prices of securities is available at www.nseindia.com, www.bseindia.com. Research Analyst views on Subject Company may vary based on Fundamental research and Technical Research. Proprietary trading desk of MOFSL or its associates maintains arm's length distance with Research Team as all the activities are segregated from MOFSL research activity and therefore it can have an independent view with regards to subject company for which Research Team have expressed their views.

Regional Disclosures (outside India)
This report is not directed or intended for distribution to or use by any person or entity resident in a state, country or any jurisdiction, where such distribution, publication, availability or use would be contrary to law, regulation or which would subject MOFSL & its group companies to registration or licensing requirements within such jurisdictions.

For Hong Kong:
This report is distributed in Hong Kong by Motilal Oswal capital Markets (Hong Kong) Private Limited, a licensed corporation (CE AYY-301) licensed and regulated by the Hong Kong Securities and Futures Commission (SFC) pursuant to the Securities and Futures Ordinance (Chapter 571 of the Laws of Hong Kong) "SFO". As per SEBI (Research Analyst Regulations) 2014 Motilal Oswal Financial Services Limited (SEBI Reg No. INH000000412) has an agreement with Motilal Oswal capital Markets (Hong Kong) Private Limited for distribution of research report in Hong Kong. This report is intended for distribution only to "Professional Investors" as defined in Part I of Schedule 1 to SFO. Any investment or investment activity to which this document relates is only available to professional investor and will be engaged only with professional investors." Nothing here is an offer or solicitation of these securities, products and services in any jurisdiction where their offer or sale is not qualified or exempt from registration. The Indian Analyst(s) who compile this report is/are not located in Hong Kong & are not conducting Research Analysis in Hong Kong.

For U.S.
MOTILAL Oswal Financial Services Limited (MOFSL) is not a registered broker - dealer under the U.S. Securities Exchange Act of 1934, as amended (the"1934 act") and under applicable state laws in the United States. In addition MOFSL is not a registered investment adviser under the U.S. Investment Advisers Act of 1940, as amended (the "Advisers Act" and together with the 1934 Act, the "Acts), and under applicable state laws in the United States. Accordingly, in the absence of specific exemption under the Acts, any brokerage and investment services provided by MOFSL, including the products and

services described herein are not available to or intended for U.S. persons. This report is intended for distribution only to "Major Institutional Investors" as defined by Rule 15a-6(b)(4) of the Exchange Act and interpretations thereof by SEC (henceforth referred to as "major institutional investors"). This document must not be acted on or relied on by persons who are not major institutional investors. Any investment or investment activity to which this document relates is only available to major institutional investors and will be engaged in only with major institutional investors. In reliance on the exemption from registration provided by Rule 15a-6 of the U.S. Securities Exchange Act of 1934, as amended (the "Exchange Act") and interpretations thereof by the U.S. Securities and Exchange Commission ("SEC") in order to conduct business with Institutional Investors based in the U.S., MOFSL has entered into a chaperoning agreement with a U.S. registered broker-dealer, Motilal Oswal Securities International Private Limited. ("MOSIPL"). Any business interaction pursuant to this report will have to be executed within the provisions of this chaperoning agreement.

The Research Analysts contributing to the report may not be registered /qualified as research analyst with FINRA. Such research analyst may not be associated persons of the U.S. registered broker-dealer, MOSIPL, and therefore, may not be subject to NASD rule 2711 and NYSE Rule 472 restrictions on communication with a subject company, public appearances and trading securities held by a research analyst account.

For Singapore
In Singapore, this report is being distributed by Motilal Oswal Capital Markets Singapore Pte Ltd ("MOCMSPL") (Co. Reg. NO. 201129401Z) which is a holder of a capital markets services license and an exempt financial adviser in Singapore. Persons in Singapore should contact MOCMSPL in respect of any matter arising from, or in connection with this report/publication/communication. This report is distributed solely to persons who qualify as "Institutional Investors", of which some of whom may consist of "accredited" institutional investors as defined in section 4A(1) of the Securities and Futures Act of Singapore .Accordingly, if a Singapore person is not, or ceases to be, such an investor, they must immediately discontinue any use of this Report and inform MOCMSPL .

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

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

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

Registration granted by SEBI and certification from NISM in no way guarantee performance of the intermediary or provide any assurance of returns to investors.
Registered Office Address: Motilal Oswal Tower, Rahimtullah Sayani Road, Opposite Parel ST Depot, Prabhadevi, Mumbai-400025; Tel No.: 022 - 71934200 / 71934263; www.motilaloswal.com.
Correspondence Address: Palm Spring Centre, 2nd Floor, Palm Court Complex, New Link Road, Malad (West), Mumbai- 400 064. Tel No: 022 71881000. Details of Compliance Officer: Neeraj Agarwal, Email Id: na@motilaloswal.com, Contact No.:022-40548085.

Grievance Redressal Cell:

Contact Person	Contact No.	Email ID
Ms. Hemangi Date	022 40548000 / 022 67490600	query@motilaloswal.com
Ms. Kumud Upadhyay	022 40548082	servicehead@motilaloswal.com
Mr. Ajay Menon	022 40548083	am@motilaloswal.com

Registration details of group entities.: Motilal Oswal Financial Services Ltd. (MOFSL): INZ000158836 (BSE/NSE/MCX/NCDEX); CDSL and NSDL: IN-DP-16-2015; Research Analyst: INH000000412 . AMFI: ARN .: 146822. IRDA Corporate Agent – CA0579. Motilal Oswal Financial Services Ltd. is a distributor of Mutual Funds, PMS, Fixed Deposit, Insurance, Bond, NCDs and IPO products.

Customer having any query/feedback/ clarification may write to query@motilaloswal.com. In case of grievances for any of the services rendered by Motilal Oswal Financial Services Limited (MOFSL) write to grievances@motilaloswal.com, for DP to dpgrievances@motilaloswal.com.