



## Cboe Global Markets Reports Results for Third Quarter 2018

### Third Quarter 2018 Highlights\*

- **Diluted EPS of \$0.76, up 43 Percent**
- **Adjusted Diluted EPS of \$1.06<sup>1</sup>, up 19 Percent**
- **Net Revenue of \$270.5 Million Compared to \$269.7 Million in Third Quarter 2017**
- **\$84 Million of Capital Returned to Shareholders**

**CHICAGO, IL – November 2, 2018** - Cboe Global Markets, Inc. (Cboe: CBOE) today reported financial results for the third quarter of 2018.

Consolidated results for year-to-date 2017 include Bats Global Markets (Bats) for the period March 1 through September 30, 2017. Cboe completed its acquisition of Bats on February 28, 2017.

“We are pleased to report strong financial results for the third quarter at Cboe, where we continued to lay the foundation for future growth, including the successful launch of two new Cboe corporate bond index futures,” said Edward T. Tilly, Cboe Global Markets Chairman and Chief Executive Officer. “Our diverse offering of multi-asset products and services, anchored by our suite of proprietary products, uniquely positions Cboe to deliver value to our customers and shareholders in various market conditions. We saw trading volume in our proprietary products improve month-over-month throughout the third quarter and accelerate in October as volatility increased and investors around the globe looked to Cboe products to help manage their risk.”

“This was another solid quarter for Cboe. The strength of our business enables us to continue to invest in the growth of our business for the long-term while returning nearly \$84 million of capital to shareholders in the quarter through dividends and share repurchases,” said Brian N. Schell, Cboe Global Markets Executive Vice President and Chief Financial Officer. “We remain focused on strong expense discipline as we execute our key strategic growth initiatives and strive to deliver long-term value to our shareholders.”

*\*All comparisons are third quarter 2018 compared to third quarter 2017.*

*<sup>(1)</sup>A full reconciliation of our non-GAAP results to our GAAP results is included in the attached tables. See "Non-GAAP Information" in the accompanying financial tables.*

**Consolidated Third Quarter Results - Table 1**

Table 1 below presents summary selected unaudited condensed consolidated financial information for the company as reported and on an adjusted basis for the three months ended September 30, 2018 and 2017.

<b>Table 1</b>						
<b>Consolidated Third Quarter Results (\$ in millions except per share)</b>	<b>3Q18</b>	<b>3Q17</b>	<b>Change</b>	<b>3Q18 Adjusted<sup>1</sup></b>	<b>3Q17 Adjusted<sup>1</sup></b>	<b>Change</b>
Total Revenues Less Cost of Revenues	\$ 270.5	\$ 269.7	-	\$ 270.5	\$ 269.7	-
Total Operating Expenses	\$ 144.4	\$ 150.4	(4)%	\$ 99.1	\$ 101.9	(3)%
Operating Income	\$ 126.1	\$ 119.3	6 %	\$ 171.4	\$ 167.8	2 %
Operating Margin %	46.6 %	44.2 %	240 bps	63.4 %	62.2 %	120 bps
Net Income Allocated to Common Stockholders	\$ 85.0	\$ 59.7	42 %	\$ 118.3	\$ 100.1	18 %
Diluted EPS	\$ 0.76	\$ 0.53	43 %	\$ 1.06	\$ 0.89	19 %
EBITDA <sup>1</sup>	\$ 175.5	\$ 171.2	3 %	\$ 181.4	\$ 180.9	-
EBITDA Margin % <sup>1</sup>	64.9 %	63.5 %	140 bps	67.1 %	67.1 %	-

- Total revenues less cost of revenues (referred to as "net revenue") were \$270.5 million, up nominally from \$269.7 million in the prior-year period.
- Total operating expenses were \$144.4 million versus \$150.4 million in the third quarter of 2017. Adjusted operating expenses<sup>1</sup> were \$99.1 million versus \$101.9 million in the third quarter of 2017, primarily reflecting a decrease in depreciation and amortization and travel and promotional expenses.
- Operating income grew 6 percent to \$126.1 million and adjusted operating income grew by 2 percent to \$171.4<sup>1</sup> million.
- The effective tax rate for the third quarter of 2018 was 26.3 percent compared to 43.1 percent in the third quarter of 2017. The effective tax rate on adjusted earnings<sup>1</sup> in the third quarter of 2018 was 26.4 percent compared with 36.2 percent in the third quarter of 2017. The lower effective tax rate in 2018 primarily reflects the impact of corporate tax reform.
- Diluted EPS for the third quarter of 2018 was \$0.76. Adjusted diluted EPS<sup>1</sup> was \$1.06, up 19 percent compared to 2017's third quarter.

**Business Segment Information:**

<b>Table 2</b>			
<b>Total Revenues Less Cost of Revenues by Business Segment (in millions)</b>	<b>3Q18</b>	<b>3Q17</b>	<b>Change</b>
Options	\$ 133.2	\$ 130.7	2 %
U.S. Equities	71.4	70.2	2 %
Futures	30.0	38.9	(23)%
European Equities	22.3	18.4	21 %
Global FX	13.6	11.3	20 %
Corporate	-	0.2	(100)%
<b>Total</b>	<b>\$ 270.5</b>	<b>\$ 269.7</b>	<b>-</b>

<sup>(1)</sup>A full reconciliation of our non-GAAP results to our GAAP results is included in the attached tables. See "Non-GAAP Information" in the accompanying financial tables.

**Discussion of Results by Business Segment:**

**Options:**

- Options net revenue of \$133.2 million was up \$2.5 million or 2 percent from the third quarter of 2017, primarily due to higher revenue from access fees and growth in net transaction fees from multiply-listed options, offset by lower net transaction fees from index options.
- Net transaction fees<sup>1</sup> decreased \$1.5 million or 1 percent, as total options average daily volume (ADV) was relatively flat and the average RPC decreased 1 percent for the third quarter. The RPC decline reflects a shift in the mix of trading volume, with multiply-listed options accounting for a higher percentage of volume versus 2017's third quarter.

**U.S. Equities:**

- U.S. Equities net revenue of \$71.4 million was up \$1.2 million or 2 percent, primarily due to higher net transaction fees<sup>1</sup>, driven by a 16 percent increase in net capture, offset somewhat by lower volume resulting from a decline in market share.
- Cboe's U.S. Equities business had market share of 17.5 percent for the third quarter of 2018 compared to 19.2 percent in the third quarter of 2017.

**Futures:**

- Futures net revenue of \$30.0 million decreased \$8.9 million or 23 percent, primarily due to lower net transaction fees<sup>1</sup>, offset somewhat by increases in market data fees and exchange services and other fees.
- Net transaction fees<sup>1</sup> decreased \$10.9 million or 31 percent, due to a 28 percent decline in VIX futures ADV and a 3 percent decline in futures RPC, primarily resulting from a shift in the mix of trading volume.

**European Equities:**

- Total notional value traded during the quarter was €9.6 billion, up 10 percent from last year's third quarter, with net capture up 12 percent, reflecting a higher mix of periodic auction volume. Cboe Europe's Periodic Auctions book maintained strong volume in the third quarter with average daily notional value (ADNV) traded of €1.0 billion. Net revenue for European Equities increased 21 percent, reflecting growth in both net transaction fees<sup>1</sup> and non-transaction revenue.
- For the third quarter of 2018, Cboe Europe Equities retained its position as the largest Pan-European stock exchange with 23.1 percent market share, up from 21.1 percent in the third quarter of 2017.

**Global FX:**

- Global FX net revenue of \$13.6 million increased \$2.3 million or 20 percent from \$11.3 million, primarily due to higher net transaction fees<sup>1</sup> compared with the third quarter of 2017. ADNV traded on the Cboe FX platform was \$34.6 billion for the quarter, up 19 percent from last year's third quarter.
- Cboe FX market share increased to 14.8 percent from 12.9 percent in the third quarter of 2017.

<sup>(1)</sup>A full reconciliation of our non-GAAP results to our GAAP results is included in the attached tables. See "Non-GAAP Information" in the accompanying financial tables.

## 2018 Fiscal Year Financial Guidance

The company reaffirmed its financial guidance for the 2018 fiscal year as follows:

- Adjusted operating expenses are expected to be in a range of \$420 to \$428 million. The guidance excludes the amortization of acquired intangible assets of \$157 million, which the company plans to include in its non-GAAP reconciliation.<sup>1</sup>
- Depreciation and amortization expense, which is included in adjusted operating expenses above, is expected to be in the range of \$43 to \$48 million, excluding the amortization of acquired intangible assets of \$157 million.
- Capital expenditures are expected to be in the range of \$35 to \$40 million. This includes the company's ongoing investments in technology, including Cboe's migration to Bats technology.
- The effective tax rate<sup>1</sup> on adjusted earnings for the full year is expected to be in the range of 26.5 to 28.5 percent. However, the company noted that it expects the tax rate for the fourth quarter to be at the higher end of the guidance range. Significant changes in trading volume, expenses, federal, state and local tax laws or rates and other items could materially impact this expectation.

<sup>(1)</sup>Specific quantifications of the amounts that would be required to reconcile the company's adjusted operating expenses guidance and adjusted effective tax rate guidance are not available. The company believes that there is uncertainty and unpredictability with respect to certain of its GAAP measures, primarily related to acquisition-related expenses that would be required to reconcile to GAAP operating expenses and GAAP effective tax rate, which preclude the company from providing accurate guidance on certain forward-looking GAAP to non-GAAP reconciliations. The company believes that providing estimates of the amounts that would be required to reconcile the range of the company's adjusted operating expenses and adjusted effective tax rate would imply a degree of precision that would be confusing or misleading to investors for the reasons identified above.

## Capital Management

As announced on October 30, 2018, the Cboe Board of Directors declared a dividend of \$0.31 per share for the fourth quarter of 2018 payable December 14, 2018, to stockholders of record as of November 30, 2018.

The company paid cash dividends of \$34.7 million, or \$0.31 per share, during the third quarter of 2018 and utilized \$49.1 million to repurchase 491,899 shares of its common stock under its share repurchase program at an average price of \$99.75 per share. As of September 30, 2018, the company had approximately \$206.1 million of availability remaining under its existing share repurchase authorizations.

At September 30, 2018, the company had adjusted cash and financial investments<sup>1</sup> of \$137.7 million. Long-term debt as of September 30, 2018 was \$1.2 billion.

## Earnings Conference Call

Executives of Cboe Global Markets will host a conference call to review its third-quarter financial results today, November 2, 2018, at 8:30 a.m. ET/7:30 a.m. CT. The conference call and any accompanying slides will be publicly available via live webcast from the Investor Relations section of the company's website at [www.cboe.com](http://www.cboe.com) under Events & Presentations. Participants may also listen via telephone by dialing (877) 255-4313 from the United States, (866) 450-4696 from Canada or (412) 317-5466 for international callers. Telephone participants should place calls 10 minutes prior to the start of the call. The webcast will be archived on the company's website for replay. A telephone replay of the earnings call also will be available from approximately 11:00 a.m. CT, November 2, 2018, through 11:00 p.m. CT, November 9, 2018, by calling (877) 344-7529 from the U.S., (855) 669-9658 from Canada or (412) 317-0088 for international callers, using replay code 10124263.

<sup>(1)</sup>A full reconciliation of our non-GAAP results to our GAAP results is included in the attached tables. See "Non-GAAP Information" in the accompanying financial tables.

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## **About Cboe Global Markets**

Cboe Global Markets, Inc. (Cboe: CBOE) is one of the world's largest exchange holding companies, offering cutting-edge trading and investment solutions to investors around the world. The company is committed to relentless innovation, connecting global markets with world-class technology, and providing seamless solutions that enhance the customer experience.

Cboe offers trading across a diverse range of products in multiple asset classes and geographies, including options, futures, U.S. and European equities, exchange-traded products (ETPs), global foreign exchange (FX) and multi-asset volatility products based on the Cboe Volatility Index (VIX Index), the world's barometer for equity market volatility.

Cboe's trading venues include the largest options exchange in the U.S. and the largest stock exchange by value traded in Europe. In addition, the company is the second-largest stock exchange operator in the U.S. and a leading market globally for ETP trading.

The company is headquartered in Chicago with offices in Kansas City, New York, London, San Francisco, Singapore, Hong Kong and Ecuador. For more information, visit [www.cboe.com](http://www.cboe.com).

### Cautionary Statements Regarding Forward-Looking Information

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 that involve a number of risks and uncertainties. You can identify these statements by forward-looking words such as “may,” “might,” “should,” “expect,” “plan,” “anticipate,” “believe,” “estimate,” “predict,” “potential” or “continue,” and the negative of these terms and other comparable terminology. All statements that reflect our expectations, assumptions or projections about the future other than statements of historical fact are forward-looking statements. These forward-looking statements, which are subject to known and unknown risks, uncertainties and assumptions about us, may include projections of our future financial performance based on our growth strategies and anticipated trends in our business. These statements are only predictions based on our current expectations and projections about future events. There are important factors that could cause our actual results, level of activity, performance or achievements to differ materially from those expressed or implied by the forward-looking statements.

We operate in a very competitive and rapidly changing environment. New risks and uncertainties emerge from time to time, and it is not possible to predict all risks and uncertainties, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements.

Some factors that could cause actual results to differ include: the loss of our right to exclusively list and trade certain index options and futures products; economic, political and market conditions; compliance with legal and regulatory obligations; price competition and consolidation in our industry; decreases in trading volumes, market data fees or a shift in the mix of products traded on our exchanges; legislative or regulatory changes; increasing competition by foreign and domestic entities; our dependence on and exposure to risk from third parties; our index providers’ ability to maintain the quality and integrity of their indexes and to perform under our agreements; our ability to operate our business without violating the intellectual property rights of others and the costs associated with protecting our intellectual property rights; our ability to attract and retain skilled management and other personnel, including those experienced with post-acquisition integration; our ability to accommodate trading volume and transaction traffic, including significant increases, without failure or degradation of performance of our systems; our ability to protect our systems and communication networks from security risks, including cyber-attacks and unauthorized disclosure of confidential information; challenges to our use of open source software code; our ability to meet our compliance obligations, including managing potential conflicts between our regulatory responsibilities and our for-profit status; damage to our reputation; the ability of our compliance and risk management methods to effectively monitor and manage our risks; our ability to manage our growth and strategic acquisitions or alliances effectively; unanticipated difficulties or expenditures relating to the acquisition of Bats Global Markets, Inc., including, without limitation, difficulties that result in the failure to realize expected synergies, accretion, efficiencies and cost savings from the acquisition within the expected time period (if at all), whether in connection with integration, migrating trading platforms, broadening distribution of product offerings or otherwise; restrictions imposed by our debt obligations; our ability to maintain an investment grade credit rating; potential difficulties in our migration of trading platforms and our ability to retain employees as a result of the acquisition; and the accuracy of our estimates and expectations. More detailed information about factors that may affect our actual results to differ may be found in our filings with the SEC, including in our Annual Report on Form 10-K for the year ended December 31, 2017 and other filings made from time to time with the SEC.

We do not undertake, and we expressly disclaim, any duty to update any forward-looking statement whether as a result of new information, future events or otherwise, except as required by law. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof.

The condensed consolidated statements of income and balance sheets are unaudited and subject to reclassification.

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**Cboe Global Markets, Inc.  
Key Performance Statistics by Business Segment**

	3Q 2018	2Q 2018	1Q 2018	4Q 2017	3Q 2017
<b>Options (ADV in thousands)</b>					
Total industry ADV	18,292	18,807	22,407	17,347	16,182
<b>Total company Options ADV</b>	<b>6,733</b>	<b>7,095</b>	<b>9,092</b>	<b>7,029</b>	<b>6,751</b>
Multiply-listed options	4,965	5,264	6,286	4,971	4,685
Index options	1,768	1,831	2,806	2,058	2,066
<b>Total Options Market Share</b>	<b>36.8 %</b>	<b>37.7 %</b>	<b>40.6 %</b>	<b>40.5 %</b>	<b>41.7 %</b>
<b>Total Options RPC:</b>	<b>\$ 0.244</b>	<b>\$ 0.241</b>	<b>\$ 0.261</b>	<b>\$ 0.239</b>	<b>\$ 0.247</b>
Multiply-listed options	\$ 0.068	\$ 0.063	\$ 0.061	\$ 0.056	\$ 0.061
Index options	\$ 0.737	\$ 0.753	\$ 0.710	\$ 0.682	\$ 0.669
<b>U.S. Equities</b>					
Total industry ADV (shares in billions)	6.3	6.9	7.6	6.4	6.1
Market share %	17.5 %	18.9 %	19.4 %	18.5 %	19.2 %
Net capture (per 100 touched shares)	\$ 0.026	\$ 0.023	\$ 0.023	\$ 0.022	\$ 0.022
<b>Futures</b>					
ADV (in thousands)	239	258	368	285	331
RPC	\$ 1.704	\$ 1.633	\$ 1.727	\$ 1.799	\$ 1.752
<b>European Equities</b>					
Total industry ADVN (Euros - in billions)	€ 41.4	€ 47.4	€ 50.8	€ 43.8	€ 41.1
Market share %	23.1 %	22.2 %	21.2 %	20.3 %	21.1 %
Net capture (bps)	0.195	0.183	0.190	0.177	0.168
<b>Global FX</b>					
Market share %	14.8 %	14.9 %	15.3 %	14.9 %	12.9 %
ADNV (\$ in billions)	\$ 34.6	\$ 38.4	\$ 41.6	\$ 32.4	\$ 29.0
Net capture (per one million shares traded)	\$ 2.63	\$ 2.56	\$ 2.45	\$ 2.57	\$ 2.63

ADV = average daily volume; ADVN = average daily notional value.

RPC, average revenue per contract, for options and futures represents total net transaction fees recognized for the period divided by total contracts traded during the period.

U.S. Equities, "net capture per 100 touched shares" refers to transaction fees less liquidity payments and routing and clearing costs divided by the product of one-hundredth ADV of touched shares on BZX, BYX, EDGX and EDGA and the number of trading days.

European Equities, "net capture per matched notional value" refers to transaction fees less liquidity payments in British pounds divided by the product of matched ADVN in British pounds and the number of trading days.

Global FX, "net capture per one million dollars traded" refers to net transaction fees divided by the product of one-thousandth of ADVN traded on the Cboe FX market and the number of trading days, divided by two, which represents the buyer and seller that are both charged on the transaction. Market Share represents Cboe FX volume divided by the total volume of publicly reporting spot FX venues (Cboe FX, NEX, Reuters/FXall, and FastMatch).

Average transaction fees per contract can be affected by various factors, including exchange fee rates, volume-based discounts and transaction mix by contract type and product type.

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**Cboe Global Markets, Inc. and Subsidiaries**  
**Consolidated Statements of Income (Unaudited)**  
**Three Months and Nine Months Ended September 30, 2018 and 2017**

(in millions, except per share amounts)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
<b>Revenue:</b>				
Transaction fees	\$ 411.8	\$ 423.3	\$ 1,423.7	\$ 1,133.6
Access fees	34.3	30.1	94.1	77.6
Exchange services and other fees	19.3	20.0	62.3	55.3
Market data fees	47.6	46.8	154.3	117.3
Regulatory fees	55.2	83.5	260.8	205.1
Other revenue	7.7	7.7	25.9	19.5
<b>Total Revenues</b>	<b>575.9</b>	<b>611.4</b>	<b>2,021.1</b>	<b>1,608.4</b>
<b>Cost of Revenue</b>				
Liquidity payments	229.2	234.3	803.2	606.1
Routing and clearing	8.7	9.4	28.8	27.9
Section 31 fees	46.8	75.9	236.7	180.5
Royalty fees	20.7	22.1	69.9	63.9
<b>Total Cost of Revenue</b>	<b>305.4</b>	<b>341.7</b>	<b>1,138.6</b>	<b>878.4</b>
<b>Revenues Less Cost of Revenues</b>	<b>270.5</b>	<b>269.7</b>	<b>882.5</b>	<b>730.0</b>
<b>Operating Expenses:</b>				
Compensation and benefits	51.8	50.4	168.1	148.2
Depreciation and amortization	50.3	55.4	154.9	136.3
Technology support services	10.6	11.4	34.5	30.9
Professional fees and outside services	16.6	17.6	51.9	48.9
Travel and promotional expenses	2.6	4.5	9.8	12.0
Facilities costs	3.3	2.9	8.6	7.7
Acquisition-related costs	5.9	5.5	23.3	75.4
Other expenses	3.3	2.7	8.5	7.4
<b>Total Operating Expenses</b>	<b>144.4</b>	<b>150.4</b>	<b>459.6</b>	<b>466.8</b>
<b>Operating Income</b>	<b>126.1</b>	<b>119.3</b>	<b>422.9</b>	<b>263.2</b>
<b>Other Income/(Expense):</b>				
Interest expense, net	(9.6)	(10.5)	(28.5)	(30.9)
Other income	(0.2)	(2.9)	1.1	(2.0)
<b>Total Other Income</b>	<b>(9.8)</b>	<b>(13.4)</b>	<b>(27.4)</b>	<b>(32.9)</b>
<b>Income Before Income Taxes</b>	<b>116.3</b>	<b>105.9</b>	<b>395.5</b>	<b>230.3</b>
Income tax provision	30.6	45.6	108.7	86.8
<b>Net Income</b>	<b>85.7</b>	<b>60.3</b>	<b>286.8</b>	<b>143.5</b>
Net loss attributable to redeemable noncontrolling interest	0.3	0.2	0.9	0.8
<b>Net Income Excluding Redeemable Noncontrolling Interest</b>	<b>86.0</b>	<b>60.5</b>	<b>287.7</b>	<b>144.3</b>
Change in redemption value of redeemable noncontrolling interest	(0.3)	(0.2)	(0.9)	(0.8)
Net income allocated to participating securities	(0.7)	(0.6)	(2.1)	(1.4)
<b>Net Income Allocated to Common Stockholders</b>	<b>\$ 85.0</b>	<b>\$ 59.7</b>	<b>\$ 284.7</b>	<b>\$ 142.1</b>
<b>Net Income Per Share Allocated to Common Stockholders:</b>				
Basic earnings per share	\$ 0.76	\$ 0.53	\$ 2.54	\$ 1.35
Diluted earnings per share	0.76	0.53	2.53	1.34
Weighted average shares used in computing income per share:				
Basic	111.4	112.3	112.0	105.5
Diluted	111.8	112.6	112.4	105.8

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**Cboe Global Markets, Inc. and Subsidiaries**  
**Condensed Consolidated Balance Sheets (Unaudited)**  
**September 30, 2018 and December 31, 2017**

(in millions)	September 30, 2018	December 31, 2017
<b>Assets</b>		
<b>Current Assets:</b>		
Cash and cash equivalents	\$ 136.8	\$ 143.5
Financial investments	0.9	47.3
Accounts receivable, net	221.9	217.3
Income taxes receivable	59.8	17.2
Other current assets	16.1	9.4
<b>Total Current Assets</b>	<b>435.5</b>	<b>434.7</b>
Investments	88.7	82.7
Land	4.9	4.9
Property and equipment, net	65.9	73.9
Goodwill	2,697.6	2,707.4
Intangible assets, net	1,768.2	1,902.6
Other assets, net	58.7	59.5
<b>Total</b>	<b>\$ 5,119.5</b>	<b>\$ 5,265.7</b>
<b>Liabilities, Redeemable Noncontrolling Interest and Stockholders' Equity</b>		
<b>Current Liabilities:</b>		
Accounts payable and accrued liabilities	\$ 147.8	\$ 153.8
Section 31 fees payable	15.1	105.6
Current portion of long-term debt	299.6	—
Deferred revenue	13.4	15.4
Income taxes payable	—	2.6
Contingent consideration liabilities	3.0	56.6
<b>Total Current Liabilities</b>	<b>478.9</b>	<b>334.0</b>
Long-term debt	915.1	1,237.9
Income tax liability	81.7	78.8
Deferred income taxes	475.4	488.2
Other non-current liabilities	7.1	6.8
<b>Total Liabilities</b>	<b>1,479.3</b>	<b>2,145.7</b>
<b>Redeemable Noncontrolling Interest</b>	<b>9.4</b>	<b>9.4</b>
<b>Stockholders' Equity:</b>		
Preferred stock	—	—
Common stock	1.2	1.2
Treasury stock at cost	(715.0)	(558.3)
Additional paid-in-capital	2,654.5	2,623.7
Retained earnings	1,185.4	993.3
Accumulated other comprehensive income (loss), net	25.8	50.7
<b>Total Stockholders' Equity</b>	<b>3,151.9</b>	<b>3,110.6</b>
<b>Total</b>	<b>\$ 5,119.5</b>	<b>\$ 5,265.7</b>

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**Non-GAAP Information**

In addition to disclosing results determined in accordance with GAAP, Cboe Global Markets has disclosed certain non-GAAP measures of operating performance. These measures are not in accordance with, or a substitute for, GAAP, and may be different from or inconsistent with non-GAAP financial measures used by other companies. The non-GAAP measures provided in this press release include net transaction fees, adjusted operating expenses, adjusted operating income, adjusted operating margin, adjusted net income allocated to common stockholders and adjusted diluted earnings per share, adjusted tax rate, adjusted cash and financial investments, EBITDA, EBITDA margin, adjusted EBITDA and adjusted EBITDA margin.

Management believes that the non-GAAP financial measures presented in this press release, including adjusted operating income and adjusted operating expenses, provide additional and comparative information to assess trends in our core operations and a means to evaluate period-to-period comparisons. Non-GAAP financial measures disclosed by management are provided as additional information to investors in order to provide them with an alternative method for assessing our financial condition and operating results.

*Amortization expense of acquired intangible assets:* We amortize intangible assets acquired in connection with various acquisitions. Amortization of intangible assets is inconsistent in amount and frequency and is significantly affected by the timing and size of our acquisitions. As such, if intangible asset amortization is included in performance measures, it is more difficult to assess the day-to-day operating performance of the businesses, the relative operating performance of the businesses between periods and the earnings power of the company. Therefore, we believe performance measures excluding intangible asset amortization expense provide investors with an additional basis for comparison across accounting periods.

*Acquisition-related expenses:* From time to time, we have pursued small bolt-on acquisitions and in 2017 completed a larger transformative acquisition, which have resulted in expenses which would not otherwise have been incurred in the normal course of the company's business operations. These expenses include integration costs, as well as legal, due diligence and other third party transaction costs. The frequency and the amount of such expenses vary significantly based on the size, timing and complexity of the transaction. Accordingly, we exclude these costs for purposes of calculating non-GAAP measures which provide an additional analysis of Cboe's ongoing operating performance or comparisons in Cboe's performance between periods.

*Other significant items:* We have excluded certain other charges that are the result of other non-comparable events to measure operating performance. For 2017, other significant items primarily included interest and other borrowing costs incurred prior to the close of the Bats transaction and accelerated stock-based compensation that was incurred due to a change in the vesting schedule for equity award grants.

**The tables below show the reconciliation of each financial measure from GAAP to non-GAAP. The non-GAAP financial measures exclude the impact of those items detailed below and are referred to as adjusted financial measures.**

**Reconciliation of GAAP and non-GAAP Information**

**Table 4**

(in millions, except per share amounts)

**Reconciliation of Net Income Allocated to Common Stockholders to Non-GAAP**

(As shown on Table 1)

	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2018	2017	2018	2017
Net income allocated to common stockholders	\$ 85.0	\$ 59.7	\$ 284.7	\$ 142.1
Non-GAAP adjustments				
Compensation and benefits (1)	—	—	—	9.1
Acquisition-related expenses (2)	5.9	5.5	23.3	75.4
Amortization of acquired intangible assets (3)	39.4	42.6	121.2	99.6
Change in contingent consideration	—	0.4	—	1.1
Debt issuance costs	—	—	—	0.9
Provision for uncollectable convertible notes receivable	—	3.8	—	3.8
Change in redemption value of noncontrolling interests	0.3	0.2	0.9	0.8
Interest and other borrowing costs (4)	—	—	—	4.3
Total Non-GAAP adjustments	45.6	52.5	145.4	198.8
Income tax expense related to the items above	(12.1)	(19.1)	(37.7)	(73.1)
Re-measurement of deferred tax assets and liabilities as a result of corporate rate increase in Illinois	—	7.4	—	7.4
Net income allocated to participating securities - effect on reconciling items	(0.2)	(0.4)	(0.7)	(1.1)
<b>Adjusted net income allocated to common stockholders</b>	<b>\$ 118.3</b>	<b>\$ 100.1</b>	<b>\$ 391.7</b>	<b>\$ 274.1</b>
<b>Reconciliation of Diluted EPS to Non-GAAP</b>				
Diluted earnings per common share	\$ 0.76	\$ 0.53	\$ 2.53	\$ 1.34
Per share impact of non-GAAP adjustments noted above	0.30	0.36	0.96	1.21
<b>Adjusted diluted earnings per common share</b>	<b>\$ 1.06</b>	<b>\$ 0.89</b>	<b>\$ 3.49</b>	<b>\$ 2.55</b>
<b>Reconciliation of Operating Margin to Non-GAAP</b>				
Revenue less cost of revenue	\$ 270.5	\$ 269.7	\$ 882.5	\$ 730.0
Non-GAAP adjustments noted above	—	—	—	—
<b>Adjusted revenue less cost of revenue</b>	<b>\$ 270.5</b>	<b>\$ 269.7</b>	<b>\$ 882.5</b>	<b>\$ 730.0</b>
Operating expenses	\$ 144.4	\$ 150.4	\$ 459.6	\$ 466.8
Non-GAAP adjustments noted above	45.3	48.5	144.5	185.2
<b>Adjusted operating expenses</b>	<b>\$ 99.1</b>	<b>\$ 101.9</b>	<b>\$ 315.1</b>	<b>\$ 281.6</b>
Operating income	\$ 126.1	\$ 119.3	\$ 422.9	\$ 263.2
Non-GAAP adjustments noted above	45.3	48.5	144.5	185.2
<b>Adjusted operating income</b>	<b>\$ 171.4</b>	<b>\$ 167.8</b>	<b>\$ 567.4</b>	<b>\$ 448.4</b>
<b>Adjusted operating margin (5)</b>	<b>63.4 %</b>	<b>62.2 %</b>	<b>64.3 %</b>	<b>61.4 %</b>
<b>Reconciliation of Income Tax Rate to Non-GAAP</b>				
Income before income taxes	116.3	105.9	395.5	230.3
Non-GAAP adjustments noted above	45.6	52.5	145.4	198.8
<b>Adjusted income before income taxes</b>	<b>\$ 161.9</b>	<b>\$ 158.4</b>	<b>\$ 540.9</b>	<b>\$ 429.1</b>
Income tax (benefit) expense	30.6	45.6	108.7	86.8
Non-GAAP adjustments noted above	12.1	11.7	37.7	65.7
<b>Adjusted income tax (benefit) expense</b>	<b>\$ 42.7</b>	<b>\$ 57.3</b>	<b>\$ 146.4</b>	<b>\$ 152.5</b>
<b>Adjusted income tax rate</b>	<b>26.4 %</b>	<b>36.2 %</b>	<b>27.3 %</b>	<b>35.5 %</b>

(\*) Includes Bats for the period March 1 through September 30, 2017.

(1) For the nine months ended September 30, 2017, this amount includes \$9.1 million for accelerated stock-based compensation expense.

(2) This amount includes professional fees and outside services, severance, and other costs related to the company's acquisition of Bats.

(3) This amount represents the amortization of acquired intangible assets for Bats.

(4) This amount represents interest and other borrowing costs incurred prior to the close of the Bats acquisition.

(5) Adjusted operating margin represents adjusted operating income divided by adjusted revenue less cost of revenue.

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**EBITDA Reconciliations**

EBITDA (earnings before interest, income taxes, depreciation and amortization) is a widely used non-GAAP financial measure of operating performance. EBITDA margin represents EBITDA divided by revenues less cost of revenues (net revenue). It is presented as supplemental information that the company believes is useful to investors to evaluate its results because it excludes certain items that are not directly related to the company's core operating performance. EBITDA is calculated by adding back to net income interest expense, income tax expense, depreciation and amortization. EBITDA should not be considered as substitutes either for net income, as an indicator of the company's operating performance, or for cash flow, as a measure of the company's liquidity. In addition, because EBITDA may not be calculated identically by all companies, the presentation here may not be comparable to other similarly titled measures of other companies. EBITDA margin represents EBITDA divided by net revenue.

**Table 5**

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
<i>(in millions)</i>				
<b>Reconciliation of Net Income Allocated to Common Stockholders to EBITDA and Adjusted EBITDA</b>				
<b>(Per Table 1)</b>				
<b>Net income allocated to common stockholders</b>	\$ 85.0	\$ 59.7	\$ 284.7	\$ 142.1
Interest	9.6	10.5	28.5	30.9
Income tax provision	30.6	45.6	108.7	86.8
Depreciation and amortization	50.3	55.4	154.9	136.3
<b>EBITDA</b>	<b>\$ 175.5</b>	<b>\$ 171.2</b>	<b>\$ 576.8</b>	<b>\$ 396.1</b>
<b>EBITDA Margin<sup>1</sup></b>	<b>64.9 %</b>	<b>63.5 %</b>	<b>65.4 %</b>	<b>54.3 %</b>
<b>Non-GAAP adjustments not included in above line items</b>				
Compensation and benefits (accelerated stock-based compensation)	—	—	—	9.1
Acquisition-related expenses	5.9	5.5	23.3	75.4
Provision for uncollectable convertible notes receivable	—	3.8	—	3.8
Other	—	0.4	—	1.1
<b>Adjusted EBITDA</b>	<b>\$ 181.4</b>	<b>\$ 180.9</b>	<b>\$ 600.1</b>	<b>\$ 485.5</b>
<b>Adjusted EBITDA Margin<sup>1</sup></b>	<b>67.1 %</b>	<b>67.1 %</b>	<b>68.0 %</b>	<b>66.5 %</b>
<b>September 30, December 31,</b>				
<b>2018 2017</b>				
<i>(in millions)</i>				
Cash and cash equivalents	\$ 88.5	\$ 143.5		
Financial investments	49.2	47.3		
Less cash collected for Section 31 Fees	—	(70.5)		
<b>Adjusted Cash</b>	<b>\$ 137.7</b>	<b>\$ 120.3</b>		

<sup>1</sup>EBITDA margin represents the respective EBITDA divided by the respective net revenue as shown in the non-GAAP reconciliations provided.

**Reconciliation of Net Transaction Fees – Three Months Ended September 30, 2018 and 2017 - Table 6**

	Consolidated		Options Segment		U.S. Equities Segment		Futures Segment		European Equities Segment		Global FX Segment	
	Three Months Ended		Three Months Ended		Three Months Ended		Three Months Ended		Three Months Ended		Three Months Ended	
	September 30,		September 30,		September 30,		September 30,		September 30,		September 30,	
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017
Transaction fees	\$ 411.8	\$ 423.3	\$ 175.2	\$ 172.3	\$ 176.7	\$ 185.5	\$ 25.7	\$ 36.6	\$ 22.4	\$ 19.0	\$ 11.8	\$ 9.9
Liquidity payments	(229.2)	(234.3)	(68.2)	(64.5)	(152.7)	(161.9)	—	—	(8.3)	(7.9)	—	—
Routing and clearing	(8.7)	(9.4)	(3.5)	(2.8)	(5.2)	(6.6)	—	—	—	—	—	—
<b>Net transaction fees</b>	<b>\$ 173.9</b>	<b>\$ 179.6</b>	<b>\$ 103.5</b>	<b>\$ 105.0</b>	<b>\$ 18.8</b>	<b>\$ 17.0</b>	<b>\$ 25.7</b>	<b>\$ 36.6</b>	<b>\$ 14.1</b>	<b>\$ 11.1</b>	<b>\$ 11.8</b>	<b>\$ 9.9</b>