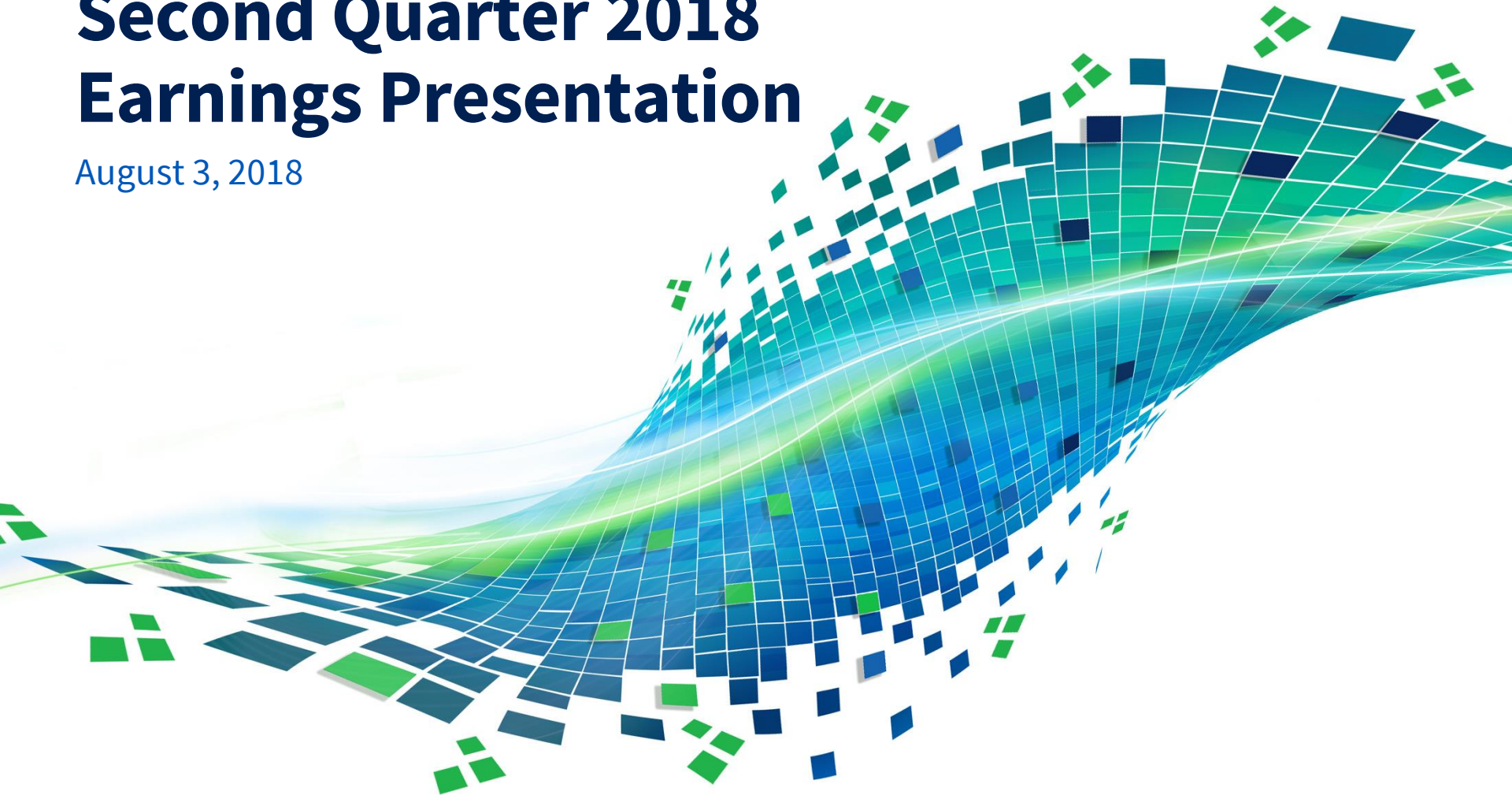


# Second Quarter 2018 Earnings Presentation

August 3, 2018



## **Strategic Review**

**Edward Tilly**

*Chairman and Chief Executive Officer*

## **Financial Review**

**Brian Schell**

*Executive Vice President, CFO and Treasurer*

## **Questions and Answers**

**Edward Tilly**

**Brian Schell**

**Chris Concannon**

*President and Chief Operating Officer*

**John Deters**

*Chief Strategy Officer and Head of Multi-Asset Solutions*

# Cautionary Statements Regarding Forward-Looking Information

*This presentation 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.*

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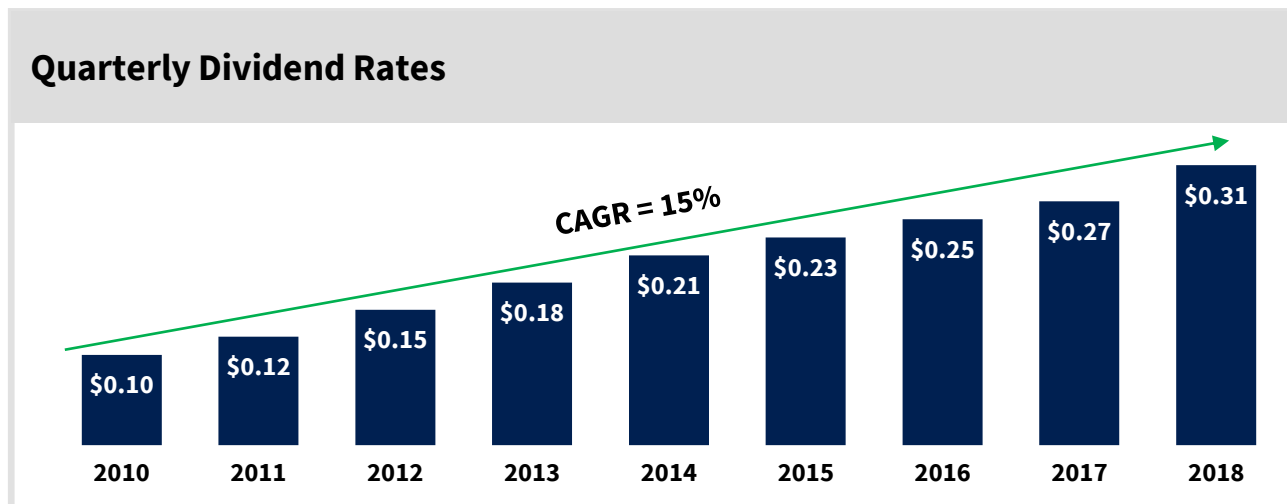


**Strategic Review**  
**Edward Tilly**  
**Chairman and CEO**

# Achieved Strong 2Q18 Financial Results

## Raised third-quarter cash dividend by 15%, eighth consecutive year to increase

- ❖ Adjusted EPS<sup>1</sup> of \$1.05, up 21%
- ❖ Net revenue of \$284 million, up 6%
- ❖ Increased share repurchase authorization by \$100 million
- ❖ Raised third-quarter dividend to \$0.31 per share from \$0.27 per share

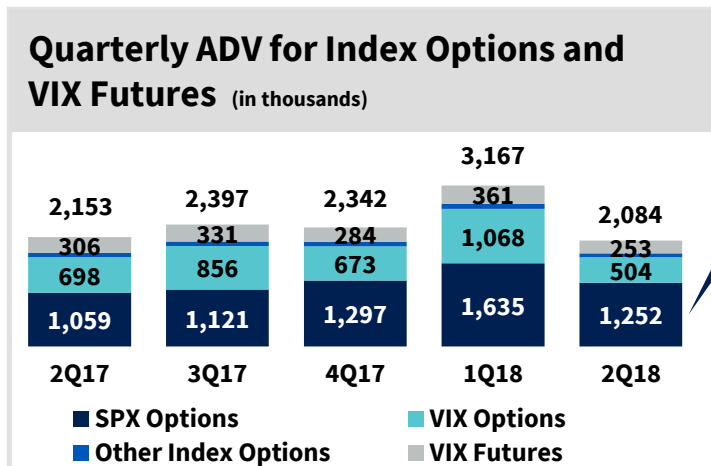


<sup>1</sup>See Appendix for "Non-GAAP Information."

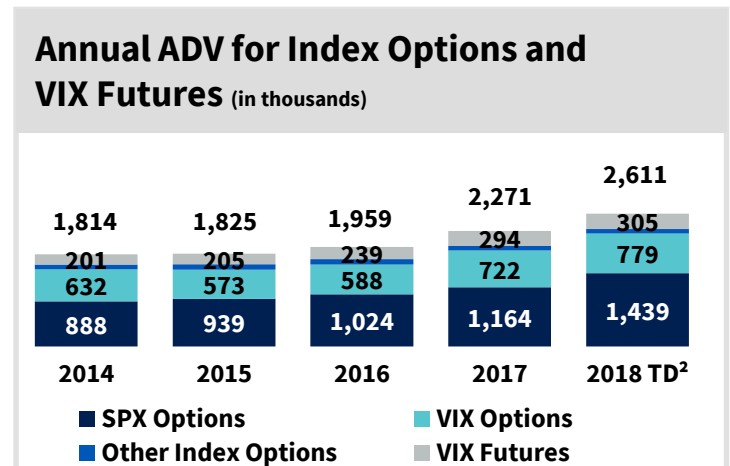
# SPX Options Key Growth Driver in 2Q18

## SPX options trading increased 18%, helping offset declines in VIX options and futures

- ❖ Notable success in FX market and healthy growth in European Equities
  - FX market ADV up 38% versus 2Q17
  - European Equities net revenue up 26%



SPX options up 18%<sup>1</sup>

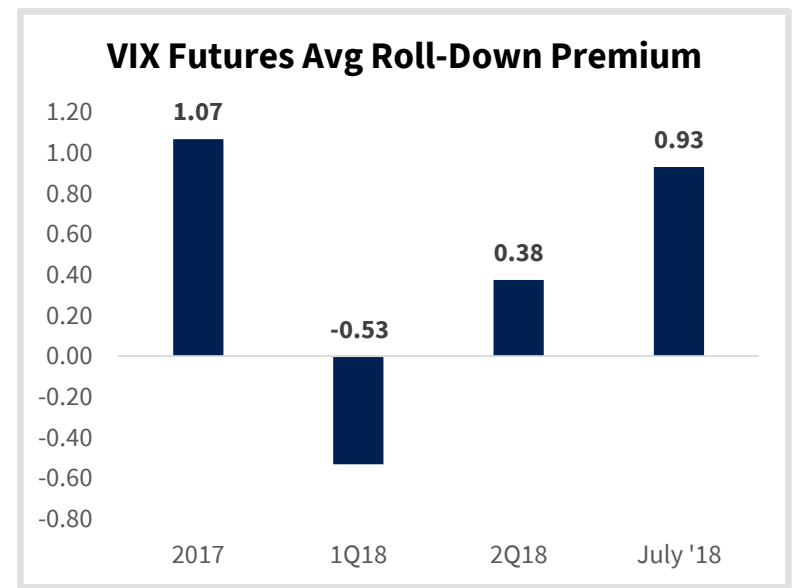
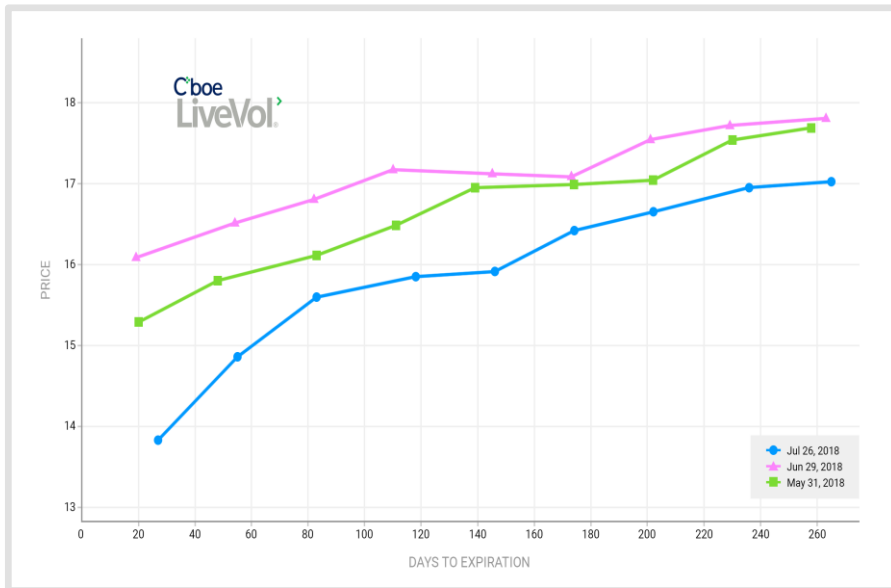


<sup>1</sup>Represents SPX ADV for 2Q18 versus 2Q17

<sup>2</sup>Through June 30, 2018

# Together VIX and SPX Form a Powerful Set of Risk Management Tools for Investors Globally

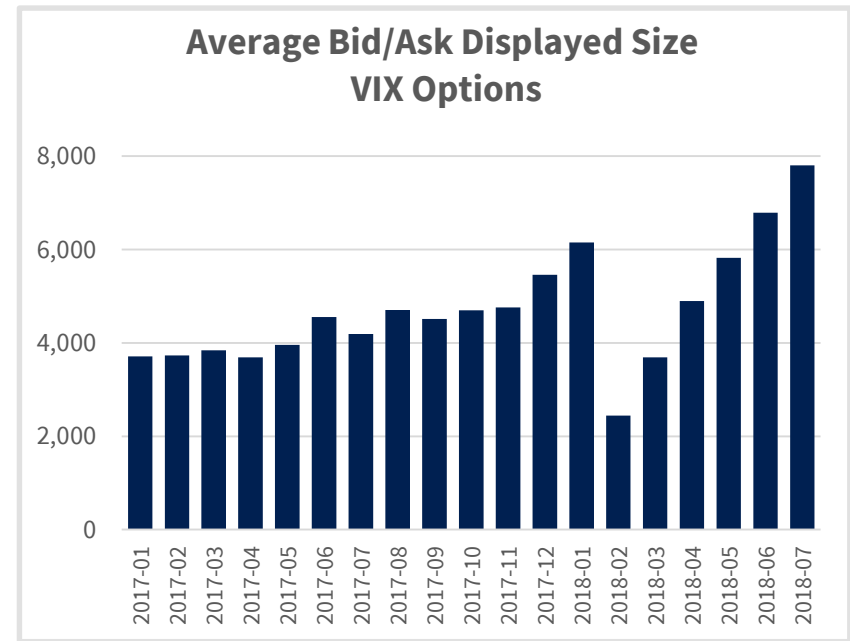
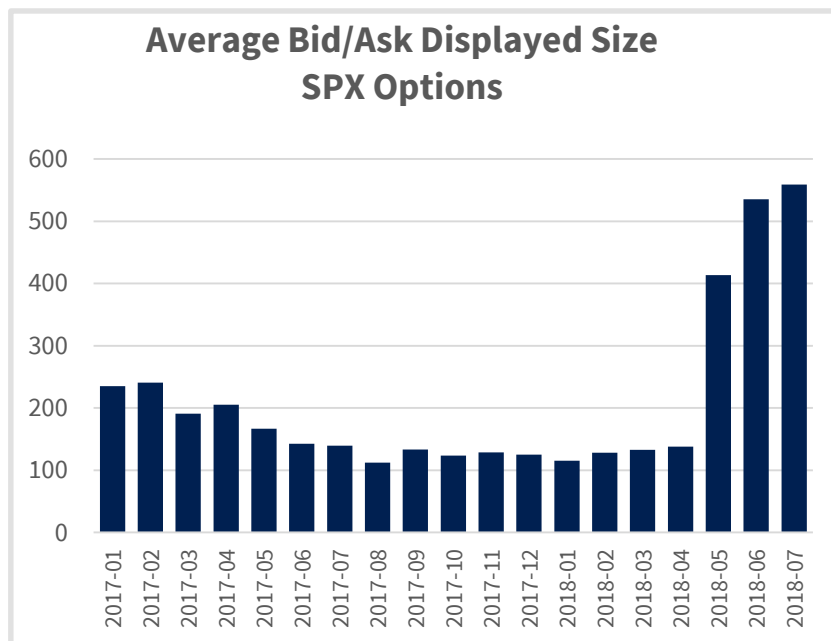
- ❖ Lingering instability in VIX term structure made it difficult for traders to consistently monetize roll-down premium that drives attractiveness of short volatility strategies
- ❖ Recently, have seen a return to the stable, upward sloping pattern that is more conducive to short volatility strategies



# Top of Book Growth in SPX and VIX Options

## Average displayed size at top of book increased for SPX and VIX options

- ❖ Displayed size in SPX and VIX options in June and July higher than any month in 2017
- ❖ Since migration of SPX to hybrid, displayed size has increased significantly





❖ **Our mission: “to power your potential to stay ahead of an evolving market,” is brought to life through three commitments:**

- Seamless solutions
- Relentless product innovation
- Leading-edge technology



## Expanding Cboe Risk Management Conference (RMC) program to include mini-RMC format

- ❖ Pilot program to be used opportunistically based on customer demand
- ❖ Upcoming RMC programs include:
  - RMC Europe planned for September 12-14, 2018; the 7<sup>th</sup> annual
  - Mini-RMC Tel Aviv planned for November 6, first one-day mini-RMC
  - RMC Asia planned for December 4-5, 2018; the 4<sup>th</sup> annual
- ❖ Educational forums dedicated to exploring the latest products, trading strategies and tactics used to manage risk exposure and enhance yields

# Product Innovation: Plan to Launch Cboe Corporate Bond Index Futures



## **Entered into collaboration with IHS Markit and BlackRock to develop broad-based corporate bond index futures<sup>1</sup>**

- ❖ New collaboration combines Cboe's product development expertise with IHS Markit's and BlackRock's leadership in the credit index space
- ❖ Plan to develop futures based on the performance of IHS Markit indices calculated from the holdings of both the iShares iBoxx \$ High Yield Corporate Bond ETF and the iShares iBoxx \$ Investment Grade Corporate Bond ETF
- ❖ Later this quarter, expect to launch futures based on the iShares High Yield Corporate Bond Index, subject to regulatory review, Investment Grade to follow
- ❖ Collaboration presents a channel for building a presence in the credit space

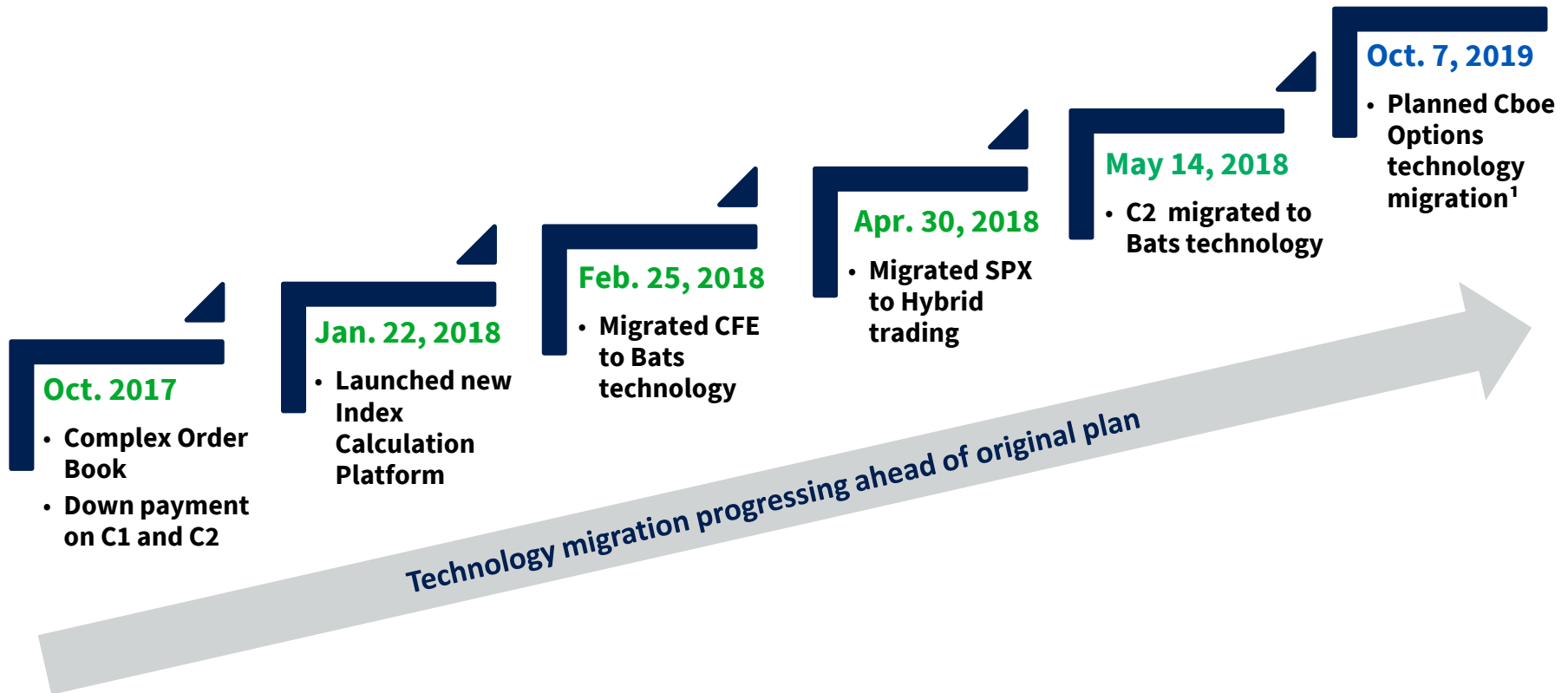


<sup>1</sup>Subject to regulatory review

## **Announced plans to establish a new venue in Amsterdam**

- ❖ Positions our business well to continue to serve customers across Europe after the UK's planned exit from the European Union
  - Netherlands supportive of competitive and open financial market infrastructures
  - Well-known location for Cboe, given ownership stake in pan-European clearinghouse EuroCCP, located in Amsterdam
  - Longstanding, good relations with the Dutch Authority for the Financial Markets
  - Plan to continue to operate existing Recognised Investment Exchange in the UK, offering similar services in both UK and EU venue

## Migrating Cboe exchanges onto Bats technology to create a common world-class trading platform across our options, futures and equities markets



<sup>1</sup>The planned migration of the Cboe Options Exchange is subject to regulatory review.

# Excited About Opportunities Ahead

## Laying the Groundwork for Future Growth

- ❖ Launching new products
- ❖ Expanding our global reach across asset classes
- ❖ Advancing our technology migration
- ❖ Achieving our acquisition synergy targets





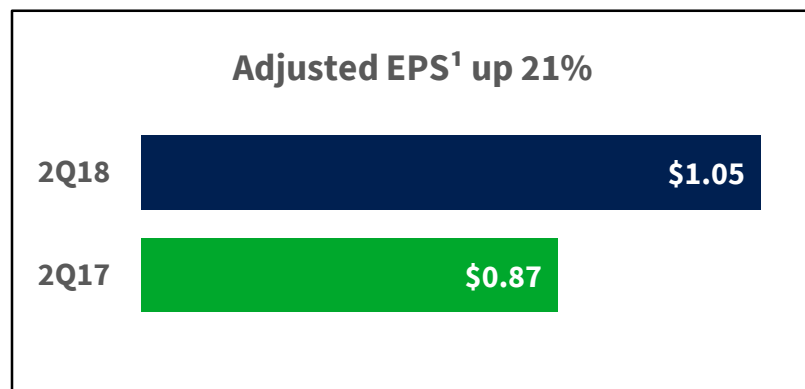
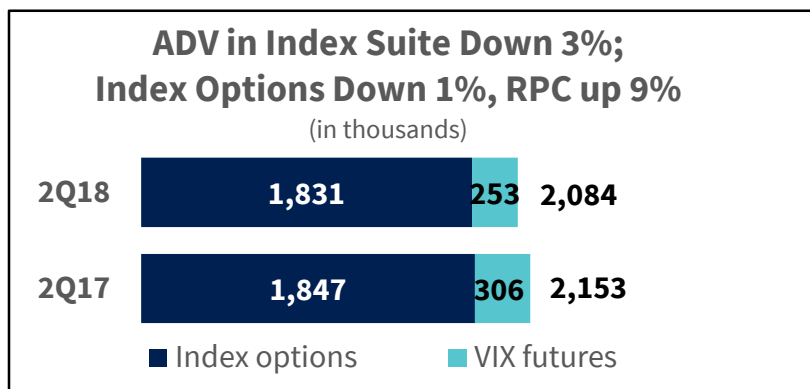
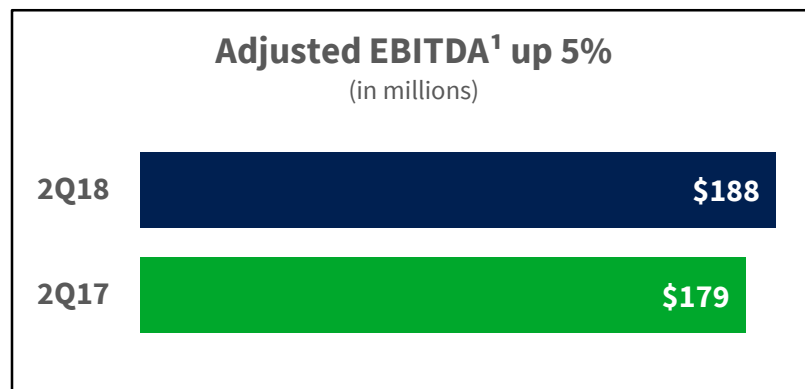
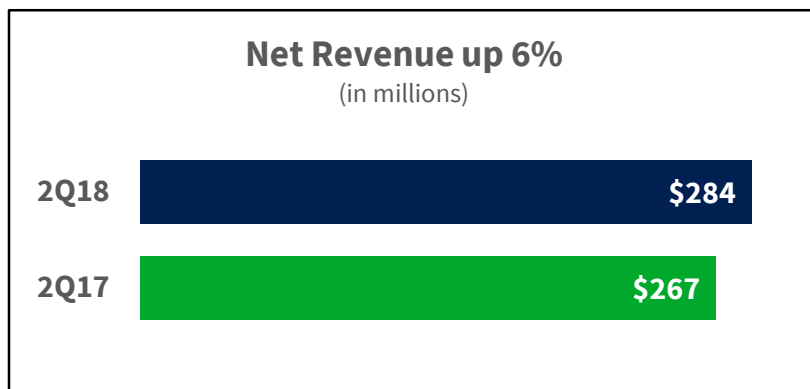
# **Financial Overview and Guidance**

## **Brian Schell**

### **EVP, CFO and Treasurer**

# Business Highlights – Key Growth Drivers

- ❖ Growth in index options net transaction revenue<sup>1</sup>, driven by 9% increase in RPC
- ❖ Growth from both transaction and non-transaction fees
- ❖ Expense discipline and expense synergies
- ❖ Demonstrated strong earnings growth



<sup>1</sup>See Appendix for “Non-GAAP Information.”



## 2Q18 Options Net Revenue Up 8%

- ❖ Revenue increase driven by higher transaction fees, mainly from index options
- ❖ 9% increase in index options RPC main growth driver, primarily reflects:
  - Higher mix of volume from SPX
  - Price changes implemented January 1

<b>Options Statistics</b> (\$ in millions, except RPC)	<b>2Q18</b>	<b>2Q17</b>	<b>Change</b>
<b>Options Net Revenue</b>	<b>\$136.4</b>	<b>\$126.7</b>	<b>8%</b>
<b>Key Operating Statistics:</b>			
<b>Total market share</b>	<b>37.7%</b>	<b>42.2%</b>	<b>-4.5% pts</b>
<b>Total ADV</b> (in thousands)	<b>7,095</b>	<b>7,035</b>	<b>1%</b>
Index options	1,831	1,847	-1%
Multiply-listed options	5,264	5,188	1%
<b>Total RPC</b>	<b>\$0.241</b>	<b>\$0.225</b>	<b>7%</b>
Index options	\$0.753	\$0.694	9%
Multiply-listed options	\$0.063	\$0.060	5%

# 2Q18 Futures Net Revenue Down 13%

- ❖ Revenue decrease reflects lower ADV and RPC
- ❖ RPC decrease primarily due to mix shift in volume
- ❖ Implemented new fee schedule on August 1, 2018, expect favorable impact on RPC

<b>Futures Statistics</b>	<b>2Q18</b>	<b>2Q17</b>	<b>Change</b>
<b>Futures Net Revenue</b> (in millions)	<b>\$31.4</b>	<b>\$36.2</b>	<b>-13%</b>
<b>Key Operating Statistics:</b>			
<b>Total ADV</b> (in thousands)	<b>258</b>	<b>307</b>	<b>-16%</b>
<b>Total RPC</b>	<b>\$1.633</b>	<b>\$1.762</b>	<b>-7%</b>

# U.S. Equities Net Revenue Up 4%

- ❖ Net revenue growth primarily driven by market data
- ❖ Increase in SIP market data revenue primarily due to audit recoveries
- ❖ Proprietary market data increase primarily due to pricing changes
- ❖ Expect downward pressure on full-year SIP market data revenue due to industry consolidation

<b>U.S. Equities Statistics</b>	<b>2Q18</b>	<b>2Q17</b>	<b>Change</b>
<b>U.S. Equities Net Revenue</b> (in millions)	<b>\$77.6</b>	<b>\$74.4</b>	<b>4%</b>
Market data – SIP	<b>27.6</b>	<b>26.5</b>	<b>4%</b>
Market data – Proprietary	<b>9.0</b>	<b>7.4</b>	<b>22%</b>
<b>Key Operating Statistics:</b>			
<b>Total market share</b>	<b>18.9%</b>	<b>19.2%</b>	<b>- 0.3% pts</b>
<b>Market ADV</b> (shares in billions)	<b>6.9</b>	<b>6.9</b>	<b>--</b>
<b>ADV</b> (matched shares in billions)	<b>1.3</b>	<b>1.3</b>	<b>--</b>
<b>Net revenue capture</b> (per 100 touched shares)	<b>\$0.023</b>	<b>\$0.023</b>	<b>--</b>

# European Equities Net Revenue Up 26%

- ❖ Net revenue increase primarily due to growth in net transaction fees and a benefit from foreign currency translation
- ❖ Net revenue up a healthy 12% on local currency basis
- ❖ Net transaction fees reflect increase in net capture
  - Strong response to Periodic Auctions and mix of trading

European Equities Statistics	2Q18	2Q17	Change
European Equities Net Revenue (in millions)	\$23.4	\$18.5	26%
<b>Key Operating Statistics:</b>			
Total market share	22.2%	21.3%	0.9% pts
Market ADV (Euros, in billions)	€47.4	€48.6	-2%
Net capture (per matched notional value, in basis points)	0.183	0.162	13%

# Global FX Net Revenue Up 33%

- ❖ Growth driven by increased volume on both New York and London matching engines, with London volume doubling
- ❖ Favorable macro environmental factors contributed to growth, in addition to technology enhancements and more effective liquidity provisioning

Global FX Statistics	2Q18	2Q17	Change
Global FX Net Revenue (in millions)	\$14.5	\$10.9	33%
<b>Key Operating Statistics:</b>			
Market share	14.9%	12.9%	2% pts
ADNV (\$ in billions)	\$38.4	\$27.9	38%
Net revenue (per one million dollars traded)	\$2.56	\$2.65	-10%

# Adjusted Operating Expenses Up 5%; Primarily Reflects Higher Compensation-Related Expenses



## 2Q18 vs 2Q17:

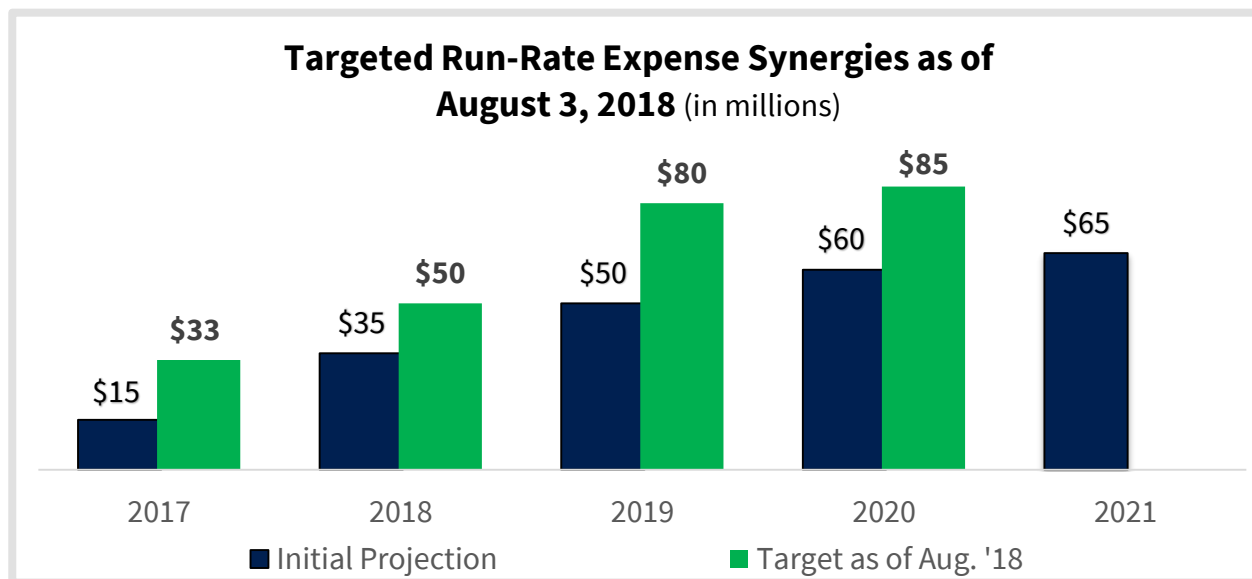
- ❖ Compensation and benefits up due to increase in:
  - Incentive-based compensation driven by YTD financial performance and timing of accruals versus prior year
  - Annual salary increases and lower capitalization of wages

Adjusted Operating Expenses <sup>1</sup> (in millions)	2Q18	2Q17	% Chg
Compensation and benefits	\$57.4	\$50.0	15%
Depreciation and amortization <sup>1</sup>	10.7	13.2	-19%
Technology support services	11.8	12.0	-2%
Professional fees and outside services	17.3	16.9	2%
Travel and promotional	3.5	4.2	-17%
Facilities costs	2.9	2.7	7%
Other expenses	2.5	2.3	9%
<b>Total<sup>1</sup></b>	<b>\$106.1</b>	<b>\$101.3</b>	<b>5%</b>

<sup>1</sup>See Appendix for “Non-GAAP Information”

# Run-Rate Expense Synergy Target of \$20 MM in 2018; \$85MM in 2020

- ❖ Realized \$4.2 million of pre-tax expense synergies in 2Q18; Realized \$7.2 million of pre-tax expense synergies YTD through June 30, 2018
- ❖ Run-rate expense synergy target of \$85 million in 2020



# 2018 Full-Year Guidance

<b>2018 Full-Year Guidance</b> (\$ in millions)	<b>Guidance as of August 3, 2018<sup>1</sup></b>	<b>Previous Guidance</b>
<b>Adjusted operating expenses<sup>2</sup></b>	\$420 to \$428	\$420 to \$428
<b>Depreciation and amortization (excluding amortization of acquired intangible assets)</b>	\$43 to \$48	\$53 to \$58
<b>Capital expenditures</b>	\$35 to \$40	\$45 to \$50
<b>Effective tax rate on adjusted earnings<sup>3</sup></b>	26.5% to 28.5%	26.5% to 28.5%

<sup>1</sup>See “Non-GAAP Information” in the appendix for reconciliations.

<sup>2</sup>Adjusted operating expenses for 2018 exclude acquisition-related expenses and amortization of acquired intangible assets, which are expected to be \$157 for 2018. Adjustments included in the non-GAAP reconciliation.

<sup>3</sup>The effective tax rate on adjusted earnings is expected to be at the higher end, but within the guidance range, for the third and fourth quarters.



# Focused on Efficient Allocation of Capital to Create Long-Term Shareholder Value



## Preserving balance sheet flexibility is a priority

- ❖ Invest in the growth of our business
- ❖ Return capital through dividends and share repurchases
  - Returned nearly \$79 million in dividends and share repurchases in 2Q18
  - Increased share repurchase authorization by \$100 million and raised third quarter dividend by 15% to \$0.31 per share

<b>Debt Outstanding</b> (\$ in millions)	<b>June 30, 2018</b>	<b>Mar. 31, 2018</b>	<b>Dec. 31, 2017</b>
<b>3.650% Senior Notes (10Y; Due 2027)</b>	\$ 650	\$ 650	\$ 650
<b>1.950% Senior Notes (2Y; Due 2019)</b>	300	300	300
<b>Term Loan Facility</b>	275	275	300
<b>Total Debt (Gross)</b>	<b>\$ 1,225</b>	<b>\$ 1,225</b>	<b>\$ 1,250</b>
<b>Debt to EBITDA TTM<sup>1</sup></b>	<b>1.6x</b>	<b>1.6x</b>	<b>1.8x</b>
<b>Adjusted Cash &amp; Financial Investments<sup>1</sup></b>	<b>\$116</b>	<b>\$166</b>	<b>\$120</b>
<b>Dividends Paid</b>	<b>\$30.6</b>	<b>\$30.6</b>	<b>\$30.6</b>
<b>Share Repurchases</b>	<b>\$48.3</b>	<b>\$43.6</b>	<b>--</b>

<sup>1</sup>See Appendix for "Non-GAAP Information."

# Delivering on Sources of Operating Leverage and Key Strategic Initiatives

## Growth of Core Proprietary Products

- Focused on growing proprietary products

## Diversification and Stabilization of Revenue Stream

- Strong growth in diverse set of revenue streams

## Scale of Business Model

- Disciplined expense management
- Provided higher operating margins

## Synergies Realization

- Continued to realize expense synergies

## Capital Allocation

- Returned capital through dividends and buybacks
- Focused on maintaining balance sheet flexibility
- Leverage ratio of 1.6x

# Questions & Answers

# Appendix Materials



# 2Q18 Financial Overview

<b>Adjusted Financial Results<sup>1</sup></b> (\$ in millions, except per share)	<b>2Q18</b>	<b>2Q17</b>	<b>% Chg</b>
Net Revenue <sup>2</sup>	\$283.5	\$266.9	6%
Adjusted Operating Expenses <sup>1</sup>	106.1	101.3	5%
Adjusted Operating Income <sup>1</sup>	\$177.4	\$165.6	7%
<i>Adjusted Operating Margin<sup>1</sup></i>	62.6%	62.0%	60 bps
Adjusted Net Income Allocated to Common Stockholders <sup>1</sup>	\$118.2	\$98.0	21%
Adjusted Diluted EPS <sup>1</sup>	\$ 1.05	\$ 0.87	21%
Adjusted EBITDA <sup>1</sup>	\$187.5	\$178.9	5%
<i>Adjusted EBITDA Margin<sup>1</sup></i>	66.1%	67.0%	-90 bps

<sup>1</sup>Adjusted to reflect the impact of certain items. See Appendix for "Non-GAAP Information."

<sup>2</sup>Net revenue referenced in this presentation represents revenue less cost of revenue.

# Net Revenue Growth Supported by Both Transaction and Non-Transaction Revenue



## 2Q18 net transaction fees up 5%; non-transaction revenue up 8%

<b>Net Revenue</b> (in millions)	<b>2Q18</b>	<b>2Q17</b>	<b>% Chg</b>
Net transaction fees	\$183.9	\$175.2	5%
Access fees	31.2	29.7	5%
Exchange services and other fees	21.0	19.9	6%
Market data fees	52.5	48.0	9%
Regulatory fees	8.2	8.7	-6%
Royalty fees	(22.0)	(20.6)	7%
Other revenue	8.7	6.0	45%
<b>Total</b>	<b>\$283.5</b>	<b>\$266.9</b>	<b>6%</b>

# Supplemental Segment Information

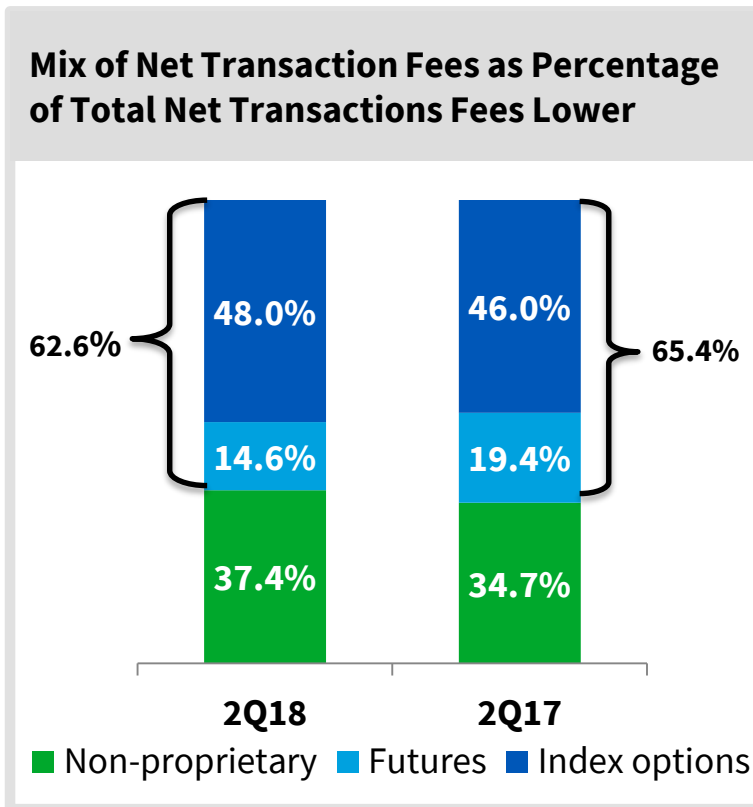
<b>2Q18 Supplemental Net Revenue by Segment</b> (in millions)	<b>Options</b>	<b>U.S. Equities</b>	<b>Futures</b>	<b>European Equities</b>	<b>Global FX</b>	<b>Total<sup>1</sup></b>
Net transaction fees <sup>2</sup>	\$109.5	\$20.0	\$26.9	\$14.7	\$12.8	\$183.9
Access fees	\$14.5	\$11.4	\$2.1	\$2.2	\$1.0	\$31.2
Exchange services and other fees	\$9.9	\$7.3	\$1.7	\$1.5	\$0.6	\$21.0
Market data fees	\$10.6	\$36.6	\$1.8	\$3.4	\$0.1	\$52.5

<b>2Q17 Supplemental Net Revenue by Segment</b> (in millions)	<b>Options</b>	<b>U.S. Equities</b>	<b>Futures</b>	<b>European Equities</b>	<b>Global FX</b>	<b>Total<sup>1</sup></b>
Net transaction fees <sup>2</sup>	\$99.7	\$20.2	\$34.0	\$11.7	\$9.6	\$175.2
Access fees	\$13.9	\$12.7	\$0.5	\$1.8	\$0.8	\$29.7
Exchange services and other fees	\$10.1	\$5.9	\$2.2	\$1.2	\$0.5	\$19.9
Market data fees	\$10.5	\$33.9	\$0.8	\$2.8	---	\$48.0

<sup>1</sup>Totals may not foot due to rounding

<sup>2</sup>A full reconciliation of our non-GAAP and combined results to our GAAP results is included in the following tables. See "Non-GAAP Information" in the accompanying financial tables.

## Proprietary Products - Key Driver of Revenue Growth





# Non-GAAP Information



# 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 presentation 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, EBITDA, EBITDA margin, adjusted EBITDA and adjusted EBITDA margin. The non-GAAP measures provided in this presentation also include combined company financial measures that are discussed in further detail below under the sub-section "Combined Reconciliations."

Management believes that the non-GAAP financial measures presented in this presentation, including adjusted net revenue 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. In addition to disclosing results determined in accordance with GAAP, Cboe has disclosed certain non-GAAP measures of operating performance.

**The tables that follow 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.**

# Non-GAAP Information

## **Combined Reconciliations**

The non-GAAP unaudited combined financial measures have been prepared by recording combined adjustments to the historical consolidated financial statements of Cboe Global Markets. The combined financial measures for the three months ended March 31, 2017 have been prepared as if the Bats acquisition closed on January 1, 2017.

Due to the transformative nature of the Bats acquisition, the company believes that providing a discussion of its results and operations on a non-GAAP combined basis provides management and investors an additional perspective on the company's financial and operational performance and trends. We believe that the non-GAAP financial measures presented provide additional and comparative information to assess trends in our core operations and a means to evaluate period-to-period comparisons.

These combined financial measures are not necessarily indicative of the financial position or results of operations that would have occurred had the transactions been effected on the assumed dates. Additionally, future results may vary significantly from the results reflected in the combined financial measures.

**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.**

<b>Reconciliation of Segment Net Revenues</b>							
<b>(in millions)</b>	<b>1Q17</b>	<b>2Q17</b>	<b>3Q17</b>	<b>4Q17</b>	<b>2017</b>	<b>1Q18</b>	<b>2Q18</b>
Options	\$ 128.9	\$ 126.7	\$ 130.7	\$ 130.0	\$ 516.3	\$ 167.1	\$ 136.4
U.S. Equities	25.5	74.4	70.2	69.0	239.1	79.7	77.6
Futures	28.8	36.2	38.9	35.6	139.5	42.3	31.4
European Equities	6.1	18.5	18.4	18.8	61.8	24.6	23.4
Global FX	4.0	10.9	11.3	12.0	38.2	14.6	14.5
Corporate	-	0.2	0.2	0.2	0.6	0.2	0.2
<b>Total</b>	<b>\$ 193.3</b>	<b>\$ 266.9</b>	<b>\$ 269.7</b>	<b>\$ 265.6</b>	<b>\$ 995.5</b>	<b>\$ 328.5</b>	<b>\$ 283.5</b>
<b>Non-GAAP Adjustments (1)</b>							
Options	\$ 6.2	-	-	-	\$ 6.2		
U.S. Equities	47.2	-	-	-	47.2		
Futures	-	-	-	-	-		
European Equities	11.8	-	-	-	11.8		
Global FX	6.8	-	-	-	6.8		
Corporate	-	-	-	-	-		
<b>Total</b>	<b>\$ 72.0</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 72.0</b>		
<b>Combined</b>							
Options	\$ 135.1	\$ 126.7	\$ 130.7	\$ 130.0	\$ 522.5		
U.S. Equities	72.7	74.4	70.2	69.0	286.3		
Futures	28.8	36.2	38.9	35.6	139.5		
European Equities	17.9	18.5	18.4	18.8	73.6		
Global FX	10.8	10.9	11.3	12.0	45.0		
Corporate	-	0.2	0.2	0.2	0.6		
<b>Total</b>	<b>\$ 265.3</b>	<b>\$ 266.9</b>	<b>\$ 269.7</b>	<b>\$ 265.6</b>	<b>\$ 1,067.5</b>		

(1) Represents historical Bats activity for the period January 1, 2017 through February 28, 2017.

## Non-GAAP Information

<b>Reconciliation of Net Transaction Fees by Segment</b>						
<b>For the Three Months Ended June 30, 2018</b>						
<b>(in millions)</b>	<b>Options</b>	<b>U.S. Equities</b>	<b>Futures</b>	<b>European Equities</b>	<b>Global FX</b>	<b>Total</b>
Transaction fees	\$ 189.0	\$ 211.9	\$ 26.9	\$ 24.2	\$ 12.8	\$ 464.8
Liquidity payments	(75.7)	(185.9)	-	(9.5)	-	(271.1)
Routing and clearing	(3.8)	(6.0)	-	-	-	(9.8)
Net transaction fees	\$ 109.5	\$ 20.0	\$ 26.9	\$ 14.7	\$ 12.8	\$ 183.9
<b>For the Three Months Ended June 30, 2017</b>						
<b>(in millions)</b>	<b>Options</b>	<b>U.S. Equities</b>	<b>Futures</b>	<b>European Equities</b>	<b>Global FX</b>	<b>Total</b>
Transaction fees	\$ 181.2	\$ 208.3	\$ 34.0	\$ 20.8	\$ 9.6	\$ 453.9
Liquidity payments	(76.9)	(180.5)	-	(9.1)	-	(266.5)
Routing and clearing	(4.6)	(7.6)	-	-	-	(12.2)
Net transaction fees	\$ 99.7	\$ 20.2	\$ 34.0	\$ 11.7	\$ 9.6	\$ 175.2

# Non-GAAP Information

<b>Reconciliation of Net Income Allocated to Common Stockholders, Diluted EPS</b>								
<b>(in millions, except per share amounts)</b>								
	<b>1Q17*</b>	<b>2Q17</b>	<b>3Q17</b>	<b>4Q17</b>	<b>2017*</b>	<b>1Q18</b>	<b>2Q18</b>	
Net income allocated to common stockholders	\$ 15.1	\$ 67.3	\$ 59.7	\$ 254.6	\$ 396.7	\$ 117.3	\$ 82.4	
Compensation and benefits (1)	9.1	-	-	-	9.1	-	-	
Acquisition-related expenses (2)	65.2	4.7	5.5	9.0	84.4	8.8	8.6	
Amortization of acquired intangible assets (3)	14.4	42.6	42.6	43.0	142.6	42.1	39.7	
Change in contingent consideration	0.2	0.5	0.4	(0.1)	1.0	-	-	
<b>Total Non-GAAP operating expense adjustments</b>	<b>88.9</b>	<b>47.8</b>	<b>48.5</b>	<b>51.9</b>	<b>237.1</b>	<b>50.9</b>	<b>48.3</b>	
Interest and other borrowing costs (4)	4.3	0.9	-	-	5.2	-	-	
Provision for uncollectable convertible notes receivable	-	-	3.8	-	3.8	-	-	
Change in redemption value of noncontrolling interest	0.3	0.3	0.2	0.3	1.1	0.3	0.3	
<b>Total Non-GAAP adjustments - pretax</b>	<b>93.5</b>	<b>49.0</b>	<b>52.5</b>	<b>52.2</b>	<b>247.2</b>	<b>51.2</b>	<b>48.6</b>	
Income tax expense related to the items above	(36.0)	(18.0)	(19.1)	(19.2)	(92.3)	(13.0)	(12.6)	
Re-measurement of deferred tax assets and liabilities as a result of corporate rate increase in Illinois	-	-	7.4	-	7.4	-	-	
Effect of tax reform law	-	-	-	(191.5)	(191.5)	-	-	
Net income allocated to participating securities - effect on	(0.4)	(0.3)	(0.4)	1.6	0.5	(0.3)	(0.2)	
<b>Adjusted net income allocated to common stockholders</b>	<b>\$ 72.2</b>	<b>\$ 98.0</b>	<b>\$ 100.1</b>	<b>\$ 97.7</b>	<b>\$ 368.0</b>	<b>\$ 155.2</b>	<b>\$ 118.2</b>	
<b>Reconciliation of Diluted EPS to Non-GAAP</b>								
Diluted earnings per common share	\$ 0.16	\$ 0.60	\$ 0.53	\$ 2.26	\$ 3.69	\$1.04	\$0.73	
Per share impact of non-GAAP adjustments noted above	0.62	0.27	0.36	(1.39)	(0.27)	0.34	0.32	
<b>Adjusted diluted earnings per common share</b>	<b>\$ 0.78</b>	<b>\$ 0.87</b>	<b>\$ 0.89</b>	<b>\$ 0.87</b>	<b>\$ 3.42</b>	<b>\$1.38</b>	<b>\$1.05</b>	
<b>Reconciliation of Operating Margin to Non-GAAP</b>								
Revenue less cost of revenue	\$ 193.3	\$ 266.9	\$ 269.7	\$ 265.6	\$ 995.5	\$ 328.5	\$ 283.5	
Non-GAAP adjustments noted above	-	-	-	-	-	-	-	
<b>Adjusted revenue less cost of revenue</b>	<b>\$ 193.3</b>	<b>\$ 266.9</b>	<b>\$ 269.7</b>	<b>\$ 265.6</b>	<b>\$ 995.5</b>	<b>\$ 328.5</b>	<b>\$ 283.5</b>	
<b>Operating expenses</b>	<b>\$ 167.3</b>	<b>\$ 149.1</b>	<b>\$ 150.4</b>	<b>\$ 156.9</b>	<b>\$ 623.7</b>	<b>\$ 160.8</b>	<b>\$ 154.4</b>	
Non-GAAP expense adjustments noted above	(88.9)	(47.8)	(48.5)	(51.9)	(237.1)	(50.9)	(48.3)	
<b>Adjusted operating expenses</b>	<b>\$ 78.4</b>	<b>\$ 101.3</b>	<b>\$ 101.9</b>	<b>\$ 105.0</b>	<b>\$ 386.6</b>	<b>\$ 109.9</b>	<b>\$ 106.1</b>	
Operating income	\$ 26.1	\$ 117.8	\$ 119.3	\$ 108.7	\$ 371.9	\$ 167.7	\$ 129.1	
Non-GAAP expense adjustments noted above	88.9	47.8	48.5	51.9	237.1	50.9	48.3	
<b>Adjusted operating income</b>	<b>\$ 115.0</b>	<b>\$ 165.6</b>	<b>\$ 167.8</b>	<b>\$ 160.6</b>	<b>\$ 609.0</b>	<b>\$ 218.6</b>	<b>\$ 177.4</b>	
<b>Adjusted operating margin (5)</b>	<b>59.5%</b>	<b>62.0%</b>	<b>62.2%</b>	<b>60.5%</b>	<b>61.2%</b>	<b>66.5%</b>	<b>62.6%</b>	
<b>Reconciliation of Income Tax Rate to Non-GAAP</b>								
Income before income taxes	\$ 18.3	\$ 106.1	\$ 105.9	\$ 104.1	\$ 334.4	\$ 159.4	\$ 119.8	
Non-GAAP adjustments noted above	93.5	49.0	52.5	52.2	247.2	51.2	48.6	
<b>Adjusted income before income taxes</b>	<b>\$ 111.8</b>	<b>\$ 155.1</b>	<b>\$ 158.4</b>	<b>\$ 156.3</b>	<b>\$ 581.6</b>	<b>\$ 210.6</b>	<b>\$ 168.4</b>	
Income tax (benefit) expense	\$ (3.1)	\$ 38.1	\$ 45.6	\$ (153.0)	\$ (66.2)	\$ 41.3	\$ 36.8	
Non-GAAP adjustments noted above	36.0	18.0	19.1	210.7	276.4	13.0	12.6	
<b>Adjusted income tax expense</b>	<b>\$ 32.9</b>	<b>\$ 56.1</b>	<b>\$ 64.7</b>	<b>\$ 57.7</b>	<b>\$ 210.2</b>	<b>\$ 54.3</b>	<b>\$ 49.4</b>	
<b>Adjusted income tax rate</b>	<b>29.4%</b>	<b>36.2%</b>	<b>40.8%</b>	<b>36.9%</b>	<b>36.1%</b>	<b>25.9%</b>	<b>29.4%</b>	

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

(1) For the three months ended March 31, 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.

# Non-GAAP Information

## 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.

<b>Reconciliation of Net Income Allocated to Common Stockholders to EBITDA and Adjusted EBITDA</b>								
<b>(in millions, except per share amounts)</b>	<b>1Q17</b>	<b>2Q17</b>	<b>3Q17</b>	<b>4Q17</b>	<b>2017</b>	<b>1Q18</b>	<b>2Q18</b>	
<b>Net income allocated to common stockholders</b>	\$ 15.1	\$ 67.3	\$ 59.7	\$ 254.6	\$ 396.7	\$ 117.3	\$ 82.4	
Interest	7.9	12.5	10.5	10.4	41.3	9.6	9.3	
Income tax provision	3.1	38.1	45.6	(153.0)	(66.2)	41.3	36.8	
Depreciation and amortization	25.1	55.8	55.4	55.9	192.2	54.2	50.4	
<b>EBITDA</b>	<b>\$ 51.2</b>	<b>\$ 173.7</b>	<b>\$ 171.2</b>	<b>\$ 167.9</b>	<b>\$ 564.0</b>	<b>\$ 222.4</b>	<b>\$ 178.9</b>	
<b>EBITDA Margin<sup>1</sup></b>	<b>26.5%</b>	<b>65.1%</b>	<b>63.5%</b>	<b>63.2%</b>	<b>56.7%</b>	<b>67.7%</b>	<b>63.1%</b>	
<b>Non-GAAP adjustments not included in above line items</b>								
Compensation and benefits (accelerated stock-based compensation)	9.1	-	-	-	9.1	-	-	
Acquisition-related expenses	65.2	4.7	5.5	9.0	84.4	8.8	8.6	
Provision for uncollectable convertible notes receivable	-	-	3.8	-	3.8	-	-	
Other	0.2	0.5	0.4	(0.1)	1.0	-	-	
<b>Adjusted EBITDA</b>	<b>\$ 125.7</b>	<b>\$ 178.9</b>	<b>\$ 180.9</b>	<b>\$ 176.8</b>	<b>\$ 662.3</b>	<b>\$ 231.2</b>	<b>\$ 187.5</b>	
<b>Adjusted EBITDA Margin<sup>1</sup></b>	<b>65.0%</b>	<b>67.0%</b>	<b>67.1%</b>	<b>66.6%</b>	<b>66.5%</b>	<b>70.4%</b>	<b>66.1%</b>	
<b>Reconciliation of Combined Net Income Allocated to Common Stockholders to EBITDA and Adjusted EBITDA</b>								
<b>Combined net income allocated to common stockholders*</b>	\$ 73.0							
Interest	12.0							
Income tax provision	22.0							
Depreciation and amortization	55.3							
<b>Combined EBITDA</b>	<b>\$ 162.3</b>							
<b>Combined EBITDA Margin<sup>1</sup></b>	<b>61.2%</b>							
<b>Non-GAAP adjustments not included in above line items</b>								
Compensation and benefits (accelerated stock-based compensation)	\$ 9.1							
Other	0.6							
<b>Adjusted Combined EBITDA</b>	<b>\$ 172.0</b>							
<b>Adjusted Combined EBITDA Margin<sup>1</sup></b>	<b>64.8%</b>							

\*Includes the activity of Bats for January 1 through February 28, 2017.

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

# Non-GAAP Information (see next slide for footnotes)

(in millions, except per share amounts)	Three Months Ended March 31, 2017
<b>Reconciliation of Non-transaction Revenue (1):</b>	
Access fees	\$ 17.8
Exchange services and other fees	15.4
Market data fees	22.5
Regulatory fees	8.3
Other revenue	5.8
Non-GAAP adjustments	44.1 (2)
<b>Combined non-transaction revenue</b>	<u>\$ 113.9</u>
<i>Total non-transaction revenue as a percent of revenues less cost of revenues (3)</i>	42.9%
<b>Reconciliation of Revenues Less Cost of Revenues:</b>	
Revenue less cost of revenues	\$ 193.4
Non-GAAP adjustments	71.9 (5)
<b>Combined revenue less cost of revenues</b>	<u>\$ 265.3</u>
<b>Reconciliation of Operating Expenses to Non-GAAP:</b>	
Operating expenses	\$ 167.3
Non-GAAP adjustments	(8.9) (6)
Non-GAAP adjustments as detailed below	(52.1)
<b>Adjusted combined operating expenses</b>	<u>\$ 106.3</u>
<b>Reconciliation of Operating Income to Non-GAAP:</b>	
Operating income	\$ 26.1
Non-GAAP revenue adjustments	80.8 (7)
Non-GAAP expense adjustments as detailed below	52.1
<b>Adjusted combined operating income</b>	<u>\$ 159.0</u>
<i>Adjusted combined operating margin (4)</i>	<u>59.9%</u>
<b>Reconciliation of Net Income Allocated to Common Stockholders to Non-GAAP:</b>	
Net income allocated to common stockholders	\$ 15.2
Non-GAAP adjustments	57.8 (8)
Non-GAAP expense adjustments as detailed below	32.8
<b>Adjusted combined net income allocated to common stockholders</b>	<u>\$ 105.8</u>
<b>Adjusted combined diluted EPS</b>	<u>\$0.94</u>
<b>Non-GAAP Operating Expense Adjustments to Non-GAAP:</b>	
Compensation and benefits	\$ 9.1
Amortization of acquired intangible assets	42.4
Other	0.6
Total non-GAAP operating expense adjustments	\$ 52.1
Income tax expense related to items above	(19.3)
<b>Total non-GAAP expense adjustments, net of tax</b>	<u>\$ 32.8</u>

## Non-GAAP Information - Footnotes for table on prior slide

- (1) Total non-transaction revenue represents the sum of access fees, exchange services and other fees, market data fees, regulatory fees (net of Section 31 fees) and other revenue.
- (2) Reflects adjustment to include the activity of Bats for January 1, 2017 through February 28, 2017 of \$11.9 million of access fees, \$5.0 million of exchange services and other fees, \$25.7 million of market data fees, \$0.5 million of regulatory fees and \$1.0 million of other revenue.
- (3) The percentage of combined non-transaction revenue represents total combined non-transaction revenue divided by combined revenue less cost of revenue.
- (4) Reflects adjustments to include the activity of Bats for January 1, 2017 through February 28, 2017 of \$71.9 million of revenue less cost of revenues.
- (5) Reflects adjustments to include the activity of Bats for January 1, 2017 through February 28, 2017 of \$56.2 million and adjustments to reduce Bats historical amortization of acquired intangibles by \$4.5 million and increase amortization of acquired intangibles by \$28.0 million for the periods January and February 2017. Also reflects adjustments to reduce acquisition costs by \$65.2 million for Cboe historical and reduce professional fees for Bats historical by \$23.4 million which are costs associated with the Bats merger.
- (6) Reflects adjustments to include the activity of Bats for January 1, 2017 through February 28, 2017 of \$15.7 million and adjustments to reduce Bats historical amortization of acquired intangibles by \$4.5 million and increase amortization of acquired intangibles by \$28.0 million for the periods January and February 2017. Also reflects adjustments to reduce acquisition costs by \$65.2 million for Cboe historical and reduce professional fees for Bats historical by \$23.4 million which are costs associated with the Bats merger.
- (7) Adjusted combined operating margin represents adjusted combined operating income divided by combined revenue less cost of revenue.
- (8) Reflects adjustments to include the activity of Bats for January 1, 2017 through February 28, 2017 of (\$0.2) million and adjustments to reduce Bats historical amortization of acquired intangibles by \$4.5 million and increase amortization of acquired intangibles by \$28.0 million for the periods January and February 2017. Also reflects adjustments to reduce acquisition costs by \$65.2 million for Cboe historical, reduce professional fees for Bats historical by \$23.4 million which are costs associated with the Bats merger and \$13.6 million to adjust for the extinguishment of Bats historical debt as well as the income tax impact of the previous adjustments of \$20.7 million



## Non-GAAP Information

<b>Adjusted Debt to EBITDA - Trailing Twelve Months<sup>1</sup></b>					
<b>(in millions)</b>	<b>3Q17</b>	<b>4Q17</b>	<b>1Q18</b>	<b>2Q18</b>	<b>LTM</b>
Combined net income allocated to common stockholders	\$ 59.7	\$ 254.6	\$ 117.3	\$ 82.4	\$ 514.0
Interest	10.5	10.4	9.6	9.3	39.8
Income tax provision	45.6	(153.0)	41.3	36.8	(29.3)
Depreciation and amortization	55.4	55.9	54.2	50.4	215.9
<b>EBITDA</b>	<b>\$ 171.2</b>	<b>\$ 167.9</b>	<b>\$ 222.4</b>	<b>\$ 178.9</b>	<b>\$ 740.4</b>
Non-GAAP adjustments not included in above line items:					
Acquisition-related expenses	5.5	9.0	8.8	8.6	31.9
Other	4.2	(0.1)	-		4.1
<b>Adjusted EBITDA</b>	<b>\$ 180.9</b>	<b>\$ 176.8</b>	<b>\$ 231.2</b>	<b>\$ 187.5</b>	<b>\$ 776.4</b>
Debt at end of period					\$ 1,225.0
<b>Debt to EBITDA</b>					<b>1.6x</b>

<sup>1</sup>A full reconciliation of our non-GAAP and combined results to our GAAP results are available in this section.

### Adjusted Cash

Adjusted cash is a non-GAAP measure and represents cash and cash equivalents plus financial investments minus cash collected for Section 31 fees, which will need to be remitted in the near term. We have presented adjusted cash because we consider it an important supplemental measure of our liquidity and believe that it is frequently used by analysts, investors and other interested parties in the evaluation of companies.

<b>Adjusted Cash (in millions)</b>	<b>As of 3/31/17</b>	<b>As of 6/30/17</b>	<b>As of 9/30/17</b>	<b>As of 12/31/17</b>	<b>As of 3/31/18</b>	<b>As of 6/30/18</b>
Cash and cash equivalents	\$ 153.3	\$ 148.6	\$ 124.8	\$ 143.5	\$ 166.3	\$ 140.0
Financial investments	41.3	110.4	2.4	47.3	64.0	131.8
Cash collected for Section 31 fees	(41.3)	(110.0)	-	(70.6)	(64.0)	(155.8)
<b>Adjusted Cash</b>	<b>\$ 153.3</b>	<b>\$ 149.0</b>	<b>\$ 127.2</b>	<b>\$ 120.2</b>	<b>\$ 166.3</b>	<b>\$ 116.0</b>



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