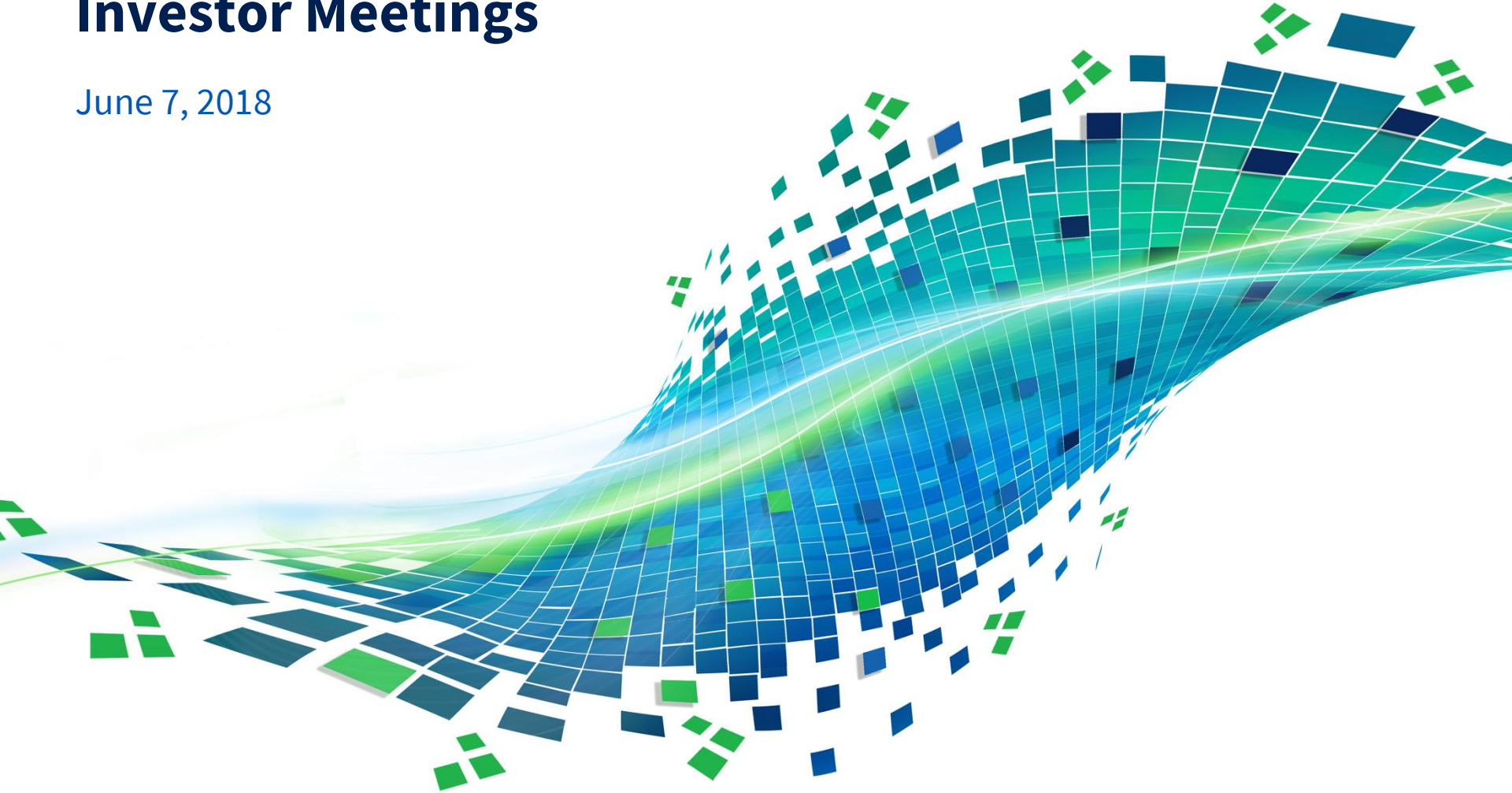


# **Sandler O'Neill**

## **Global Exchange and Brokerage Conference**

### **Investor Meetings**

June 7, 2018



# 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.*

Trademarks: Cboe<sup>®</sup>, Bats<sup>®</sup>, BZX<sup>®</sup>, BYX<sup>®</sup>, EDGX<sup>®</sup>, EDGA<sup>®</sup>, Cboe Volatility Index<sup>®</sup> and VIX<sup>®</sup> are registered trademarks and Cboe Global Markets<sup>SM</sup> and C2<sup>SM</sup> are service marks of Cboe Global Markets, Inc. and its subsidiaries. All other trademarks and service marks are the property of their respective owners. © 2017 Cboe Global Markets, Inc. All rights reserved.

# At Cboe – We Empower Potential to Stay Ahead of an Evolving Market

## What we do:

Cboe offers trading across a diverse range of products in multiple asset classes and geographies

Four U.S. Options  
Exchanges

Four U.S. Equities  
Exchanges

Futures  
Exchange

European  
Equities

Global FX

## How we do it:

Relentless Innovation

- To expand our diverse offering for investor around the world

Leading-edge Technology

- To connect customers to global markets

Seamless Solutions

- To enhance the customer experience through insights, education, data analytics and more

## Guiding Principles:

Active  
Transparency

Creative  
Collaboration

Competitive  
Spirit

Superior  
Service

Good  
Citizenship

# Strengthening our Position as a Leading Global Exchange Operator

## Diversified Product Offering

### Options

- **#1** U.S. options market<sup>1</sup> - home to SPX and VIX Index options
- 40.6% combined market share in 1Q18

### U.S. Equities

- **#2** U.S. equities market share<sup>1</sup>
- **#1** in retail volume

### Futures

- CFE home to VIX futures trading
- Available for trading nearly 24X5

### European Equities

- **#1** Pan-European equities market<sup>1</sup>
- 21.2% market share in 1Q18<sup>2</sup>

### Global FX

- 15.3% market share in 1Q18<sup>3</sup>
- Cboe FX – First ECN for institutional spot FX trading

<sup>1</sup>Based on 1Q18 market share

<sup>2</sup>Market share based on notional value traded.

<sup>3</sup>Market share represents Cboe FX volume divided by total volume of publicly reporting spot FX venues (Cboe FX, EBS, Thomson Reuters and FastMatch), which reflects readily available data from publicly reporting venues.

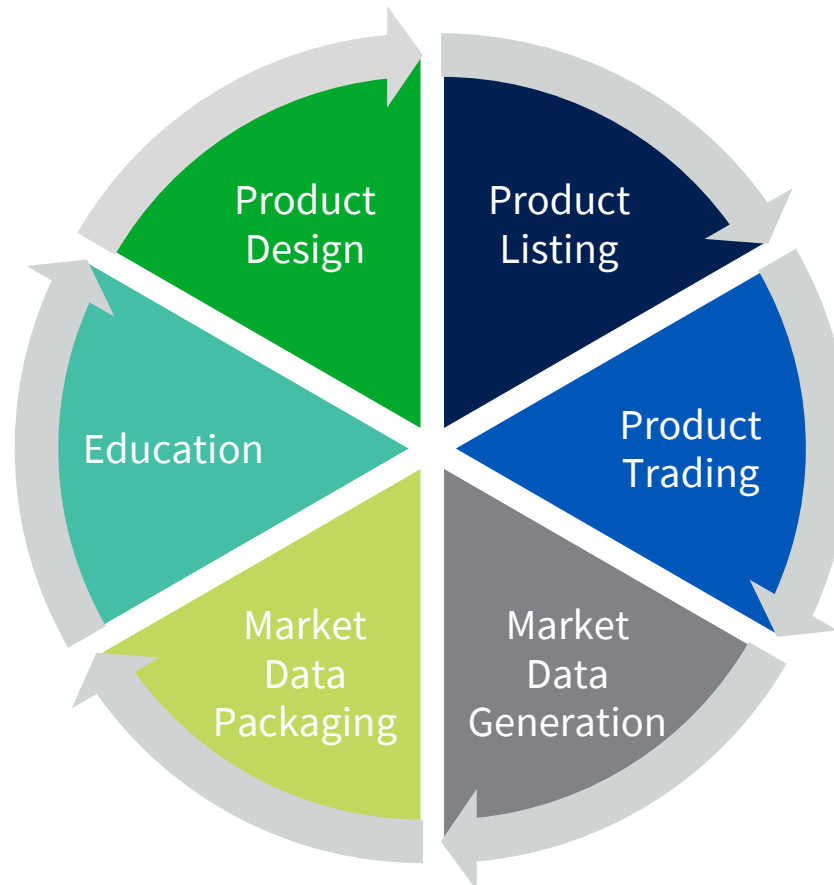
❖ **Our mission: “to power your potential to stay ahead of an evolving market,” is brought to life through three commitments:**

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



# Strengthening our Position as a Leading Global Exchange Operator

**Able to shape every aspect of the product development and trading cycle**



# Product Innovation: Plan to Launch Corporate Bond Index Futures



## **Entered into collaboration with IHS Markit and BlackRock to develop the first-ever 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
- ❖ Expect to begin launching derivatives this summer, subject to regulatory review, starting with futures based on the iShares High Yield Corporate Bond Index



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

# Product Innovation: Launched XBT Futures on December 10, 2017

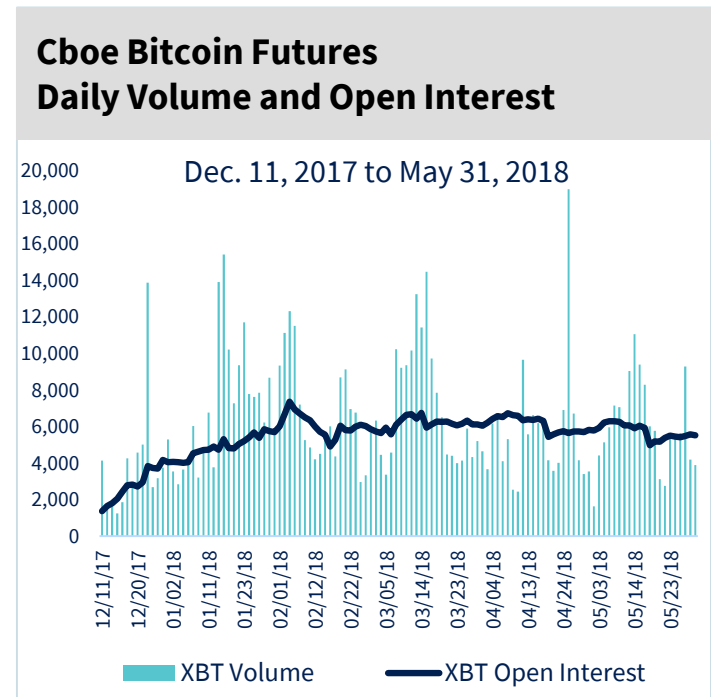
**XBT futures, the first of their kind, provide a risk management tool for market participants seeking to hedge their underlying bitcoin holdings**

❖ XBT futures create:

- An exchange-listed, regulated and surveilled bitcoin product available nearly 24 hours a day, five days per week
- Efficient price discovery and transparency
- Access to the bitcoin sector without a digital wallet requirement

❖ Averaging about 7,000 contracts per day in 2018

❖ Successful settlement auctions



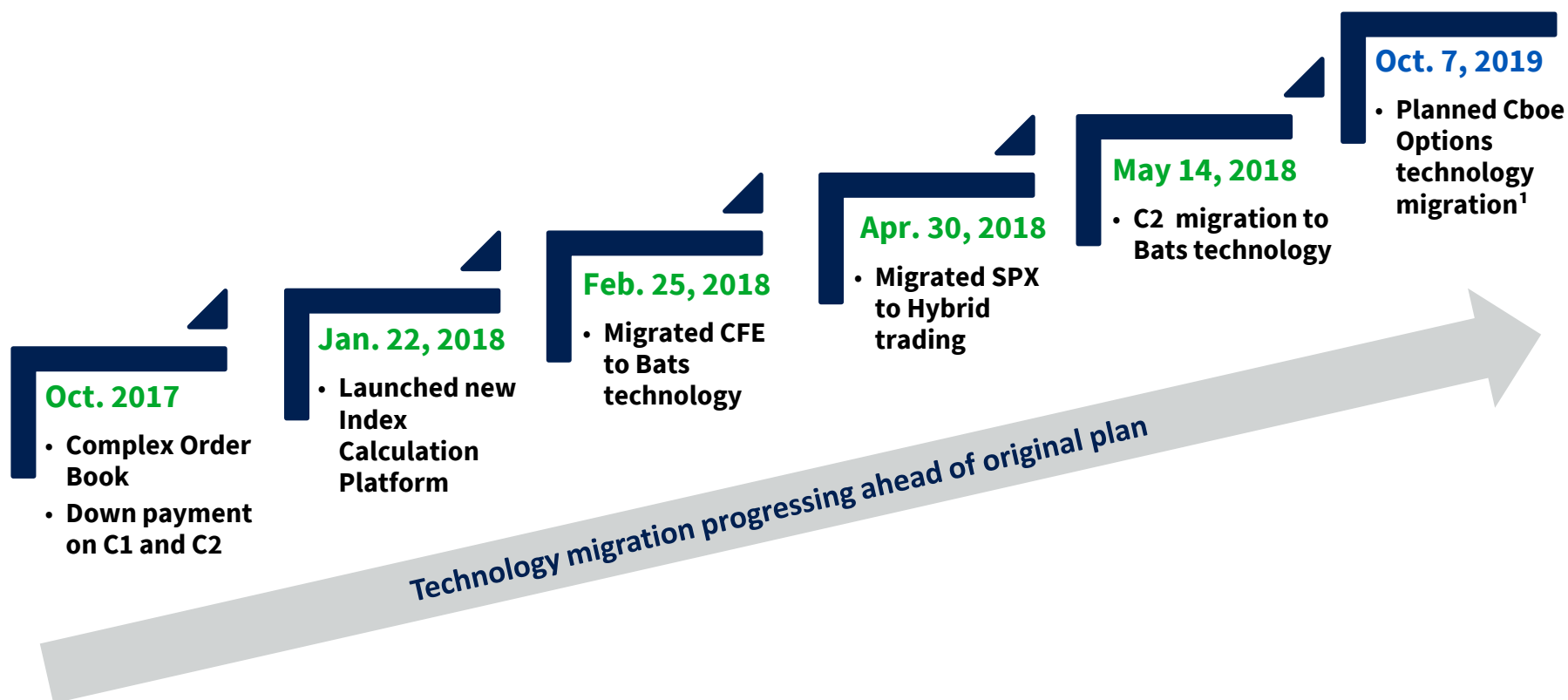


# Product Innovation - Celebrating 25 Years of VIX

- ❖ April 2018 marked the 25<sup>th</sup> anniversary of the introduction of the Cboe Volatility Index®
- ❖ Began disseminating the new Cboe One-Year Volatility Index (ticker: VIX1Y) in April 2018
  - Designed to monitor the market's expectations for longer-term volatility
  - Useful for investors with longer-duration liabilities
  - Exploring futures contract on the Index, subject to regulatory review



## 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 Cboe Options Exchange is subject to regulatory review.

## **Cboe Risk Management Conferences offer a premier educational forum for institutional users of equity derivatives, options and volatility products**

- ❖ Held 34<sup>th</sup> annual RMC U.S. on March 7-9, 2018
- ❖ RMC Europe planned for September 12-14, 2018; the 7<sup>th</sup> annual
- ❖ 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
- ❖ Attracts sophisticated traders who are early adopters of our new products

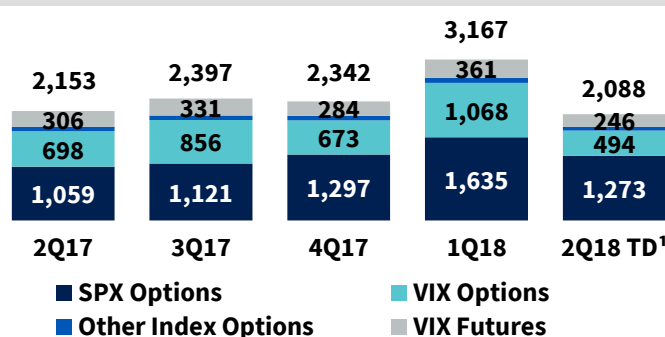


# Focused on Growing Highest-Margin Proprietary Index Suite

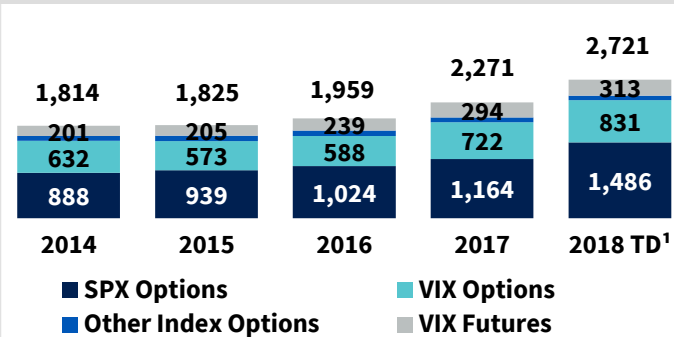
**Index customers at Cboe typically use SPX and VIX products interchangeably or in tandem, depending on their trading objective and market conditions**

- ❖ Surge in volatility in 1Q18 resulted in new quarterly and monthly volume records in SPX options and VIX options and futures
- ❖ Investor perceptions of risk changed dramatically in 1Q18, moving from low volatility to high volatility
- ❖ Historically, transitions in volatility regimes result in traders re-assessing the products they use and their perception of risk

**Quarterly ADV for Index Options and VIX Futures** (in thousands)



**Annual ADV for Index Options and VIX Futures** (in thousands)



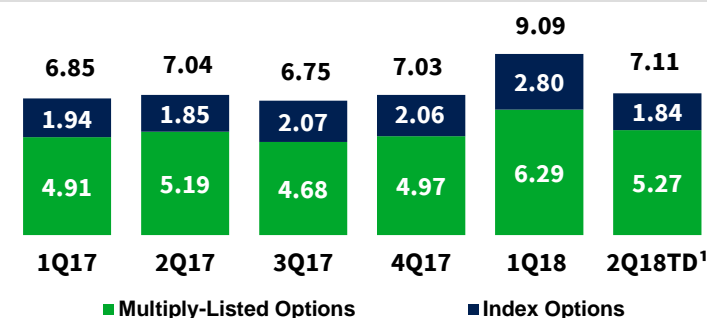
¹Through May 31, 2018

# Options – Focused on Growing Highest-Margin Index Options While Optimizing Overall Revenue Capture

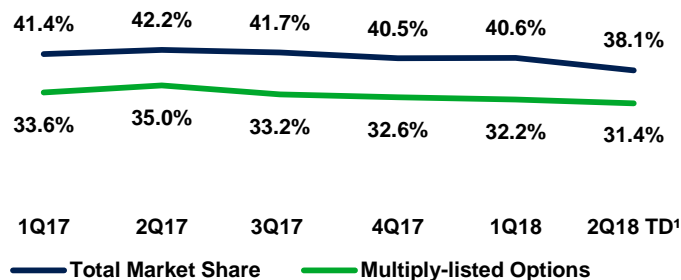
## ADV traded in our proprietary index options up 25% YoY through May

- ❖ Total options ADV up 19% YoY through May
- ❖ Look to optimize revenue capture across our four options exchanges

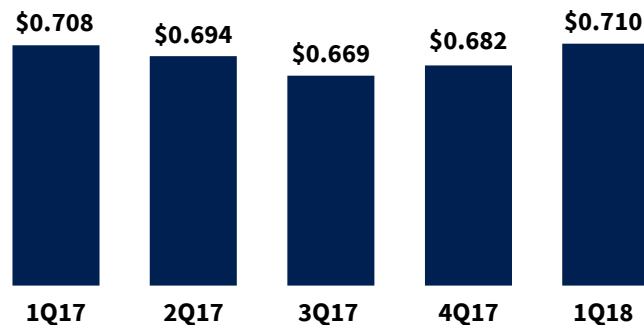
**Quarterly Options ADV\***  
(in millions)



**Quarterly Options Market Share\***



**Index Options RPC**



\*Includes historical combined volume and market share for Cboe and Bats

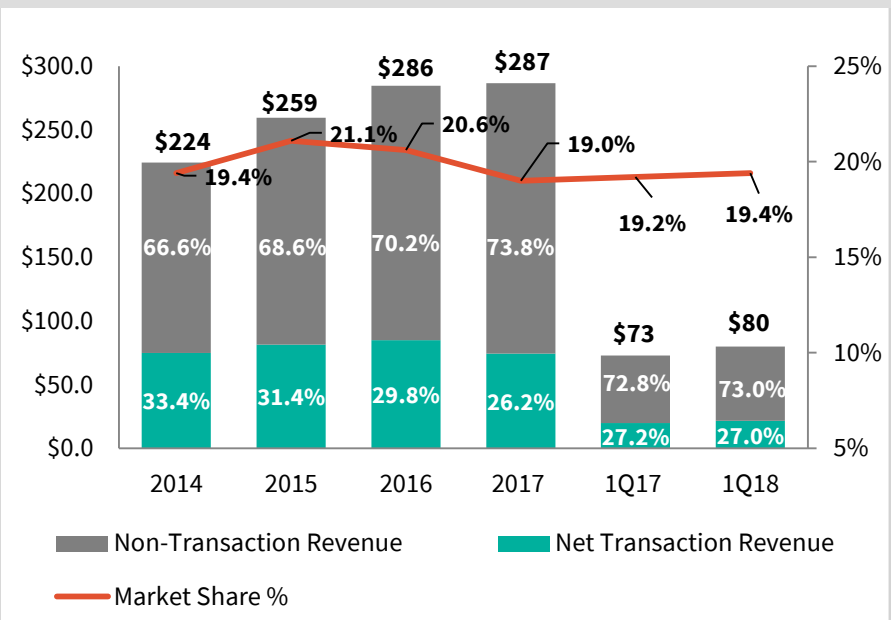
¹Through May 31, 2018

# U.S. Equities - Highly Scalable Business Model Across Four Exchanges

## Offer competitive market-leading pricing

- ❖ Strong recurring subscription-based revenue stream
  - About 70% of net revenue for U.S. Equities is subscription based
  - Monetizing existing markets while expanding distribution and products
- ❖ Focused on growing ETF market share
- ❖ Cboe Market Close auction, a closing match process for non-Cboe securities, was approved by SEC on January 17, 2018
  - Subsequently appealed by competitors
  - Plan to continue to work proactively with the SEC on a favorable resolution

**U.S. Equities Net Revenue - Percent Transaction versus Non-Transaction Fees and Market Share**  
(\$ in millions)



# U.S. Equities: Grew ETF Market Listings

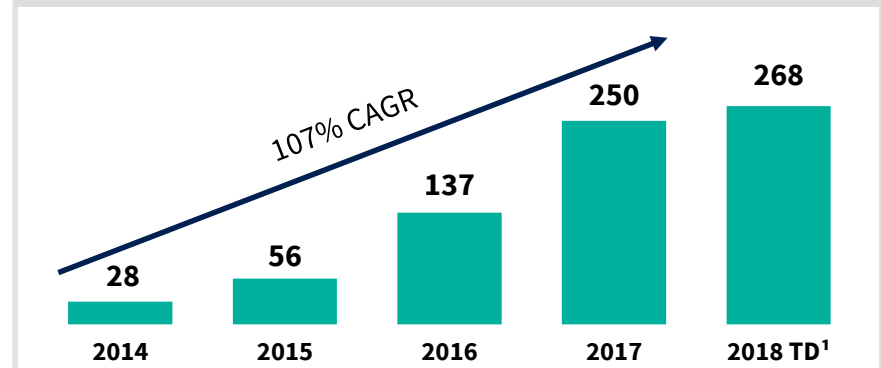
**Grew ETF listings market share, which enhances benefits for issuing firms and provides deeper liquidity to market participants**

❖ 2018 TD<sup>1</sup> Highlights:

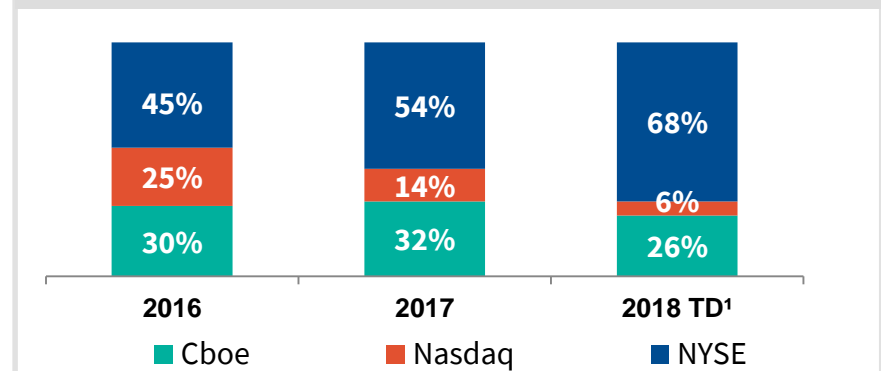
- Increased ETP listings by 7%
- Captured 26% of new listings
- Executed 22% of trades
- Held market share at 12% of all U.S. ETPs

❖ Focused on growing market share

**Number of Cboe U.S. ETPs**



**Share of New ETP Launches**



<sup>1</sup>Through April 30, 2018

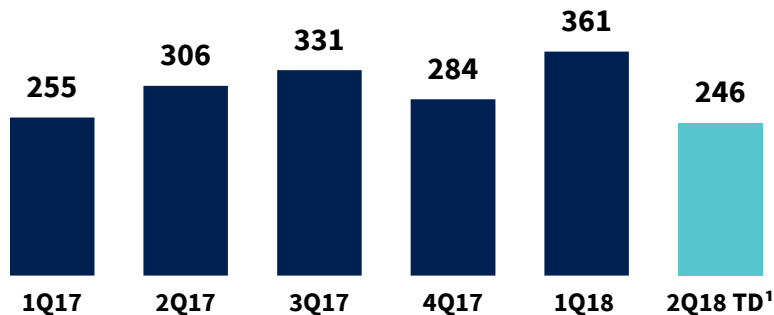
# Futures – Home of VIX Futures Trading

## VIX futures trade nearly 24X5

- ❖ VIX futures ADV up 14% YTD vs same period last year<sup>1</sup>
- ❖ Trading in non-U.S. hours accounts for nearly 10% of trading 2018 to date<sup>1</sup>
- ❖ Highest-margin proprietary product

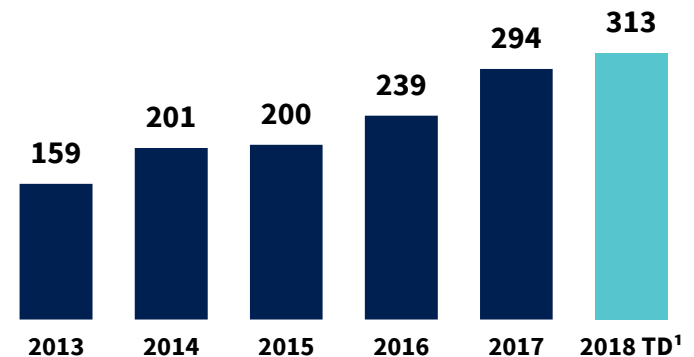
### VIX Futures Quarterly ADV

(in thousands)

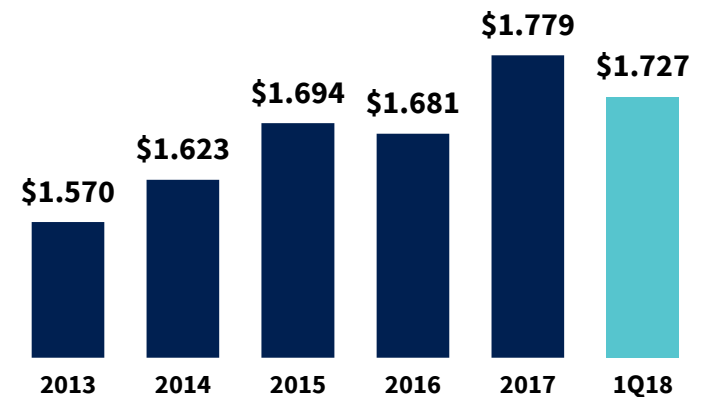


### VIX Futures ADV

(in thousands)



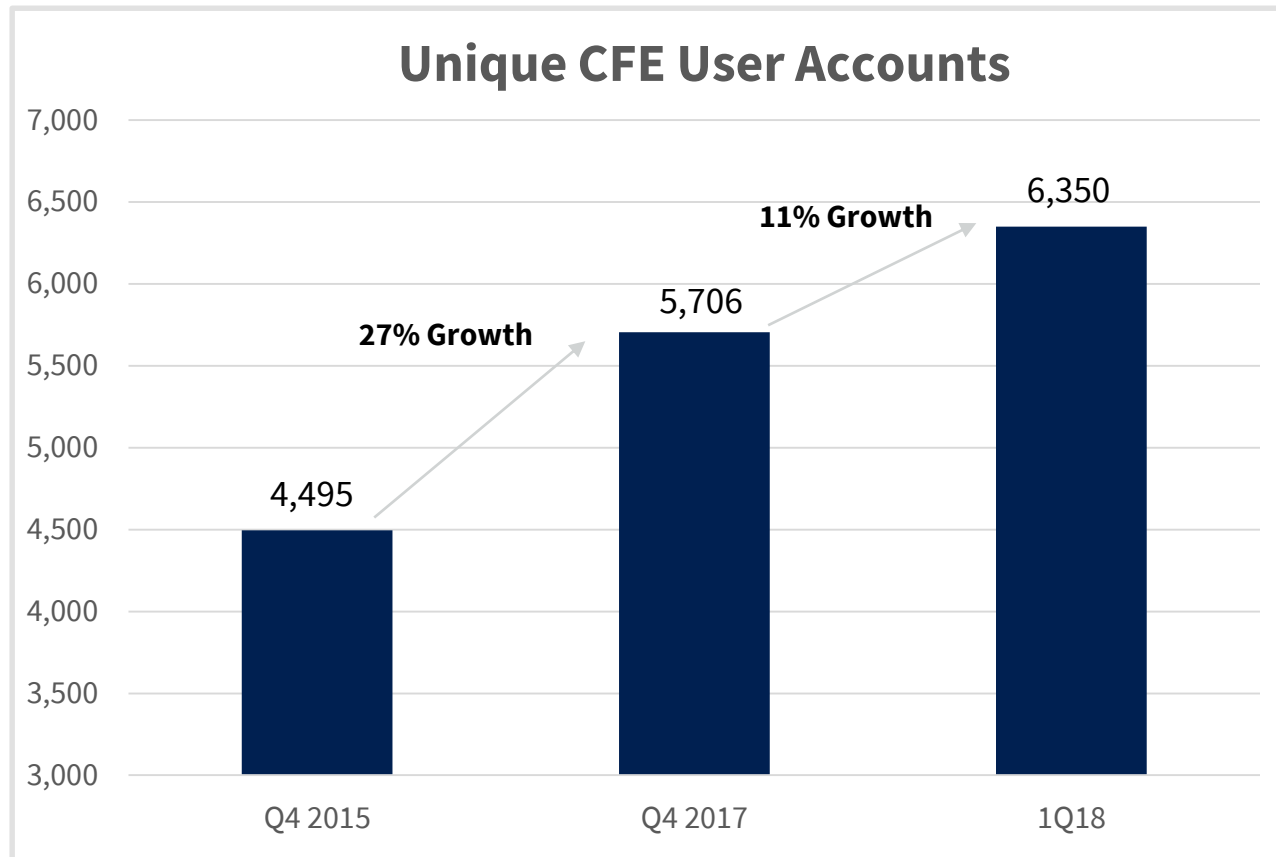
### VIX Futures RPC



<sup>1</sup>Through May 31, 2018



# Continued to Grow CFE User Accounts



Source: Cboe

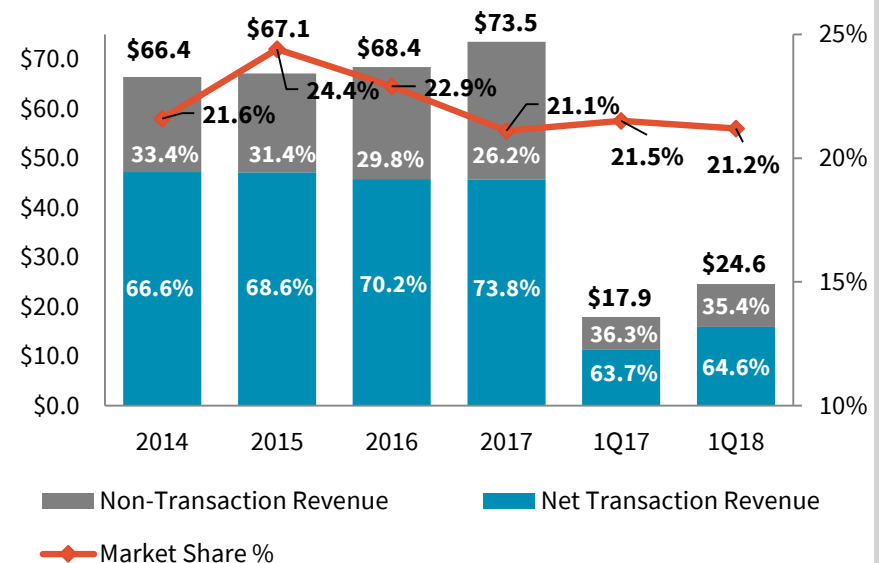


# European Equities – Operate Largest Pan-European Stock Exchange

## Diversifying our European business model post MiFID II

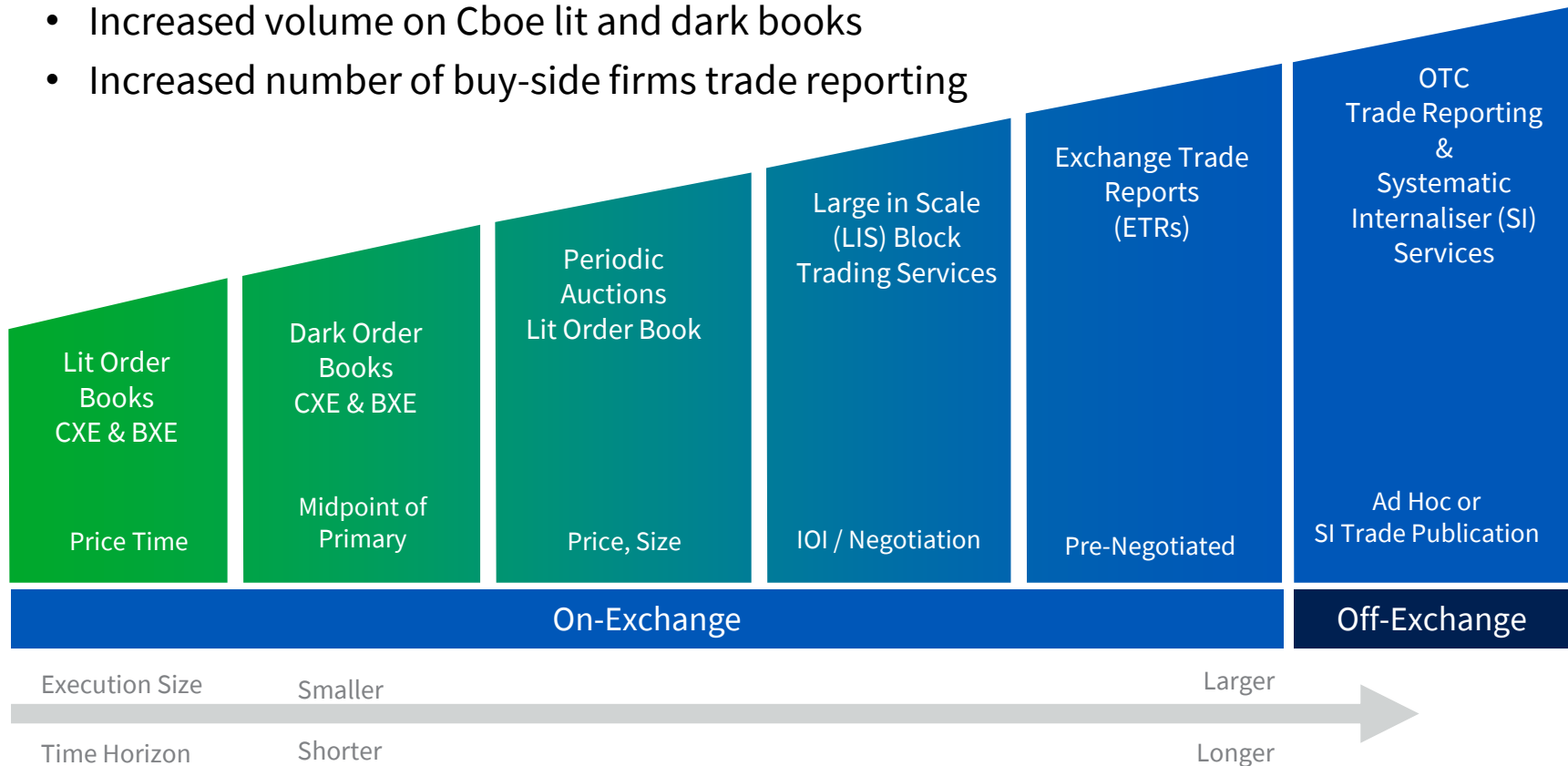
- ❖ Rapid adoption of our Periodic Auctions book
  - Record volumes since MiFID II in effect
  - Lit order book provides pre-trade transparency, true price formation process
  - Not subject to the double volume caps
- ❖ Cboe Large in Scale (LIS) block trading platform
  - Continued to attract new customers and increase volume
- ❖ Continued to grow our Systematic Internaliser technology services business

**European Equities Net Revenue - Percent of Transaction versus Non-Transaction Fees and Market Share** (\$ in millions)



# European Equities – Leveraging Opportunities Presented by MiFID II

- ❖ Positive uptake in 2018 on value-added products and services offered to help customers adapt to changing regulatory environment, through April:
  - Cboe Periodic Auctions book reported record month in April
  - Cboe Large in Scale (LIS) reported record month in April
  - Increased volume on Cboe lit and dark books
  - Increased number of buy-side firms trade reporting

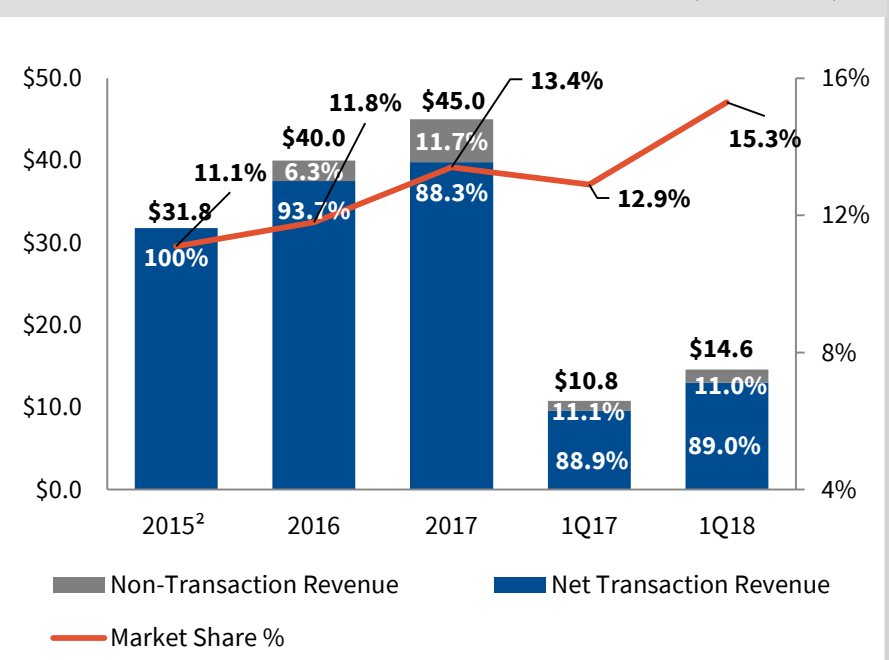


# Global FX – Cboe FX, first ECN for the Institutional FX Market

## Developed new products and services, leveraging industry structural changes

- ❖ 1Q18 marked a high point for both market share and ADNV traded
- ❖ Strong growth on London matching engine, volume up threefold in 1Q18
- ❖ \$41.6 billion of ADNV traded on the Cboe FX platform in 1Q18, up 44% over 1Q17

**Global FX Net Revenue - Percent Transaction versus Non-Transaction Fees and Market Share<sup>1</sup>** (\$ in millions)

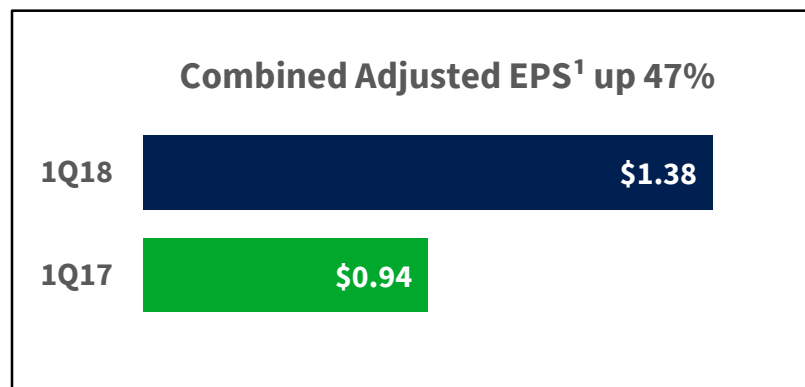
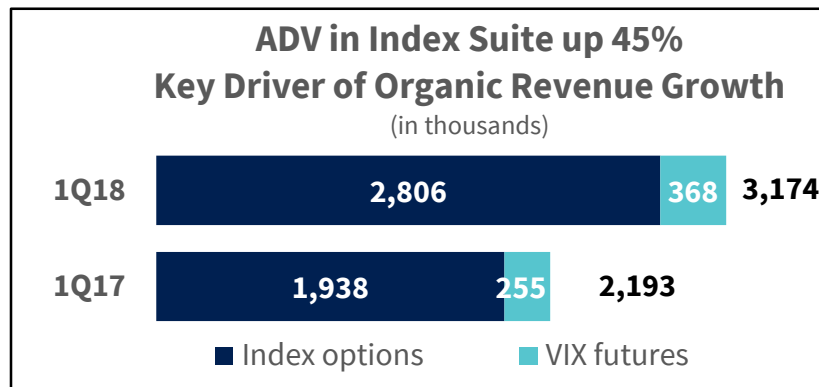
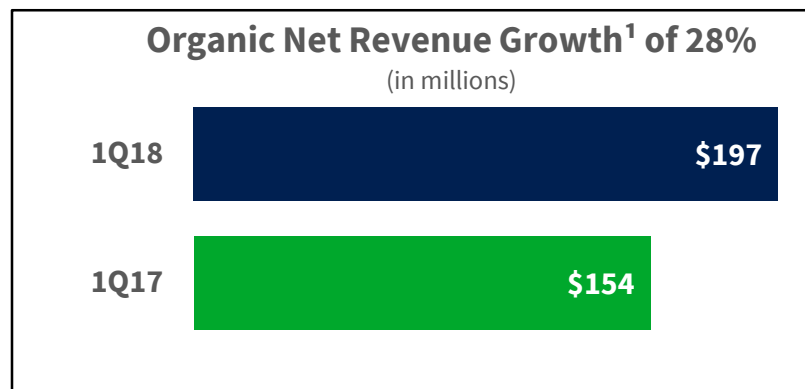
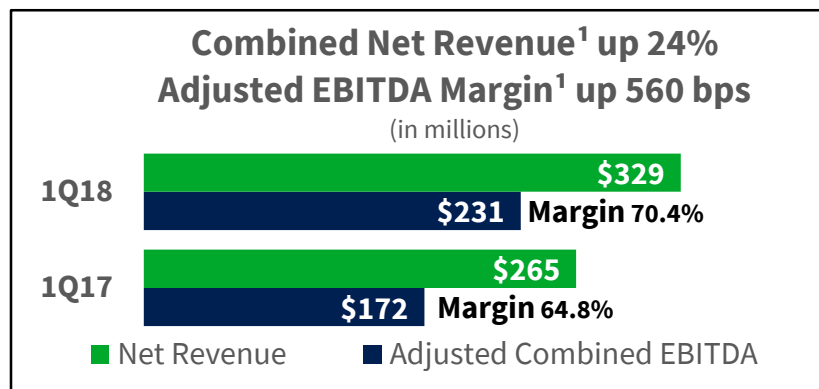


<sup>1</sup>Market share represents Cboe FX volume divided by total volume of publicly reporting spot FX venues (Cboe FX, EBS, Thomson Reuters and FastMatch), which reflects readily available data from publicly reporting venues.

<sup>2</sup>Revenue starting March 13, 2015, date of Bats acquisition of Hotspot FX.

# 1Q18 Business Highlights – Key Growth Drivers

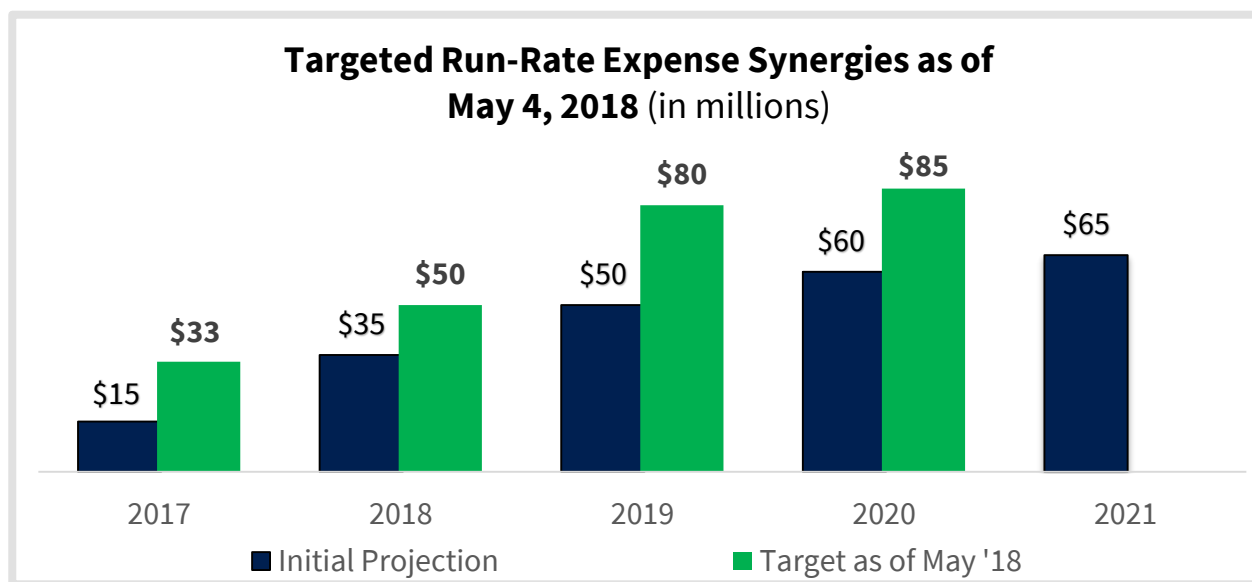
- ❖ Continued strength of proprietary index products
- ❖ Strong growth from both transaction and non-transaction fees
- ❖ Expense discipline and expense synergies
- ❖ Demonstrated strong operating leverage and earnings growth



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

# Increased Run-Rate Expense Synergy Target to \$85MM; Expect to Reach in 2020, A Year Ahead of Plan\*

- ❖ Raised run-rate expense synergy target to \$85 million from \$65 million
- ❖ Expect to reach run-rate expense synergies in 2020, one year ahead of initial projections



\*Cboe is neither confirming or updating guidance in this presentation.

# 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 ~\$31 million in dividends and ~\$44 million in share repurchases in 1Q18
  - Through April 30, 2018, repurchased approximately 451,000 shares of Cboe common stock for about \$51 million, or \$112.38 per share
- ❖ Delever – reduced debt by \$25 million in 1Q18

Debt Outstanding (\$ in millions)	Mar. 31, 2018	Dec. 31, 2017
3.650% Senior Notes (10Y; Due 2027)	\$ 650	\$ 650
1.950% Senior Notes (2Y; Due 2019)	300	300
Term Loan Facility	275	300
<b>Total Debt (Gross)</b>	<b>\$ 1,225</b>	<b>\$ 1,250</b>
<b>Debt to EBITDA TTM<sup>1</sup></b>	<b>1.6x</b>	<b>1.8x</b>
<b>Adjusted Cash &amp; Financial Investments<sup>1</sup></b>	<b>\$166</b>	<b>\$120</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
- Generated strong organic revenue growth

## 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; increased and accelerated run-rate synergy target

## Capital Allocation

- De-levered to enhance balance sheet flexibility
- Leverage ratio of 1.6x
- Returned capital through dividends and buybacks



# Appendix Materials



# 2018 Full-Year Guidance\*

<b>2018 Full-Year Guidance</b> (\$ in millions)	<b>Guidance as of May 4, 2018<sup>1</sup></b>	<b>Previous Guidance</b>
<b>Adjusted combined operating expenses<sup>2</sup></b>	\$420 to \$428	\$420 to \$428
<b>Depreciation and amortization (excluding amortization of acquired intangible assets)</b>	\$53 to \$58	\$53 to \$58
<b>Capital expenditures</b>	\$45 to \$50	\$50 to \$55
<b>Effective tax rate on adjusted earnings<sup>3</sup></b>	26.5% to 28.5%	26.5% to 28.5%

\*Cboe is not reconfirming or updating its 2018 guidance in this presentation

<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 slightly above the high end of the guidance range for the second quarter of 2018 and at the higher end, but within the guidance range, for the third and fourth quarters.

# 1Q18 Financial Overview

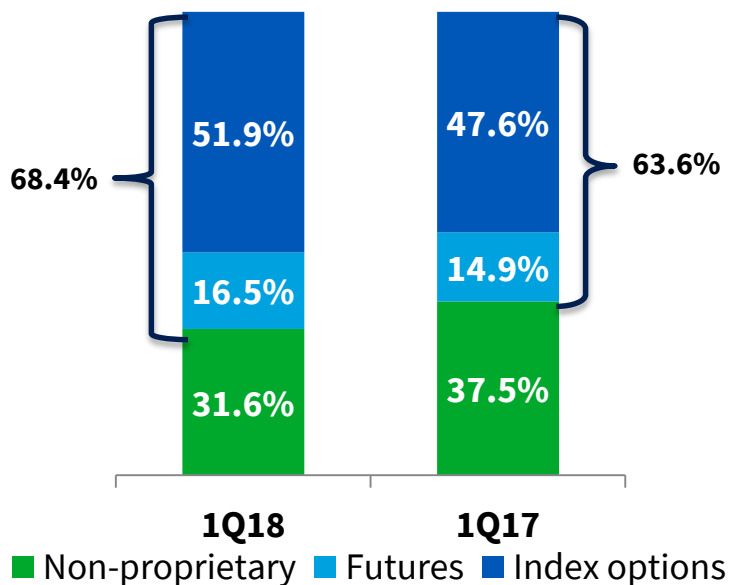
<b>Adjusted Combined Financial Results<sup>1</sup></b> (\$ in millions, except per share)	<b>1Q18</b>	<b>1Q17</b>	<b>% Chg</b>
Net Revenue <sup>1,2</sup>	\$328.5	\$265.3	24%
Adjusted Operating Expenses <sup>1</sup>	109.9	106.3	3%
Adjusted Operating Income <sup>1</sup>	\$218.6	\$159.0	37%
<i>Adjusted Operating Margin<sup>1</sup></i>	66.5%	59.9%	660 bps
Adjusted Net Income Allocated to Common Stockholders <sup>1</sup>	\$155.2	\$105.8	47%
Adjusted Diluted EPS <sup>1</sup>	\$ 1.38	\$ 0.94	47%
Adjusted EBITDA <sup>1</sup>	\$231.2	\$172.0	34%
<i>Adjusted EBITDA Margin<sup>1</sup></i>	70.4%	64.8%	560 bps

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

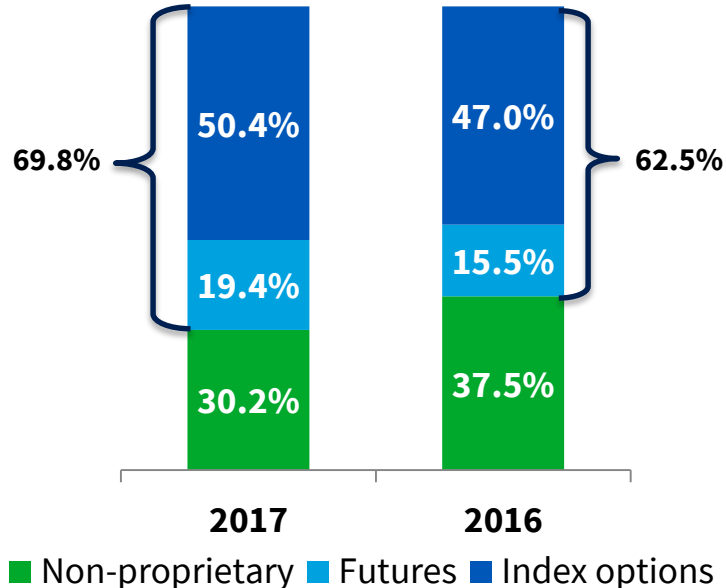
<sup>2</sup>Net revenue referenced in this presentation represents revenue less cost of revenue.

## Proprietary Products - Key Driver of Revenue Growth

**Mix of Proprietary Products as Percentage of Total Net Transaction Fees**

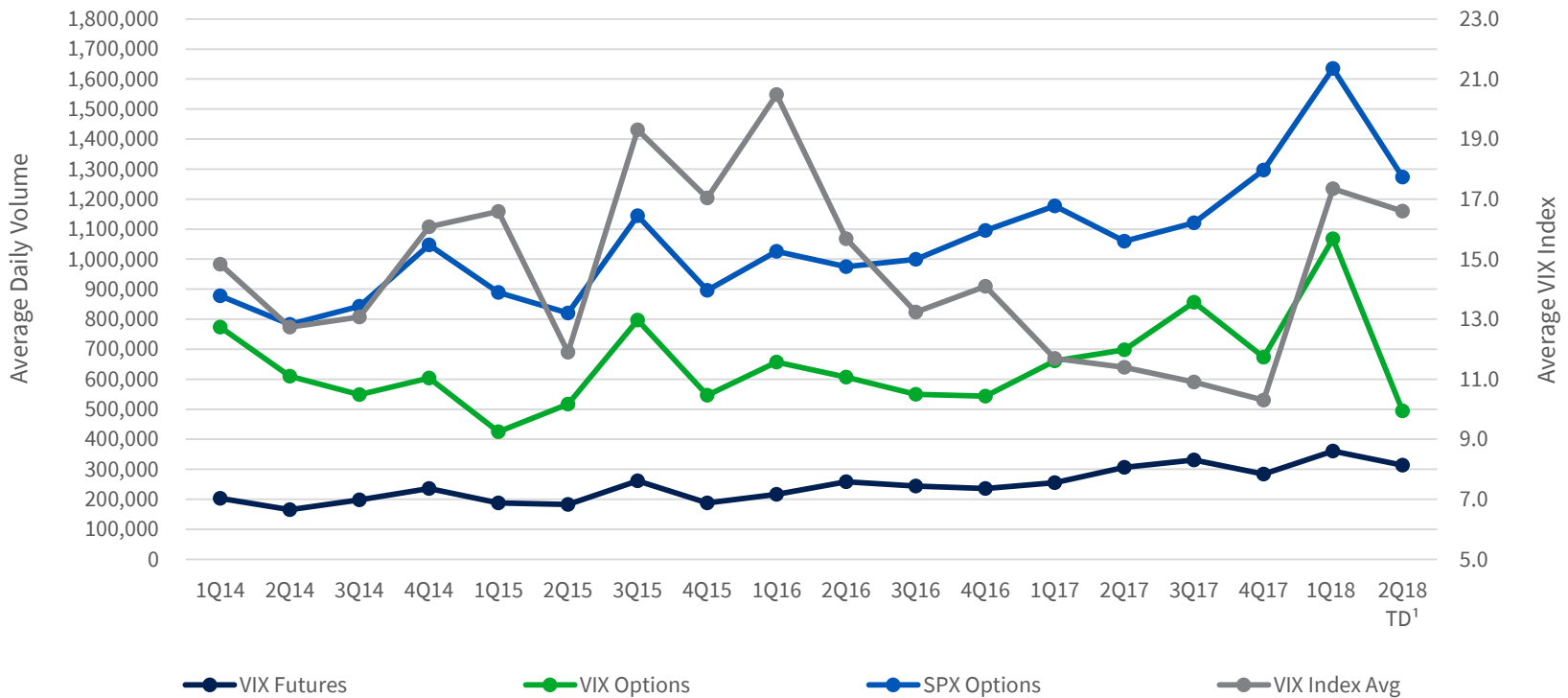


**Mix of Proprietary Products as Percentage of Total Transaction Fees**



# Growth in Proprietary Products in Various Volatility Environments

## Quarterly Average Daily Volume Versus Average VIX Index



<sup>1</sup>Through May 31, 2018

# 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, organic net revenue, 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, organic 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.

*Organic net revenue:* Is a non-GAAP financial measure that excludes or has otherwise been adjusted for the impact of our acquisition of Bats. Management believes the organic net revenue growth measure provides users with supplemental information regarding the company's ongoing revenue performance and trends by presenting revenue growth excluding the impact of the Bats acquisition.

*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 Holdings 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.**

(in millions)	1Q17	2Q17	3Q17	4Q17	2017	1Q18
<b><u>Reconciliation of Revenue Less Cost of Revenue to Organic Net Revenue</u></b>						
Revenue less cost of revenue (net revenue)	\$ 193.4	\$ 266.9	\$ 269.7	\$ 265.6	\$ 995.6	\$ 328.5
Recent acquisitions:						
Bats revenue less cost of revenue	(39.2)	(114.9)	(112.6)	(111.5)	(378.2)	(131.2)
Organic net revenue	<u>\$ 154.2</u>	<u>\$ 152.0</u>	<u>\$ 157.1</u>	<u>\$ 154.1</u>	<u>\$ 617.4</u>	<u>\$ 197.3</u>

(in millions)	1Q17	2Q17	3Q17	4Q17	2017	1Q18
<b><u>Reconciliation of Net Transaction Fees</u></b>						
Transaction fees	\$ 256.4	\$ 453.9	\$ 423.3	\$ 431.3	\$ 1,564.9	\$ 547.1
Liquidity payments	(105.3)	(266.5)	(234.3)	(243.6)	(849.7)	(302.9)
Routing and clearing	(6.3)	(12.2)	(9.4)	(9.7)	(37.6)	(10.3)
Net transaction fees	<u>\$ 144.8</u>	<u>\$ 175.2</u>	<u>\$ 179.6</u>	<u>\$ 178.0</u>	<u>\$ 677.6</u>	<u>\$ 233.9</u>

### **Non-GAAP Adjustments (1)**

Transaction fees	186.4
Liquidity payments	(153.3)
Routing and clearing	(5.3)
Net transaction fees	<u>27.8</u>

### **Combined**

Transaction fees	442.8
Liquidity payments	(258.6)
Routing and clearing	(11.6)
Net combined transaction fees	<u>\$ 172.6</u>

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



# Non-GAAP Information

<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>
Options	\$ 128.9	\$ 126.7	\$ 130.7	\$ 130.0	\$ 516.3	\$ 167.1
U.S. Equities	25.5	74.4	70.2	69.0	239.1	79.7
Futures	28.8	36.2	38.9	35.6	139.5	42.3
European Equities	6.1	18.5	18.4	18.8	61.8	24.6
Global FX	4.0	10.9	11.3	12.0	38.2	14.6
Corporate	-	0.2	0.2	0.2	0.6	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>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><u>Reconciliation of Net Transaction Fees by Segment</u></b>						
<b>For the Three Months Ended March 31, 2018 (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>
<b><u>Reconciliation of Net Transaction Fees by Segment</u></b>						
Transaction fees	\$ 235.8	\$ 233.8	\$ 38.8	\$ 25.7	\$ 13.0	\$ 547.1
Liquidity payments	(87.6)	(205.5)	-	(9.8)	-	(302.9)
Routing and clearing	(3.5)	(6.8)	-			(10.3)
Net transaction fees	<u>\$ 144.7</u>	<u>\$ 21.5</u>	<u>\$ 38.8</u>	<u>\$ 15.9</u>	<u>\$ 13.0</u>	<u>\$ 233.9</u>
<b><u>For the Three Months Ended March 31, 2017 (in millions)</u></b>						
	<b>Options<sup>1</sup></b>	<b>U.S. Equities</b>	<b>Futures</b>	<b>European Equities</b>	<b>Global FX</b>	<b>Total</b>
<b><u>Reconciliation of Combined Net Transaction Fees by Segment<sup>1</sup></u></b>						
Transaction fees	\$ 179.9	\$ 208.0	\$ 25.7	\$ 19.6	\$ 9.6	\$ 442.8
Liquidity payments	(72.6)	(177.8)	-	(8.2)	-	(258.6)
Routing and clearing	(1.2)	(10.4)	-			(11.6)
Net transaction fees	<u>\$ 106.1</u>	<u>\$ 19.8</u>	<u>\$ 25.7</u>	<u>\$ 11.4</u>	<u>\$ 9.6</u>	<u>\$ 172.6</u>

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

# Non-GAAP Information

## Reconciliation of Net Transaction Fees (in millions)

	Consolidated		Options Segment	
	1Q18	1Q17	1Q18	1Q17
Transaction fees	\$ 547.1	\$ 256.4	\$ 235.8	\$ 140.2
Liquidity payments	(302.9)	(105.3)	(87.6)	(35.8)
Routing and clearing	(10.3)	(6.3)	(3.5)	(3.5)
Net transaction fees	<u>\$ 233.9</u>	<u>\$ 144.8</u>	<u>\$ 144.7</u>	<u>\$ 100.9</u>

### Non- GAAP Adjustments (1)

Transaction fees	186.4	39.7
Liquidity payments	(153.3)	(36.8)
Routing and clearing	<u>(5.3)</u>	<u>2.3</u>
Net transaction fees	27.8	5.2

### Combined

Transaction fees	442.8	179.9
Liquidity payments	(258.6)	(72.6)
Routing and clearing	<u>(11.6)</u>	<u>(1.2)</u>
Net combined transaction fees	<u>\$ 172.6</u>	<u>\$ 106.1</u>

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

A full reconciliation of our non-GAAP and combined results to our GAAP results are available in this section.

# Non-GAAP Information

(in millions, except per share amounts)	1Q17	2Q17	3Q17	4Q17	2017	1Q18
<b>Reconciliation of Net Income Allocated to Common Stockholders to Non-GAAP</b>						
Net income allocated to common stockholders	\$ 15.1	\$ 67.3	\$ 59.7	\$ 254.6	\$ 396.7	\$ 117.3
Compensation and benefits (1)	9.1	—	—	—	9.1	—
Acquisition-related expenses (2)	65.2	4.7	5.5	9.0	84.4	8.8
Amortization of acquired intangible assets (3)	14.4	42.6	42.6	43.0	142.6	42.1
Change in contingent consideration	0.2	0.5	0.4	(0.1)	1.2	—
<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>237.3</b>	<b>50.9</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
<b>Total Non-GAAP adjustments - pretax</b>	<b>93.5</b>	<b>49.0</b>	<b>52.5</b>	<b>52.2</b>	<b>247.4</b>	<b>51.2</b>
Income tax expense related to the items above	(36.0)	(18.0)	(19.1)	(19.2)	(92.3)	(13.0)
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)
<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>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
Per share impact of non-GAAP adjustments noted above	0.62	0.27	0.36	(1.39)	(0.27)	0.34
<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>Reconciliation of Operating Margin to Non-GAAP</b>						
Revenue less cost of revenue	\$ 193.4	\$ 266.9	\$ 269.7	\$ 265.6	\$ 995.6	\$ 328.5
Non-GAAP adjustments noted above	-	-	-	-	-	-
<b>Adjusted revenue less cost of revenue</b>	<b>\$ 193.4</b>	<b>\$ 266.9</b>	<b>\$ 269.7</b>	<b>\$ 265.6</b>	<b>\$ 995.6</b>	<b>\$ 328.5</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>
Non-GAAP expense adjustments noted above	(88.9)	(47.8)	(48.5)	(51.9)	(237.1)	(50.9)
<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>
Operating income	\$ 26.1	\$ 117.8	\$ 119.3	\$ 108.7	\$ 371.9	\$ 167.7
Non-GAAP expense adjustments noted above	88.9	47.8	48.5	51.9	237.1	50.9
<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>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>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
Non-GAAP adjustments noted above	93.5	49.0	52.5	52.2	247.2	51.2
<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>
Income tax (benefit) expense	\$ (3.1)	\$ 38.1	\$ 45.6	\$ (153.0)	\$ (66.2)	\$ 41.3
Non-GAAP adjustments noted above	36.0	18.0	19.1	210.7	276.4	13.0
<b>Adjusted income tax (benefit) 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>Adjusted income tax rate</b>	<b>29.4%</b>	<b>36.2%</b>	<b>40.8%</b>	<b>37.0%</b>	<b>36.3%</b>	<b>25.9%</b>

(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>Net income allocated to common stockholders</b>	\$ 15.1	\$ 67.3	\$ 59.7	\$ 254.6	\$ 396.7	\$ 117.3
Interest	7.9	12.5	10.5	10.4	41.3	9.6
Income tax provision	3.1	38.1	45.6	(153.0)	(66.2)	41.3
Depreciation and amortization	25.1	55.8	55.4	55.9	192.2	54.2
<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>EBITDA Margin<sup>1</sup></b>	<b>26.5%</b>	<b>65.1%</b>	<b>63.5%</b>	<b>63.2%</b>	<b>56.6%</b>	<b>67.7%</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
Provision for uncollectable convertible notes receivable	-	-	3.8	-	3.8	-
Other	0.2	0.5	0.4	(0.1)	1.2	-
<b>Adjusted EBITDA</b>	<b>\$ 125.7</b>	<b>\$ 178.9</b>	<b>\$ 180.9</b>	<b>\$ 176.8</b>	<b>\$ 662.5</b>	<b>\$ 231.2</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>Reconciliation of Combined Net Income Allocated to Common Stockholders to EBITDA and Adjusted EBITDA</b>						
<b>Combined revenues less cost of revenues</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>					

<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 slide 39 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>	<b>\$ 113.9</b>
<i>Total non-transaction revenue as a percent of revenues less cost of revenues (3)</i>	<i>42.9%</i>
<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>	<b>\$ 265.3</b>
<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>	<b>\$ 106.3</b>
<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>	<b>\$ 159.0</b>
<i>Adjusted combined operating margin (4)</i>	<i>59.9%</i>
<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>	<b>\$ 105.8</b>
<b>Adjusted combined diluted EPS</b>	<b>\$0.94</b>
<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>	<b>\$ 32.8</b>

## Non-GAAP Information - Footnotes for table on slide 38

- (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 Combined Debt to EBITDA - Trailing Twelve Months <sup>1</sup></b>					
<b>(in millions)</b>	<b>2Q17</b>	<b>3Q17</b>	<b>4Q17</b>	<b>1Q18</b>	<b>LTM</b>
Combined net income allocated to common stockholders	\$ 67.3	\$ 59.7	\$ 254.6	\$ 117.3	\$ 498.9
Interest	12.5	10.5	10.4	9.6	43.0
Income tax provision	38.1	45.6	(153.0)	41.3	(28.0)
Depreciation and amortization	55.8	55.4	55.9	54.2	221.3
Combined EBITDA	\$ 173.7	\$ 171.2	\$ 167.9	\$ 222.4	\$ 735.2
Non-GAAP adjustments not included in above line items:					
Acquisition-related expenses	4.7	5.5	9.0	8.8	28.0
Other	0.5	4.2	(0.1)	-	4.6
Adjusted combined EBITDA	\$ 178.9	\$ 180.9	\$ 176.8	\$ 231.2	\$ 767.8
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>
Cash and cash equivalents	\$ 153.3	\$ 148.6	\$ 124.8	\$ 143.5	\$ 166.3
Financial investments	41.3	110.4	2.4	47.3	64.0
Cash collected for Section 31 fees	(41.3)	(110.0)	-	(70.6)	(64.0)
<b>Adjusted Cash</b>	<b>\$ 153.3</b>	<b>\$ 149.0</b>	<b>\$ 127.2</b>	<b>\$ 120.2</b>	<b>\$ 166.3</b>





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