

# Ocwen Financial Corporation (OCN, Neutral)

OCN Releases Encouraging Preliminary 4Q19 Results, Higher Book Value and Improved FY20 Originations Outlook

WHAT YOU SHOULD KNOW: Ocwen Financial Corporation (OCN) provided preliminary 4Q19 results highlighting \$37M of pre-tax income and total book value of \$412M at 12/31, an 8.1% QoQ increase. More importantly, OCN provided an update related to the company's cost savings plan and expected return to profitability during 3Q20, increased originations targets for FY20 and provided an update related to the impact of CELC. The company also authorized a \$5M share repurchase authorization. We view the book value improvement and positive CECL adjustments as significant positives insofar as one of our primary concerns about OCN shares was book value erosion while the company continued to report losses before generating positive net income in 2H20.

- Outlook OCN expects to achieve profitability during 3Q20 as the impact of cost re-engineering efforts reduce expenses. As of 4Q19, OCN GAAP operating expenses fell to \$139M and realizing \$385M of run-rate cost savings ahead schedule compared to the target of achieving \$400M by 3Q20. OCN expects the implementation of CECL to result in a \$47M favorable accounting adjustment related to reverse mortgage tail draws.
- Originations The company's run rate annualized originations volume increased to \$9B and OCN increased its FY20 origination target to \$15B from \$10B. This is a significant positive because it will provide significant MSR replenishment and should allow OCN to grow owned MSR UPB during FY20.
- Improved Outlook Between 4Q19 book value reaching \$412M and the anticipated \$47M CECL related benefit, OCN's proforma BV will increase to ~\$459M or \$3.38 per share. This is a material improvement compared to our previous estimates that had through BV per share falling as low as \$2.75 per share before beginning to rise again.
- We view the improved financial results and a higher book value as a significant positive development for OCN. The increased origination volume outlook is especially encouraging because it will provide a material source of MSR sourcing/growth that should stabilize the portfolio. Going forward, additional detail about the OCN's return on capital growth/targets after achieving profitability would be a significant improvement that could potentially justify a higher valuation for the company.
- Valuation: Based on our comparable company valuation analysis for OCN, we believe the stock is likely to trade within +/- 15% of current levels over the next 12 months. BTIG does not assign price targets to Neutral-rated stocks.

February 10, 2020

## Giuliano Bologna

(212) 588-6583 gbologna@btig.com

COMPANY DATA	
Closing Price:	\$1.07
Price Target:	-
Market Cap (\$M):	143.88
Shares Out (M):	134.5
Avg Daily Vol - 3 Months (M):	0.28
Dividend/Yield:	\$0.00/0.0%

REVISIONS									
	Previous	Current							
Rating	Neutral	Neutral							
Price Target	-	-							
FY19E EPS	-	\$(0.52)							
FY20E EPS	-	\$(0.89)							
FY19E Rev. (M)	\$1,296.76	\$1,063.05							

Diluted EPS (Adjusted)									
FY Dec	2018A	2019E	2020E						
Q1	(0.13)	0.04	(0.49)						
Q2	0.03	(0.06)	(0.43)						
Q3	(0.10)	(0.19)	(0.27)						
Q4	0.03	(0.30)	0.30						
Calendar EPS	(0.17)	(0.52)	(0.89)						
Calendar P/E	-	-	-						

REVENUE (\$M)										
FY Dec	2018A	2019E	2020E							
Q1	321.86	260.26	303.89							
Q2	311.30	253.58	274.34							
Q3	284.64	238.28	283.52							
Q4	276.77	310.93	236.38							
FY	1,194.58	1,063.05	1,098.12							

Source: IDC, BTIG Estimates and Company Documents (\$ in millions, except per share amount)



### **Investment Thesis**

We have a Neutral rating on shares of Ocwen Financial. We believe the company's shares are fairly values and the upside/downside scenarios are equally weighted. As the company works through its costs savings plan and is able to demonstrate the ability to return to growth, we believe the potential upside scenario will become clearer.

## **Upcoming Catalysts**

4Q19 Earnings

## **Base Case Assumptions**

- We assume OCN returns to profitability during FY20.
- Origination volumes increase to \$10B+ during FY20.
- Modest MSR portfolio growth.

## **Upside Scenario**

- OCN is able to scale profitability after the company achieves breakeven and earns an attractive return on capital.
- Originations volumes come in above expectations and MSR UPB grows significantly.
- Lower prepayment speeds.

#### **Downside Scenario**

- OCN is unable to return to profitability.
- Origination volumes fall short and the MSR portfolio contracts.
- Higher prepayment speeds.

## Price Performance



Source: IDC

## **Company Description**

Ocwen Financial Corp. is a financial services holding company, which through its subsidiaries engages in the servicing and origination of mortgage loans. The company was founded in February 1988 and is headquartered in West Palm Beach, FL.



### **Income Statement**

Servicing and subservicing   1,1866   399/4   2221   2222   2137   276-2   94.3   2559   2392   2471,   1925   934.6   171.0   169.9   169.8   169.3   60.0   60.	OCN - Operating Model	Dec-16	Dec-17	Mar-18	Jun-18	Sep-18	Dec-18	Dec-18	Mar-19	Jun-19	Sep-19	Dec-19	Dec-19	Mar-20	Jun-20	Sep-20	Dec-20	Dec-20
Sain or lane held for sale Other Oth																		2020E
Same not an heef for sale   90.4   103.4   19.8   24.4   16.9   16.6   77.7   17.6   15.1   14.9   19.2   66.8   92.4   107.7   107.1   93.6   4.7																		
Difference   1,387/2   1,194.6   260.3   258.6   288.3   310.9   206.5   206	Servicing and subservicing	1,186.6	989.4	222.1	222.2	213.7	276.2	934.3	255.9	239.2	247.1	192.5	934.6	171.0	169.9	169.8	169.3	680.0
Total expenses 1,287	Gain on loans held for sale	90.4	103.4	19.8	24.4	16.9	16.6	77.7	17.6	15.1	14.9	19.2	66.8	92.4	107.7	107.1	93.6	400.8
Total expenses  1,223.3  98.6  205.5  205.7  217.5  30.8  982.5  280.1  331.5  44.7  139.1  995.4  24.6  26.6  256.4  242.4  223.5  98.6  10.0  14.6  14.7  14.7  14.7  14.7  14.7  14.7  14.7  14.7  14.7  14.8																		89.1
Interest income   19.1   16.0   2.7   3.4   4.0   4.0   14.0   4.6   3.8   4.1   2.0   1.6   2.0   1.9   1.8   1.8   Interest peprate   4.12.6   -363.2   -50.8   -77.5   -61.3   -85.4   -275.0   -70.4   -31.6   -285.9   -60.2   -448.2   -58.1   -55.9   -53.8   -51.9   -26.8   Interest peprate   4.12.6   -363.2   -50.8   -77.5   -61.3   -85.4   -77.5   -70.0   -31.6   -285.9   -60.2   -448.2   -58.1   -55.9   -53.8   -51.9   -26.8   Interest peprate   4.12.6   -363.2   -50.8   -77.5   -61.3   -85.4   -77.0   -10.0   -7.8   -70.0   -7.8   -7.0   -7.8   -7.0   -7.8   -7.0   -7.8   -7.0   -7.8   -7.0   -7.8   -7.0   -7.8   -7.0   -7.0   -7.8	Total revenue	1,387.2	1,194.6	260.3	253.6	238.3	310.9	1,063.0	303.9	274.3	283.5	236.4	1,098.1	278.0	292.3	303.9	295.7	1,169.9
Interest opening call of significant or specific colors of the state o	Total expenses	1,223.3	998.6	206.5	205.7	217.5	302.8	932.5	280.1	331.5	44.7	139.1	795.4	246.6	256.4	242.4	223.5	968.9
Sain or sale of MSRs Other Oth	Interest income	19.1	16.0	2.7	3.4	4.0	4.0	14.0	4.6	3.8	4.1	2.0	14.6	2.0	1.9	1.8	1.8	7.5
Other Cotal other expenses   14.7   -3.2   -1.6   -2.3   -2.7   64.5   -5.9   -0.0   0.7   4.7   -0.5   5.9   -0.5   0.5	Interest expense	-412.6	-363.2	-50.8	-77.5	-61.3	-85.4	-275.0	-70.4	-31.6	-285.9	-60.2	-448.2	-58.1	-55.9	-53.8	-51.9	-219.7
Total other expenses																		0.0
Income (loss) before income taxes -206.4 -144.0																		-2.0
Income tax expense   7.0   -15.5   2.3   1.3   0.8   -4.0   0.5   3.4   5.4   4.5   0.0   13.3   0.0	Total other expenses	-370.3	-339.9	-48.8	-76.3	-60.8	-15.9	-201.8	-64.9	-27.2	-277.1	-58.7	-427.9	-56.6	-54.5	-52.4	-50.6	-214.2
Net income (loss) Non-Agency MSR FV Change Non-Agency MSR FV Change (Interest Epense) Non-Agency MSR Interest Epense) Non-Agency MSR Interest Epense (Interest Epens	Income (loss) before income taxes	-206.4	-144.0	5.0	-28.4	-40.0	-7.8	-71.2	-41.1	-84.3	-38.3	38.6	-125.2	-25.1	-18.6	9.1	21.5	-13.1
Net income (loss) atributable to Ocwen -199.8 -128.0 -128.	Income tax expense	-7.0	-15.5	2.3	1.3	8.0	-4.0	0.5	3.4	5.4	4.5	0.0	13.3	0.0	0.0	0.0	0.0	0.0
Net income (loss) atributable to Owen  -199.8 -128.0	Net income (loss)	-199.4	-128.5	2.6	-29.8	-40.8	-3.8	-71.7	-44.5	-89.7	-42.8	38.6	-138.4	-25.1	-18.6	9.1	21.5	-13.1
GAAP EPS - Basic	9																	0.0
GAAP EPS - Dillted	Net income (loss) atributable to Ocwen	-199.8	-128.0	2.5	-29.8	-40.9	-2.3	-70.5	-44.5	-89.7	-42.8	38.6	-138.4	-25.1	-18.6	9.1	21.5	-13.1
Adjusted Pre-tax income   \$0.13   -\$0.17   \$0.04   -\$0.06   -\$0.19   -\$0.30   -\$0.52   -\$0.37   -\$0.20   -\$0.14   \$0.29   -\$0.42   -\$0.19   -\$0.14   \$0.07   \$0.16   -\$5   \$5\$ hares outstanding - Basic Shares outstanding - Diluted   124.0   127.1   133.1   133.9	GAAP EPS - Basic	-\$1.61	-\$1.01	\$0.02	-\$0.22	-\$0.31	-\$0.02	-\$0.53	-\$0.33	-\$0.67	-\$0.32	\$0.29	-\$1.03	-\$0.19	-\$0.14	\$0.07	\$0.16	-\$0.10
Shares outstanding - Basic Shares outstanding - Basic Shares outstanding - Basic Shares outstanding - Diluted 124.0 127.1 134.6 133.9 133.9 133.9 133.9 134.5 133.9 134.5 134.6 134.9 134.5 135.6 135.2 135.5 135.8 1 135.8 1 135.8 1 135.8 135.8 1 13	GAAP EPS - Dilited	-\$1.61	-\$1.01	\$0.02	-\$0.22	-\$0.31	-\$0.02	-\$0.53	-\$0.33	-\$0.67	-\$0.32	\$0.29	-\$1.03	-\$0.19	-\$0.14	\$0.07	\$0.16	-\$0.10
Shares outstanding - Diluted  124.0   127.1   134.6   133.9   133.9   133.9   134.1   133.9   134.5   134.6   134.9   134.5   134.5   135.6   135.2   137.0   137.3   1    Pre-tax Income (loss)  -206.36   -143.97   4.97   -28.41   -40.00   -7.76   -71.21   -41.08   -84.33   -38.31   38.57   -125.16   -25.14   -18.61   9.08   21.52   -1    Expense notables  Non-Agency MSR FV Change  Non-Agency MSR FV Change (Interest Expense)  NRZ MSR Liability FV Change (Interest Expense)  Reverse Lending FV Change  Debt repurchase gain  Call Rights Execution Gain  Other/old reporting  222   122   1   20   14   -33   2   -14   0   2   0   -12   0   0   0   0    Adjusted Pre-tax Income (loss)  209   179   173   167   161   256   256   251   241   231   223   223   208   207   205   204   225   206   204   225    DPB - and of period (SB)  UPB - average (SB)  800 kvalue per share  134.0   134.0   134.9   134.5   134.6   134.9   134.5   134.6   134.9   134.5   134.9   134.5   134.6   134.9   134.5   134.9   134.5   134.6   134.9   134.5   134.6   134.9   134.5   134.5   134.5   134.5   134.9   134.5	Adjusted Pre-tax income	\$0.13	-\$0.17	\$0.04	-\$0.06	-\$0.19	-\$0.30	-\$0.52	-\$0.37	-\$0.20	-\$0.14	\$0.29	-\$0.42	-\$0.19	-\$0.14	\$0.07	\$0.16	-\$0.10
Shares outstanding - Diluted  124.0   127.1   134.6   133.9   133.9   133.9   134.1   133.9   134.5   134.6   134.9   134.5   135.6   135.2   137.0   137.3   1    Pre-tax income (loss)  -206.36   -143.97   4.97   -28.41   -40.00   -7.76   -71.21   -41.08   -84.33   -38.31   38.57   -125.16   -25.14   -18.61   9.08   21.52   -1    Expense notables  Non-Agency MSR FV Change  Non-Agency MSR Liability FV Change (Interest Expense)  NRZ MSR Liability FV Change (Interest Expense)  Reverse Lending FV Change  Debt repurchase gain  Call Rights Execution Gain  Debt reporting  222   122   1   20   14   -33   2   -14   0   2   0   -12   0   0   0   0    Adjusted Pre-tax Income (loss)  209   179   173   167   161   256   256   251   241   231   223   223   208   207   205   204   225   206   204   225   206   204   225   206   204   225   206   204   225   206   204   225   206   206   204   225   206   206   204   206   204   206   206   204   206   206   204   206   206   204   206   206   206   204   206	Shares outstanding - Basic	124.0	127.1	133.1	133.9	133.9	133.9	133.7	133.9	134.5	134.6	134.9	134.5	135.6	135.2	135.5	135.8	135.5
Expense notables Non-Agency MSR FV Change Notables Non-Agency MSR FV Change - net of hedge Non-Agency MSR FV Change (Interest Expense) Non-Agency MSR FV C	=							-										136.3
Expense notables Non-Agency MSR FV Change North Agency MSR FV Change - net of hedge North Agency MSR FV Change (Interest Expense) North Agency MSR Expense) North Agency MSR Expense (Interest Expense (Interest Expense) North Agency MSR Expense (Interest Expense (Interest Expense) North Agency MSR Expense (Interest Expense (Interest Expense (Interest Expense) North Agency MSR Expense (Interest Exp	Pre-tax income (loss)	-206.36	-143.97	4.97	-28.41	-40.00	-7.76	-71.21	-41.08	-84.33	-38.31	38.57	-125.16	-25.14	-18.61	9.08	21.52	-13.15
Non-Agency MSR FV Change - net of hedge NRZ MSR Liability FV Change (Interest Expense) Reverse Lending FV Change Debt repurchase gain Call Rights Execution Gain Other/old reporting 222 122 1 20 14 -33 2 -14 0 2 0 -28 0 0 0 0 0 Chter/old reporting 15.64 -21.97 5.97 -8.41 -26.00 -40.76 -69.21 -50.08 -26.33 -18.31 38.57 -56.16 -25.14 -18.61 9.08 21.52 -1  UPB - end of period (\$B) UPB - average (\$B)  209 179 173 167 161 256 256 251 241 231 223 223 208 207 205 204 220 20 20 20 20 20 20 20 20 20 20 20 20																0		0
NRZ MSR Liability FV Change (Interest Expense) Reverse Lending FV Change Reverse Lending FV Chan	Non-Agency MSR FV Change								0	0	-252	0	-252	0	0	0	0	0
Reverse Lending FV Change Debt repurchase gain Call Rights Execution Gain Other/old reporting Debt re-tax Income (loss)  222 122 1 20 14 -33 2 -14 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Non-Agency MSR FV Change - net of hedge								64	95	63	0	222	0	0	0	0	0
Debt repurchase gain Call Rights Execution Gain 222 122 1 20 14 -33 2 -14 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NRZ MSR Liability FV Change (Interest Expense)								-33	-46	198	_	119	0	0	0	0	0
Call Rights Execution Gain Other/old reporting  222 122 1 20 14 -33 2 -14 0 2 0 -14 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0														-				0
Other/old reporting Adjusted Pre-tax Income (loss)  222 122 1 20 14 -33 2 -14 0 2 0 -12 0 0 0 0 0 0 Adjusted Pre-tax Income (loss)  15.64 -21.97 5.97 -8.41 -26.00 -40.76 -69.21 -50.08 -26.33 -18.31 38.57 -56.16 -25.14 -18.61 9.08 21.52 -1  UPB - end of period (\$B)  UPB - average (\$B)  209 179 173 167 161 256 256 251 241 231 223 223 208 207 205 204 109 109 109 109 109 109 109 109 109 109									-					-	-	_	-	0
Adjusted Pre-tax Income (loss) 15.64 -21.97 5.97 -8.41 -26.00 -40.76 -69.21 -50.08 -26.33 -18.31 38.57 -56.16 -25.14 -18.61 9.08 21.52 -1  UPB - end of period (\$B)  UPB - average (\$B)  209 179 173 167 161 256 256 251 241 231 223 223 208 207 205 204 200 208 206 204 300 300 300 300 300 300 300 300 300 3	=	222	4.00		2.0		2.2	_	_	-	_	_	_	-	_	-	_	0
UPB - end of period (\$B)  UPB - average (\$B)  209 179 173 167 161 256 256 251 241 231 223 223 208 207 205 204 209 208 207 205 204 209 208 207 205 204 209 208 206 204 209 208 208 206 204 209 208 208 206 204 209 208 208 206 204 209 208 208 208 208 208 208 208 208 208 208				_						-				-	-		-	42.45
UPB - average (\$B) 228 195 176 170 164 261 193 254 246 221 213 234 209 208 206 204 3380 339 339 339 339 339 339 339 339 339 33	Adjusted Pre-tax Income (loss)	15.64	-21.97	5.97	-8.41	-26.00	-40.76	-69.21	-50.08	-26.33	-18.31	38.57	-56.16	-25.14	-18.61	9.08	21.52	-13.15
UPB - average (\$B) 228 195 176 170 164 261 193 254 246 221 213 234 209 208 206 204 3 Book value per share 5.27 4.16 4.74 4.48 4.18 4.14 4.14 3.82 3.14 2.83 3.01 3.01 3.26 3.17 3.22 3.36 3	LIPR - and of period (CR)	209	170	173	167	161	256	256	251	2/11	221	223	223	208	207	205	204	204
Book value per share 5.27 4.16 4.74 4.48 4.18 4.14 4.14 3.82 3.14 2.83 3.01 3.01 3.26 3.17 3.22 3.36 3	* ** *																	204
Return on equity   2.2%   -3.7%   4.0% -5.5% -17.9% -29.2%   -11.9%   -37.6% -22.5% -18.2% 39.2%   -12.3%   -23.7% -17.1% 8.4% 19.3%   -37.6% -22.5% -18.2% 39.2%   -12.3%   -23.7% -17.1% 8.4% 19.3%   -37.6% -22.5% -18.2% 39.2%   -12.3%   -23.7% -17.1% 8.4% 19.3%   -37.6% -22.5% -18.2% 39.2%   -12.3%   -23.7% -17.1% 8.4% 19.3%   -37.6% -22.5% -18.2% 39.2%   -12.3%   -23.7% -17.1% 8.4% 19.3%   -37.6% -22.5% -18.2% 39.2%   -37.6% -37.6% -37.6% -37.6%   -37.6% -37.6% -37.6%   -37.6% -37.6%   -37.6% -37.6%   -37.6%																		3.36
	Return on equity	2.2%	-3.7%	4.0%	-5.5%	-17.9%	-29.2%	-11.9%	-37.6%	-22.5%	-18.2%	39.2%	-12.3%	-23.7%	-17.1%	8.4%	19.3%	-3.0%

Source: BTIG Estimates and Company Documents



# BTIG Covered Companies Mentioned in this Report

OCWEN FINANCIAL CORP (OCN, Neutral, \$N/A PT; Current Price: \$1.07; Analyst: Giuliano.Bologna)



## Appendix: Analyst Certification and Other Important Disclosures

Insert Disclaimer

I, Giuliano Bologna, hereby certify that the views about the companies and securities discussed in this report are accurately expressed and that I have not received and will not receive direct or indirect compensation in exchange for expressing specific recommendations or views in this report.

## **Regulatory Disclosures**

## **Ratings Definitions**

BTIG LLC's ("BTIG") ratings, effective June 12, 2017, are defined as follows:

**BUY** – A security which is expected to produce a positive total return of 15% or greater over the 12 months following the recommendation. The BUY rating may be maintained as long as it is deemed appropriate, notwithstanding price fluctuations that would cause the target to fall outside of the 15% return.

**SELL** – A security which is expected to produce a negative total return of 15% or greater over the next 12 months following the recommendation. The SELL rating may be maintained as long as it is deemed appropriate, notwithstanding price fluctuations that would cause the target to fall outside of the 15% return.

**NEUTRAL** – A security which is not expected to appreciate or depreciate meaningfully over the next 12 months.

**NOT RATED** – A security which is not rated or covered by BTIG.

**UNDER REVIEW** – Effective immediately, coverage of the following securities is Under Review. Ratings, price targets, disclosures, and estimates for the companies listed below are suspended and should no longer be relied upon.

## **Distribution of Ratings and Investment Banking Clients**

BTIG must disclose in each research report the percentage of all securities rated by the member to which the member would assign a "buy", "neutral" or "sell" rating. The said ratings are updated on a quarterly basis. BTIG must also disclose the percentage of subject companies within each of these three categories for whom the member has provided investment banking services within the previous twelve months. Stocks under coverage as of the end of the most recent calendar quarter (December 31, 2019): 312

Distribution of BTIG's Research Recommendations (as of December 31, 2019):

BUY: 66.3%; NEUTRAL: 32.4%; SELL: 1.3%

Distribution of BTIG's Investment Banking Services (as of December 31, 2019):

BUY: 28.0%; NEUTRAL: 11.9%; SELL: 0.0%

For purposes of FINRA ratings distribution rules, BTIG's stock ratings of Buy, Neutral and Sell fall into Buy, Hold and Sell categories, respectively.

# **Company Valuation and Risk Disclosures**

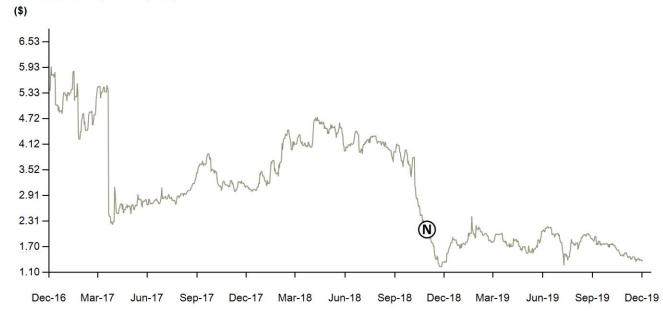
## Ocwen Financial Corporation (OCN, Neutral)

**Valuation:** Based on our comparable company valuation analysis for OCN, we believe the stock is likely to trade within +/-15% of current levels over the next 12 months. BTIG does not assign price targets to Neutral-rated stocks.

**Risks:** Upside and downside risks to our rating include: Regulatory risks, merger integrations risks, execution of cost savings initiatives, interest rate risk, economic risks and an acquisition of the company.



#### Ocwen Financial Corporation (OCN)



Note: Closing Price and Target Price have been adjusted for corporate actions.

Date	Closing Price (\$)	Target Price (\$)	Analyst	Rating
29-Nov-18	2.10	N/A	Giuliano Bologna	Neutral

### **Other Disclosures**

Additional Information Available Upon Request

#### **General Disclosures**

Research reports produced by BTIG LLC ("BTIG") are published for and intended to be distributed solely to BTIG institutional and corporate clients. Recipients of BTIG reports will not be considered clients of BTIG solely because they may have received such BTIG report.

To the extent recipient accesses BTIG research, whether on a BTIG research website or through a third-party platform, BTIG is able to search, filter, download and review information on the readership of BTIG's research, including the specific research consumed and the name, company name, email address and, in certain circumstances, the location of the individual who accessed the research (the "Readership Information"). Recipient consents to BTIG's receipt of the Readership Information, including receipt of that information from a third party.

The research analyst(s) responsible for the preparation of this report receives compensation based upon a variety of factors, including the quality and accuracy of research, internal/client feedback, and overall Firm revenues.

BTIG reports are based on public information and BTIG considers the same to be reliable, comprehensive information, but makes no representation or warranty that the reports are accurate or complete. BTIG opinions and information provided in this report are as of the date of the report and may change without notice. An issuer may be classified as "Under Review" or "Research Restricted". In these cases, investors should consider any previous investment recommendation and/or rating to a subject company/issuer to no longer be current and should not be relied upon nor considered a solicitation.

This research report is not an offer to buy or sell or solicitation of an offer to buy or sell any security in any jurisdiction where such an offer or solicitation would be illegal. This research report was not drafted specifically for any particular individual or entity and is not a personal recommendation to participate in any particular trading strategy or transaction. Any recipient of this research report should obtain independent advice specific to their personal circumstances before



undertaking any investment activity and must make their own independent evaluation of any securities or financial instruments.

Facts, views or opinions presented in this report have not been reviewed by, and may not reflect information known to, employees or other professionals in the "BTIG Group" (BTIG Group includes, but is not limited to, BTIG and its parents, subsidiaries and/or affiliates). BTIG Group employees, including Sales Representatives and Traders, may provide oral or written commentary or advice that may be inconsistent with the opinions and/or views expressed in this research report. BTIG Group employees and/or its affiliates not involved in the preparation of this research report may have investments in securities or derivatives of securities of companies mentioned in this report that are inconsistent with the views discussed in this report.

Investors in securities products bear certain risks in conjunction with those investments. The value of, and income from, any investments may vary because of changes in interest rates or foreign exchange rates, securities prices or market indexes, operational or financial conditions of companies or other factors within or beyond the companies' control. Recipient of the research reports should be aware that investments in securities may pose significant risks due to the inherent uncertainty associated with relying on forecasts of various factors that can affect the earnings, cash flow and overall valuation of a company. Any investment in securities should be undertaken only upon consideration of issues relating to the recipient's overall investment portfolio and objectives (such as diversification by asset class, industry or company) as well as time horizon and liquidity needs. Further, past performance should not be taken as an indication or guarantee of future performance, and no representation or warranty, express or implied, is made regarding future performance. There may be time limitations on the exercise of options or other rights in any securities transactions.

Investing in foreign markets and securities, including ADRs, is subject to additional risks such as currency fluctuation, limited information, political instability, economic risk, and the potential for illiquid markets. Investing in emerging markets may accentuate these risks. Non-U.S. reporting issuers of foreign securities, however, may not make regular or complete public disclosure relating to their financial condition or the securities that they issue.

The trademarks and service marks contained herein are the property of their respective owners. Third-party data providers make no warranties or representations of any kind relating to the accuracy, completeness, or timeliness of the data they provide and shall not have liability of any damages of any kind relating to such data. The report or any portion hereof may not be reprinted, sold or redistributed without the written consent of BTIG. This report is intended only for use by the recipient. The recipient acknowledges that all research and analysis in this report are the property of BTIG and agrees to limit the use of all publications received from BTIG within his, or her or its, own company or organization. No rights are given for passing on, transmitting, re transmitting or reselling the information provided.

### **Jurisdiction and Dissemination**

BTIG is a U.S. broker-dealer and member of FINRA and SIPC.

BTIG Australia Limited ACN 128 554 601, member of ASIC and ASX; BTIG Hong Kong Limited, an Exchange Participant of SEHK and licensed and regulated by the SFC; BTIG Ltd, member of the LSE, authorized and regulated by the FSA; and BTIG Singapore Pte Ltd, registered and licensed with MAS; are all separate but affiliated entities of BTIG. Unless governing law permits otherwise, you must contact a BTIG entity in your home jurisdiction for further information, or if you want to use our services in effecting a transaction.

Issued and approved for distribution in the UK and EEA by BTIG Ltd. to eligible counterparties and professional clients only. Issued and distributed in Australia to "wholesale clients" only by BTIG Australia Limited. In Singapore and Hong Kong, further information may be obtained from BTIG Singapore Pte Ltd and BTIG Hong Kong Limited, respectively.