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CBOE Holdings, Inc.  
Form 10-K

February 19, 2016

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

Form 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2015

or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission File No. 001-34774

CBOE HOLDINGS, INC.

(Exact name of registrant as specified in its charter)

Delaware

20-5446972

(State or other jurisdiction of incorporation or organization)

(I.R.S. Employer Identification Number)

400 South LaSalle Street

60605

Chicago, Illinois

(Zip Code)

(Address of principal executive offices)

Registrant's telephone number, including area code

(312) 786-5600

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class

Name of Exchange on Which Registered

Common Stock,

NASDAQ Global Select Market

par value \$0.01 per share

Securities registered pursuant to Section 12(g) of the Act:

None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes  No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes  No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes  No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check One):

Large accelerated filer  Accelerated filer  Non-accelerated filer  (Do not check if a smaller reporting company)  Smaller reporting company

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Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes  No   
As of June 30, 2015, the aggregate market value of the Registrant's outstanding voting common equity held by non-affiliates was approximately \$4.7 billion based on the closing price of \$57.22 per share of common stock. The number of outstanding shares of the registrant's common stock as of February 17, 2016 was 81,795,365 shares of common stock.

DOCUMENTS INCORPORATED BY REFERENCE

|   |                     |
|---|---------------------|
| Documents   | Form 10-K Reference |
| Portions of the Company's Proxy Statement for the 2016 Annual Meeting of Stockholders | Part III            |

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### CERTAIN DEFINED TERMS

Throughout this document, unless otherwise specified or the context so requires:

“CBOE Holdings,” “we,” “us,” “our” or “the Company” refers to CBOE Holdings, Inc. and its subsidiaries.

“CBOE” refers to (1) prior to the completion of the restructuring transaction, Chicago Board Options Exchange, Incorporated, a Delaware non-stock corporation, and (2) after the completion of the restructuring transaction, Chicago Board Options Exchange, Incorporated, a Delaware stock corporation. CBOE became a wholly-owned subsidiary of CBOE Holdings, Inc. on June 18, 2010.

“C2” refers to C2 Options Exchange, Incorporated, a wholly-owned subsidiary of CBOE Holdings, Inc.

“CFE” refers to CBOE Futures Exchange, LLC, a wholly-owned subsidiary of CBOE Holdings, Inc.

“CBSX” refers to CBOE Stock Exchange, LLC, which is 49.96% owned by CBOE. CBSX wholly owned National Stock Exchange, Inc. (“NSX”), a stock exchange and self-regulatory organization, until it sold NSX to a third party on February 18, 2015. CBSX ceased operations on April 30, 2014 and during the time that CBSX owned NSX, NSX ceased operations on May 30, 2014. CBSX is not a consolidated subsidiary of the Company.

“CFTC” refers to the U.S. Commodity Futures Trading Commission.

“Consent Order” refers to the consent order that CBOE and C2 entered into with the SEC on June 11, 2013.

“Delaware Action” refers to the lawsuit, which was entitled CME Group Inc. et al. v. Chicago Board Options Exchange, Incorporated et al. (Civil Action No. 2369-VCN) and filed in the Delaware Court on August 23, 2006, in which the CBOE and its directors were sued in the Delaware Court by the Board of Trade of the City of Chicago, Inc. (“CBOT”), CBOT Holdings, Inc. and two members of the CBOT who purported to represent a class of individuals who claimed that they were, or had the right to become, members of the CBOE.

“FASB” refers to the Financial Accounting Standards Board.

“GAAP” refers to Generally Accepted Accounting Principles in the U.S.

“Member” or “Members” refers to, prior to the completion of the restructuring transaction, any person or organization (or any designee of any organization) that held a membership in the CBOE.

“Our exchanges” refers to CBOE, C2 and CFE.

The “restructuring transaction” refers to the transaction on June 18, 2010, in which CBOE converted from a Delaware non-stock corporation owned by its Members to a Delaware stock corporation and a wholly-owned subsidiary of CBOE Holdings.

“SEC” refers to the U.S. Securities and Exchange Commission.

“Settlement Agreement” means the Stipulation of Settlement, as amended, approved by the Court of Chancery of the State of Delaware in the Delaware Action.

“SPX” refers to our S&P 500 Index exchange-traded options products.

“TPH” refers to either a Trading Permit Holder or Trading Privilege Holder.

“VIX” refers to the CBOE Volatility Index methodology.

### TRADEMARK INFORMATION

CBOE®, Chicago Board Options Exchange®, CBOE Volatility Index®, CFE®, Livevol®, FLEX®, FLEXible EXchange®, Hybrid®, LEAPS®, and VIX® are registered trademarks and BuyWrite<sup>SM</sup>, CBOE Futures Exchange<sup>SM</sup>, CBOE Russell 2000 Volatility Index<sup>SM</sup>, CBOE/CBOT 10-year U.S. Treasury Note Volatility Index<sup>SM</sup>, and Weeklys<sup>SM</sup> are service marks of CBOE. C2<sup>SM</sup> and C2 Options Exchange<sup>SM</sup> are service marks of C2. Vest<sup>SM</sup> is a service mark of Vest Financial Group, Inc. Standard & Poor's®, S&P® and S&P 500® are registered trademarks of Standard & Poor's Financial Services LLC and have been licensed for use by CBOE, C2 and CFE. Russell®, Russell 1000® and Russell 2000® are registered trademarks of Frank Russell Company, used under license. Dow Jones®, Dow Jones Industrial Average®, DJIA® and Dow Jones Indexes are registered trademarks or service marks of Dow Jones Trademark Holdings, LLC, used under license. The Nasdaq-100 Index®, Nasdaq-100®, The Nasdaq National Market®, Nasdaq®, Nasdaq-100 Shares and Nasdaq-100 Trust are registered trademarks or service marks of The Nasdaq Stock Market, Inc., used under license. MSCI, and the MSCI index names are service marks of MSCI Inc., used under license. All other trademarks and service marks are the property of their respective owners.



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**FORWARD-LOOKING STATEMENTS**

This Annual Report on Form 10-K 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, including statements in "Business" and "Management's Discussion and Analysis of Financial Condition and Results of Operations." 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 that expressed or implied by the forward-looking statements. In particular, you should consider the risks and uncertainties described under "Risk Factors" in this Annual Report.

While we believe we have identified material risks, these risks and uncertainties are not exhaustive. Moreover, 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, including our obligations under the Consent Order;
- increasing price competition in our industry;
- decreases in trading volumes 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 third party service providers;
- our index providers' ability 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 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;
- the accuracy of our estimates and expectations;
- our ability to maintain access fee revenues;
- our ability to meet our compliance obligations, including managing potential conflicts between our regulatory responsibilities and our for-profit status;
- the ability of our compliance and risk management methods to effectively monitor and manage our risks;
- our ability to attract and retain skilled management and other personnel; and
- our ability to manage our growth and strategic acquisitions or alliances effectively.

For a detailed discussion of these and other factors that might affect our performance, see Part I, Item 1A. of this Report. We caution you not to place undue reliance on the forward-looking statements, which speak only as of the date of this filing.

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## PART I

## Item 1. Business

## Overview

CBOE Holdings, Inc. is the holding company for Chicago Board Options Exchange, Incorporated, CBOE Futures Exchange, LLC, C2 Options Exchange, Incorporated and other subsidiaries.

The Company's principal business is operating markets that offer for trading options on various market indexes (index options), mostly on an exclusive basis, and futures contracts, as well as on non-exclusive "multiply-listed" options, such as options on the stocks of individual corporations (equity options) and options on other exchange-traded products (ETP options), such as exchange-traded funds (ETF options) and exchange-traded notes (ETN options). The Company operates three stand-alone exchanges, but reports the results of its operations in one reporting segment. CBOE is our primary options market and offers trading in listed options through a single system that integrates electronic trading and traditional open outcry trading on our trading floor in Chicago. This integration of electronic trading and traditional open outcry trading into a single exchange is known as our Hybrid trading model. CFE, our all-electronic futures exchange, offers trading in futures on the VIX Index and other products. C2 is our all-electronic exchange that also offers trading in listed options, and may operate with a different market model and fee structure than CBOE. All of our exchanges operate on our proprietary technology platform known as CBOE Command. Since 1974, the first full year of trading on CBOE, we have grown from 5.6 million contracts on one exchange to 1.2 billion contracts on three exchanges in 2015, our most recent fiscal year.

The following chart illustrates annual contract volume across the different categories of products traded at the Company for the periods indicated:

|                          | Annual Contract Volume |               |               |               |               |
|--------------------------|------------------------|---------------|---------------|---------------|---------------|
|                          | 2015                   | 2014          | 2013          | 2012          | 2011          |
| Equities                 | 392,982,051            | 488,580,906   | 433,777,204   | 494,289,301   | 516,136,937   |
| Indexes                  | 408,281,695            | 406,454,861   | 372,647,443   | 304,339,908   | 320,389,993   |
| Exchange-traded products | 320,997,251            | 379,742,163   | 341,023,209   | 311,792,122   | 368,364,057   |
| Total Options Volume     | 1,122,260,997          | 1,274,777,930 | 1,147,447,856 | 1,110,421,331 | 1,204,890,987 |
| Futures                  | 51,671,188             | 50,615,435    | 40,193,447    | 23,892,931    | 12,041,102    |
| Total Contract Volume    | 1,173,932,185          | 1,325,393,365 | 1,187,641,303 | 1,134,314,262 | 1,216,932,089 |

Our operating revenues are primarily driven by transaction fee revenues, which are generated on the contracts traded on our exchanges. In 2015, approximately 71.9% of our operating revenues were generated by transaction fee revenues.

Our principal executive offices are located at 400 South LaSalle Street, Chicago, Illinois 60605, and our telephone number is (312) 786-5600.

Our web site is [www.cboe.com](http://www.cboe.com). Information contained on or linked through our web site is not incorporated by reference into this Annual Report on Form 10-K.

## History

CBOE was founded in 1973 as a non-stock corporation owned by its Members. CBOE was the first organized marketplace for the trading of standardized, exchange-traded options on equity securities. In 2004, CFE began operations as a futures exchange. CBOE Holdings was incorporated in the State of Delaware on August 15, 2006. In June 2010, CBOE demutualized (see "Restructuring Transaction") and CBOE, CFE and C2 became wholly-owned subsidiaries of CBOE Holdings. In October 2010, C2, the Company's all-electronic options exchange, initiated operations.

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### Restructuring Transaction

On June 18, 2010, CBOE converted from a non-stock corporation owned by its Members into a stock corporation that is a wholly-owned subsidiary of CBOE Holdings. In the restructuring transaction, each CBOE regular membership (an "Exchange Seat") owned by a CBOE Member on June 18, 2010 converted into 80,000 shares of Class A common stock of CBOE Holdings. Seat owners received a total of 74,400,000 shares of Class A common stock of CBOE Holdings in the restructuring transaction. In addition, certain persons who satisfied the qualification requirements set forth in the Settlement Agreement in the Delaware Action received a total of 16,333,380 shares of Class B common stock of CBOE Holdings on June 18, 2010. Pursuant to the Settlement Agreement, qualifying members of the plaintiff class received a cash payment of \$300.0 million.

The initial public offering of 13,455,000 shares of unrestricted common stock, including 2,085,774 shares of unrestricted common stock sold by selling stockholders, for a price of \$29.00 per share, was completed on June 18, 2010. Net proceeds to the Company after deducting underwriter's fees and commissions and other related expenses were \$301.2 million. Costs directly associated with the Company's initial public offering were recorded as a reduction of the gross proceeds received in arriving at the amount recorded in additional paid-in capital.

Upon consummation of the initial public offering, the shares of Class A and Class B common stock not converted into unrestricted common stock and sold in the initial public offering automatically converted into 44,323,803 shares of Class A-1 common stock and 44,323,803 shares of Class A-2 common stock. The Company conducted tender offers in November 2010 and purchased 12,017,895 shares of Class A-1 and Class A-2 common stock. On December 15, 2010 and June 13, 2011, respectively, each remaining share of Class A-1 and Class A-2 common stock issued and outstanding converted into one share of unrestricted common stock. As a result, as of December 31, 2011, no shares of Class A-1 or Class A-2 common stock were outstanding.

As of December 16, 2015, we amended and restated our Amended and Restated Certificate of Incorporation to, among other items, change the name of our unrestricted common stock to common stock and remove obsolete provisions related to the designations, rights and preferences of Class A-1 and Class A-2 common stock.

### Industry

Our primary business of offering exchange-traded options and futures contracts on financial instruments is part of the large global derivatives industry. Derivatives are financial contracts whose value is derived from an underlying asset or reference value. While derivatives exist on a wide range of underlying assets and references, we currently focus on offering derivatives products on individual stocks, stock indexes, exchange-traded funds, exchange-traded notes, interest rates, and various benchmarks related to trading and investment strategies. The global derivatives industry includes both exchanges and a large over-the-counter market. The most common types of derivatives are options, futures and swap contracts. These products allow for various types of risk to be isolated and transferred.

### Options and Futures

Options represent a contract giving the buyer the right, but not the obligation, to buy or sell a specified quantity of an underlying security or index at a specific price for a specific period of time. Options provide investors a means for hedging, speculation and income generation, while at the same time providing leverage with respect to the underlying asset. Most options traded on U.S. securities exchanges and over-the-counter are on individual equities, market indexes and ETPs.

Futures are standardized, transferable, exchange-traded contracts that are settled by the delivery of the underlying asset or in cash by reference to the underlying asset or reference at a specified price and on a specified future date. Futures on CFE are settled in cash. Options on futures may also be listed for trading on futures exchanges.

### Trading

In the listed options market, there are currently options contracts covering approximately 3,900 underlying stocks, indexes and ETPs, among other products. The presence of dedicated liquidity providers, including market-makers, is a key feature of the options market. Market-makers collectively provide continuous bids and offers for all listed options series. Over the past decade, trading in the options market has migrated from being primarily conducted face-to-face, or "open outcry," to being primarily electronic.

### Trends

Increased Interest in Our Proprietary Products



Our proprietary products are those in which we have a property right or for which we have an exclusive license, and contribute almost all of our transaction fee revenues for index options and all of our transaction fee revenues for futures. Listed

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options on equities and ETPs currently may be listed on all options exchanges, while trading in our proprietary products is limited to our exchanges. Thus, our proprietary products are able to support a higher revenue per contract than multiply-listed products.

Over the past five years, average daily volume ("ADV") in our index options has increased from 1.27 million contracts to 1.62 million contracts, and ADV in our futures has increased from 48 thousand contracts to 205 thousand contracts. The increase in index options and futures trading significantly outpaced the growth in the industry and multiply-listed products in this time-frame. These increases are primarily due to increased interest in trading our proprietary VIX options and futures and SPX options. See "SPX Options" and "Volatility Trading."

### Price Competition

The number of U.S. options exchanges that we compete with has more than doubled over the past ten years, from five exchanges to twelve, in large part due to existing exchange holding companies opening new exchanges that offer different markets and pricing models on existing technology. As the business continues to expand, and offers greater margins than the equity trading business, we expect that our competitors, or new entrants into the exchange business, may open new options exchanges.

The options exchanges that we compete with set fees to attract multiply-listed options business to their exchanges, which has reduced the revenue per contract that we generate from these options. Fees utilized include both transaction fees assessed to access liquidity and incentive programs to attract order flow. Order flow, particularly customer order flow, is the primary driver of multiply-listed options exchange volumes. In the past several years, the competition for this business has increased significantly, due in part to the limited number of firms, known as consolidators, who make routing decisions based on pricing and their ability to internalize order flow. Some exchanges have structured their options businesses in partnership with established market participants and order flow providers. Others offer specific payments for order flow, in addition to any economic incentives received from market-makers and other participants.

### Regulatory Oversight

We are subject to regulation by the SEC and the CFTC and market participants may be subject to regulation by the SEC, the CFTC, the Board of Governors of the Federal Reserve, the U.S. Department of the Treasury and/or foreign regulators. Laws and regulations regarding our business and the business of market participants are frequently modified or changed. See "Regulatory Environment and Compliance" for more information on significant areas of regulation of us. As the number of legislative actions have increased, such as the implementation of Basel III, Dodd-Frank and the Collins Amendment to Dodd-Frank, some market participants have adjusted their businesses.

### Competitive Strengths

We have established ourselves as a global leader and innovator in the options industry. We believe we are well positioned to further enhance our leadership position through several key competitive strengths:

**Innovative Products and Services.** We have worked closely and collaboratively with market participants to introduce new products and services to meet the evolving needs of the derivatives industry, and plan to continue these efforts.

**Products** we have developed including index options, options and futures on the VIX Index and other volatility indexes, short duration options, including Weeklys, FLExible EXchange Options ("FLEX options") and options strategy benchmark indexes.

We also connect with a growing customer base through trading and educational resources, including the world-renowned CBOE Options Institute, and we recently became the first U.S. options exchange to trade options in non-U.S. trading hours.

**Strategic Relationships.** We have entered into licensing agreements with index providers under which we have rights to create volatility indexes and offer options and futures products on their indexes. See "Strategic Relationships."

**Leading Brand, Reputation and Market Position.** CBOE, the largest U.S. options exchange, based on both contract volume and notional value, and one of the largest options exchanges in the world, is an options market leader. As the creator of listed options and other significant products in the listed options industry, including the VIX Index and VIX futures and options, CBOE is a leading brand name in the options and volatility space.

### Growth Strategy

We believe that the listed options and futures industry, especially with respect to volatility trading, has significant growth potential, including through new participants and products. Our mission is to be the leader in providing innovative products

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that facilitate and enhance trading in a global marketplace. We expect to further expand our business and increase our revenues and profitability by pursuing the following growth strategies:

**Expand Customer Base.** We intend to continue our efforts to expand the use of our products domestically and internationally, by intensifying our business development efforts to target new retail investors and institutional investors, including pensions and endowments, and to inform them about how to trade our products, especially our proprietary products. We also intend to continue to offer investor education and wide educational resources for both retail and institutional customers through the CBOE Options Institute and through our comprehensive website. We have expanded, and intend to continue expanding, our educational offerings, including through the annual CBOE Risk Management Conferences, now held annually in the U.S., Europe and Asia. In 2016, we plan to further leverage our concentrated pool of liquidity for Russell 2000 Index ("RUT") options to increase trading among institutional traders while further expanding our customer base through joint marketing and educational efforts with our partners Frank Russell Company and FTSE International Limited (together, "FTSE Russell"). Further, offering extended trading hours in our exclusive products is at the core of our international expansion effort. In addition to extended trading hours for VIX futures, in 2015, we extended the trading hours for SPX and VIX options, adding a session each weekday that begins at 2:00 a.m. CT, to align with the opening of the London markets, and ends at 8:15 a.m. CT. We also plan to open an office in London in 2016 to further support our expanding international business development efforts.

**Develop Innovative Products that Leverage and Complement Core Products.** We intend to license and create proprietary intellectual property to develop proprietary products that meet the needs of the derivatives industry, both through strategic relationships and internally developed products, while continuing to diversify our product line across asset classes. In 2015, we continued to leverage partnerships with index providers to extend our product offering while also leveraging our VIX methodology to create new products, such as VIX Weeklys options and futures. CBOE also became in 2015 the exclusive U.S. provider of major FTSE Russell index options products and continued to be the U.S. home for RUT options. In addition, we launched new products on certain MSCI indexes that are solely listed for trading on CBOE in the U.S.

**Offer Compelling Economic Model.** We have designed our fee schedule to provide benefits to market participants that concentrate their overall trading activity on CBOE, which we believe encourages market participants to increase their business with us. In our proprietary products, we offer discounts and incentives to certain participants based on relative volume and the use of selected strategies. In multiply-listed products, we offer incentive programs to attract customer order flow to help our market participants manage both the fixed and transaction-based costs of trading on CBOE. We regularly review the fee schedules for all of our exchanges to provide an industry-leading economic offering.

**Continue to Enhance Our Trading Systems.** We recognize that the opportunity to participate in the growth of the derivatives market will be driven in great part by the trading functionality and systems capabilities that an exchange offers to market participants. We intend to use our strong in-house development capabilities and continued investment to further harden and develop the functionality and capacity of our trading systems. In 2015, we began in-house custom development of our next generation of trading technology, CBOE Vector, a new platform designed with the end-user in mind, using the latest hardware and software technology in order to provide enhanced agility, speed, connectivity and risk controls. We expect to implement CBOE Vector on CFE in the third quarter of 2016, with CBOE and C2 to follow.

**Evaluate Strategic Opportunities that Leverage and Complement Core Business.** We evaluate strategic opportunities that we believe will enhance stockholder value. We specifically look for strategic opportunities beyond our current businesses that will capitalize on our core competencies and diversify our sources of revenue. In 2015, CBOE acquired the market data services and trading analytics platforms of Livevol, Inc. and formed alliances with various partners that leverage our strengths and enable us to diversify our product and business lines across new regions and asset classes. In 2016 we made a majority equity investment in Vest Financial Group, Inc., an investment advisor that provides options-centric products.

Products

Our exchanges provide a marketplace for the trading of options and futures contracts that meet criteria established in the rules of the respective exchange. The options contracts listed for trading include options on indexes, equities and ETPs. In addition, we provide a marketplace for trading futures contracts through CFE.

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### Types of Products

**Index Options.** We offer trading in options on several different broad-based market indexes, including the VIX Index, a proprietary index that we developed and that has become a widely recognized measure of equity market volatility. The index options we list include some of the most widely recognized measures of the U.S. equities market, as discussed below.

**Equity Options.** We offer trading in options on the stocks of over 3,300 corporations. The stocks underlying our individual equity options are listed on equity stock exchanges.

**Options on ETPs.** We offer trading in options on over 500 ETFs and ETNs based on various domestic and foreign market indexes, as well as on volatility, commodities, currencies and fixed income instruments.

**Futures.** We provide a marketplace for trading four futures products through CFE. CFE has focused on the trading of futures using the CBOE-created VIX methodology, but also provides trading in S&P 500 Variance futures.

### Increased Flexibility

Over the past few years, we have expanded our offerings, and experienced increases in our existing offerings, that allow for customers to trade options on a number of different time horizons, allowing them to pinpoint their preferred timing. In addition to standard option terms, we also offer options with weekly, end of month and end of quarter expirations, and provide LEAPS that allow the user to establish positions that can be maintained for a period of up to fifteen years. Our Weeklys product in particular has seen rapid growth, especially in VIX and SPX. We believe that the flexibility provided by these offerings allows us to meet the differing needs of our customers and increase trading volume.

### Proprietary Products

The Company has developed several of its own proprietary indexes and index methodologies. These include volatility indexes based on various broad-based market indexes (such as the S&P 500, the S&P 100, the Russell 2000, the DJIA and the NASDAQ 100), volatility indexes based on ETFs and individual stocks, the CBOE S&P 500 Implied Correlation Index and a series of options strategy benchmarks, including BuyWrite, PutWrite and Collar indexes based on the S&P 500 and Russell 2000 and BuyWrite indexes based on other broad-based market indexes. In addition to any transaction fee revenue generated on products created based on these indexes, we have licensed others to use some of these indexes to create products and have entered into agreements whereby we have granted to others the rights to sub-license certain indexes. The Company generates revenue from both the calculation and dissemination of index values and from the licensing of our proprietary indexes.

These proprietary products are built both through our in-house research and development staff and our strategic relationships and license agreements with index providers. The following is a discussion of our strategic relationships and additional detail on our most frequently traded products, including SPX options and VIX options and futures.

### Strategic Relationships

The Company has long-term business relationships with several providers of market indexes. We license their indexes as the basis for indexes, index options and other products. In some instances, these licenses provide us with the exclusive right to list certain products based on these indexes. Of particular note are the following:

**S&P 500 and S&P 100 Indexes.** We have the exclusive right to offer options contracts on the S&P 500 Index and the S&P 100 Index as a result of a licensing arrangement with S&P OPCO LLC ("S&P"). Our license with S&P is through December 31, 2033, with an exclusive license to trade options on the S&P 500 Index through December 31, 2032. We are also authorized to use the S&P 500 Index and S&P 100 for the creation of CBOE volatility indexes, such as the VIX Index, and tradable products on those volatility indexes.

**FTSE Russell Indexes.** While CBOE and Frank Russell Company have worked closely since 1992, in February 2015, we announced that we entered into a license agreement with FTSE Russell, under which CBOE has the exclusive right in the U.S. to offer options on more than two dozen FTSE Russell indexes, including the Russell 2000, FTSE GEIS (Global Equity Index Series), FTSE China 50, the Russell 1000, the Russell 1000 Value and the Russell 1000 Growth Indexes. While we continue to offer options on the Russell 2000 Index, we launched trading in options on the Russell 1000, Russell 1000 Value and Russell 1000 Growth Indexes in October 2015.

**NASDAQ 100.** We continue to have a non-exclusive right to offer options contracts on the NASDAQ 100 Index as a result of entering into a new licensing arrangement with NASDAQ, Inc. in 2015. Under this license, we are authorized

to create VXN, a volatility index on the NASDAQ 100, and offer options, futures or other products on this index.

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MSCI. We have the exclusive right in the U.S. to offer options on six of MSCI's indexes, including the MSCI EAFE and the MSCI Emerging Markets Indexes, as a result of a licensing arrangement with MSCI Inc. We launched trading in options on the MSCI EAFE and the MSCI Emerging Markets Indexes in April 2015.

Dow Jones Industrial Average ("DJIA"). We have the exclusive right during standard U.S. trading hours to offer options contracts on the DJIA and certain other Dow Jones indexes through December 31, 2017 as a result of a licensing arrangement with S&P Dow Jones Indices, LLC. We are also authorized to use these indexes to create CBOE volatility indexes and trade options, futures and other products on these indexes.

### SPX Options

The S&P 500 Index is an index comprised of 500 large-cap U.S. listed companies. It is one of the most commonly followed indexes, and is considered a bellwether for the U. S. economy. The options we offer on the S&P 500 Index are exclusive to CBOE and contribute substantially to our volumes and transaction fees. Because of its status as a bellwether, SPX is traded in a number of different trading strategies by customers with different goals, including pension funds hedging their equity exposure by buying put options, asset managers seeking enhanced returns by selling covered call options and hedge funds using risk-managed strategies to capture so-called "risk premia" embedded in option prices.

Over the past five years we have seen a significant increase in the number of SPX Weeklys contracts traded, one of our fastest growing products. As a percentage of total SPX contracts traded, SPX Weeklys has increased from 2.2% in 2010 to 35.9% in 2015. We believe that traders are using this product to fine tune the timing of hedging strategies and maximize the risk premium in strategies that involve the sale of options, such as covered call writing.

### Volatility Trading

CBOE pioneered the volatility trading space, with its introduction of the CBOE Volatility Index (the "VIX Index") in 1993. We introduced futures on the VIX Index in 2004 and options in 2006. The VIX Index is based on real-time prices of options on the S&P 500 Index and is designed to reflect investors' consensus view of future 30-day expected stock market volatility. Since we started offering these products, we have seen trading from a number of different customer segments utilizing a number of different trading strategies, including hedging extreme stock market declines, also known as "tail risk" hedging, and risk-managed strategies that seek to capture the relative price changes of expected volatility at different times in the future. Additionally, in 2015, we introduced VIX Weeklys options and futures to provide investors with new opportunities and tools to trade short-term volatility.

While the trading volumes in options and futures on the VIX Index have increased over the past five years, trading volumes in these products are especially sensitive to market volatility, with increases in volume generally occurring along with spikes in volatility. While we believe that there will be continued intrinsic growth in our volatility products, significant changes in the levels of market volatility may significantly impact volumes in these products.

In addition to the VIX Index, we offer other products based on the VIX methodology, including futures on CBOE Russell 2000 Volatility Index and the CBOE/CBOT 10-year U.S. Treasury Note Volatility Index. CFE also lists futures on realized variance using RIVET methodology. While volumes in our non-VIX options and futures volatility products are not material to us, we continue to explore opportunities to expand our volatility product offerings, with respect to both new indexes and new asset classes.

### FTSE Russell

The London Stock Exchange Group's leading global index franchises, FTSE Russell indexes, represent a diverse group of domestic and global equities with international appeal: the Russell indexes include widely followed benchmarks of U.S.-based stocks while the FTSE indexes focus primarily on global and emerging markets equity benchmarks that are widely used in the U.S. market. FTSE Russell indexes are among the largest and most widely used by investors in the U.S., and U.S. ETFs tracking FTSE Russell indexes comprise some of the most actively traded globally.

The options we offer on the FTSE Russell indexes, currently the Russell 2000, Russell 1000, Russell 1000 Value and Russell 1000 Growth Indexes, are exclusive to CBOE. We launched options on the Russell 1000, Russell 1000 Value



and Russell 1000 Growth Indexes in October 2015, enabling investors to target additional segments of the U.S. equity market.

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### Options Exchanges' Market Participants

As discussed in more detail below, our options exchanges are designed to provide reliable, orderly, liquid and efficient marketplaces for the trading of options by market participants. Our options exchanges operate quote-driven auction markets that involve a number of different market participants.

#### Trading Permit Holders

Purchasing a monthly trading permit for the respective exchange conveys "Trading Permit Holder" status on that exchange to the permit holder.

A Trading Permit Holder on one of our options exchanges is allowed to enter orders and quotes into the trading system for that exchange. Trading Permit Holder entities can execute trades for their own accounts, for clearing firm accounts, for the accounts of other permit holders or for the accounts of customers.

#### Applicants for Trading Permit Holder Status

Applicants for Trading Permit Holder status must have adequate financial resources and credit to assume the responsibilities and privileges of a Trading Permit Holder. All Trading Permit Holders must abide by the rules and regulations of the applicable exchange, the provisions of the Securities Exchange Act of 1934 (the "Exchange Act") and the rules and regulations issued by the SEC.

#### Trading Permits and Participant Roles

The following types of trading permits entitle the holders to conduct business on the exchanges during the regular trading hours session in the applicable participant roles described below.

**Market-Maker Trading Permit.** A market-maker trading permit entitles the holder to act as a market-maker who engages in trading our products either for its own account or for the account of his or her firm, but does not act as an agent representing orders for customers. Market-makers have quoting obligations in their appointed product classes. They are granted margin relief and must have a relationship with a clearing firm that will hold and guarantee their positions. The majority of trading permits in use on CBOE and C2 are used for market making. There are additional classes of market-maker, namely Lead Market-Maker ("LMM") and Designated Primary Market-Maker ("DPM") that also provide incentives for market-makers to provide competitive quotes, and are also called liquidity providers. In addition, TPHs routing orders to CBOE may designate a Preferred Market-Maker.

**Floor Broker Trading Permit.** A floor broker trading permit entitles the holder to act as an individual who represents orders on the CBOE trading floor as an agent is known as a floor broker. Floor brokers generally do not trade for their own account, although they may represent their firms' proprietary account.

**Electronic Access Permit ("EAP").** An EAP is a trading permit used by TPHs that need a separate access permit for a specific business function and is the most general type of access permit. EAPs may be registered for one of the following: clearing TPHs; TPHs approved to transact business with the public; proprietary TPHs; and order service firms.

In addition, separate extended trading hours permits, market-maker trading permit and EAP, other than for order service firms, entitle the holders to conduct business on the exchanges during the extended trading hours session as market-makers or EAPs.

#### CFE Market Participants

Parties are required to apply and be approved as CFE Trading Privilege Holders and obtain a CFE trading permit in order to have trading privileges on CFE. Trading Privilege Holders on CFE are allowed to enter orders into CFE's trading system and can execute trades for their own accounts or for the accounts of customers.

Under its rules, CFE has the authority to establish market-maker programs and appoint one or more DPMs, LMMs or market-makers. However, CFE does not have a DPM, LMM or market-maker program in VIX futures.

#### Market Model

##### Algorithms

The matching algorithms used on our exchanges are the means by which trades are executed and allocated to market participants. Our technology and the rules of our exchanges provide for a variety of different algorithms for matching buyers



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and sellers. We have the ability to apply different matching algorithms to different products in order to meet the needs of particular market segments. The setting of the matching algorithm affects the share of each trade that a market participant receives and is central to the opportunity and profit potential of market-makers and other liquidity providers.

• CBOE utilizes various matching algorithms in different listed options classes, with different combinations of customer priority, participation rights and pro-rata, modified pro-rata or price-time depending on the product.

• C2's matching algorithm is pro-rata for all options classes.

• CFE utilizes a price-time priority algorithm for all futures.

Details on our technological capabilities, as well as key systems offerings available to customers, are described in "Technology."

### Pricing

Each of our exchanges establishes a fee schedule that, among other things, sets the transaction fee for buying or selling options or futures contracts on the exchange and access fees for accessing the exchange. In our proprietary products, we assess these fees on all participants, with the amount of the fee based on the market participant's role and the origin of the underlying order, and subject to discounts based on relative volume or trading strategies. In multiply-listed products, CBOE utilizes a pricing model in which transaction fees are charged to most professionals, including market-makers, but are not charged for most customer orders. Additionally, CBOE offers incentive programs to attract customer order flow, including certain payments for order flow and our volume incentive program ("VIP"), which pays credits to permit holders for executing certain types and levels of qualifying customer business at the exchange.

CFE utilizes a pricing model in which transaction fees vary depending on the type of market participant on whose behalf a trade is made and on whether the trade is executed through CFE's trading system, or is a block trade. CFE also offers a Day Trade Fee Program that provides rebates on trades that qualify for the program.

Each of the exchanges also currently charges a fee for trading permits that allow access to our exchanges. CBOE has a sliding scale for all Market-Maker Trading Permits used by affiliated Trading Permit Holders and TPH Organizations that satisfy certain requirements in our proprietary options classes such as SPX, VIX, the S&P 100 Index and the Russell 2000 Index.

### Competition

CBOE is the largest options exchange in the U.S. based on both total contract volume and notional value of contracts traded. The market share for all options traded on U.S. exchanges over the past five years for CBOE and C2, combined, has ranged from 26.4% to 29.9% annually. For 2015, our market share was 27.1%.

In our proprietary products, we compete against futures exchanges and swap execution facilities that offer similar products and other financial institutions that write over-the-counter derivatives. We also compete against certain multiply-listed options products, including SPY, that offer some of the features of our proprietary products.

The multiply-listed options industry is extremely competitive and the competition has intensified. We expect this trend to continue. We compete with a number of entities on several different fronts, including the price, quality and speed of our trade execution, the functionality and ease of use of our trading platform, the range of our products and services, our technological innovation and adaption and our reputation. There are twelve other U.S. options exchanges that are our primary direct competitors, including ISE, NASDAQ OMX NOM, NASDAQ OMX PHLX, NYSE Amex Options and NYSE Arca Options.

The options exchanges frequently introduce new pricing models in order to attract additional trades to their exchanges. These pricing models include traditional pricing, maker-taker, and ownership benefits. See "Trends - Price Competition."

Our competitive challenge is to persuade broker-dealers to route options orders to our exchanges rather than to our competitors and to convince liquidity providers to concentrate their market-making activity on our exchanges. This is particularly true with respect to options on equities and ETPs. We compete through a variety of methods, including:

• Offering a fee schedule that both attracts order flow and provides incentives to liquidity providers;

• Providing advanced technology that offers broad functionality, low latency, fast execution, ease of use, scalability, reliability and security;

Offering participants access to a broad array of products and services, including proprietary products;

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- Offering market participants an efficient, transparent and liquid marketplace for trading options using traditional open outcry and our electronic platform, CBOE Command;
- Offering customers a deep, liquid market with opportunities for price improvement;
- Facilitating payment for order flow through the administration of marketing fees;
- Offering market participants potential participation rights for order flow that they direct or cause to be directed to our exchanges;
- Maintaining close relationships and open communication channels with market participants; and
- Providing brokers and their customers with a comprehensive source of information on options as well as extensive options education.

### Technology

#### CBOE Command

CBOE Command, our in-house developed Java application with an infrastructure designed for high performance and low latency, supports trading on all of our exchanges and supports trading nearly 24 hours, 5 days a week on CFE. Our technology supports the trading process from the entering of quotes and orders, to matching trades, to submitting them to The Options Clearing Corporation ("OCC") for clearing. The technology supports different products, different market models and multiple matching algorithms, as well as a fully integrated complex order book and several auction mechanisms. As mentioned above, CBOE is a hybrid exchange, while C2 and CFE are fully electronic. In the Hybrid format, CBOE Command provides features of screen-based and floor-based trading.

The platform supports both a quote-driven options market model where liquidity providers have quoting obligations and an order-driven market model for our futures exchange. CBOE and C2 market-makers, DPMs and LMMs typically stream hundreds of millions of quotes into CBOE Command each day. To facilitate liquidity providers, CBOE Command offers a number of internal risk controls, including Quote Lock and Quote Risk Monitor.

CBOE Command allows for a quick introduction of different types of derivative and securities products, including options, futures, options on futures and stock products. In addition, our system facilitates different trading models through the use of alternative configurations, allowing us to provide both hybrid and fully electronic market models. CBOE also offers CFLEX, our hybrid platform for trading FLEX options built on the CBOE Command platform.

#### CBOE Vector

In 2015, we began in-house custom development of CBOE Vector, our next generation of trading technology. This new platform is designed to provide streamlined access to a comprehensive array of options and volatility products and to the deep liquid markets in which they trade.

The advanced architecture of the platform is being developed to deliver best-in-class functionality, low latency, ease of use, improved connectivity and trading efficiency. The platform is being engineered to provide greatly increased transaction speeds while handling constantly increasing message traffic and industry demand for additional functionality, such as risk controls. We expect to implement CBOE Vector for CFE in the third quarter of 2016, with CBOE and C2 to follow.

#### Hybrid Trading Model

All CBOE products trade with an electronic and open-outcry component where both are integrated to function as a single market. Our Hybrid trading model is supported by state-of-the-art technology, including the CBOE Command trading platform. For our a.m.-settled SPX options, certain of the electronic trading features are differently configured to better suit the needs of customers in those products.

In general, CBOE market-makers stream their own individual quotes into the CBOE trading engine and, if on the floor, engage in open outcry transactions in their trading crowd. Our Hybrid trading model allows CBOE to offer the best of both electronic and open outcry trading models.

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### Market Data

Market data is sent to the Options Price Reporting Authority ("OPRA"), our TPHs, CBOE Financial Network and CBOE Streaming Markets ("CSM"), described below. Our exchanges generate valuable information regarding the prices of our products and the trading activity in our exchanges. For options, market data relating to price and size of market quotations and the price and size of trades is collected and consolidated by OPRA. OPRA disseminates the information for a fee to vendors who redistribute the data to brokers, investors and other persons or entities that use our markets or that monitor general market conditions. After costs are deducted, the fees collected are distributed among OPRA's exchange participants based on their cleared transactions pursuant to the OPRA Plan. As of December 2015, our market data was available on approximately 137,000 terminals worldwide. See "Regulatory Environment and Compliance" for further information on OPRA.

Our subsidiary, Market Data Express, LLC ("MDX") sells historical options data and real-time data index values. It also provides market data and market depth through CSM, a proprietary streaming data feed.

To enhance our customer's connection to our marketplace, in 2015, we acquired the market data services and trading analytics platforms of Livevol, Inc. Livevol is a provider of equity and index options technology for professional and retail traders, which includes options strategy backtesting and trade analysis and volatility modeling technologies.

### Disaster Recovery

We operate and maintain geographically diverse disaster recovery facilities for CBOE, C2 and CFE. We expect that the disaster recovery facilities can be up and running in a short period and work with our market participants to ensure that the marketplace can be quickly reopened. We continue to work to improve both the availability of our systems and our disaster recovery facilities, including through simulation testing.

### Clearing System

OCC acts as the issuer, counterparty and guarantor for all options contracts traded on our options exchanges and other U.S. options exchanges. OCC fulfills these same functions for futures products traded on CFE. Upon execution of an options or futures trade, we transmit to OCC a record of all trading activity for clearing and settlement purposes.

### Regulatory Environment and Compliance

The following discussion covers the more significant areas of regulation of us by the SEC and the CFTC.

### Recent Developments

Laws and regulations regarding our business are frequently modified or changed, including in response to adverse financial conditions, to address perceived problems, new products, competition or at the request of market participants. The following is a summary of certain recent regulatory developments that may impact our business.

### Regulation System Compliance and Integrity ("Reg SCI") and Working Group Initiatives

On December 5, 2014, the SEC adopted a new regulation, Regulation Systems Compliance and Integrity, ("Reg SCI") under the Securities Exchange Act. Reg SCI requires "SCI Entities," which includes self-regulatory organizations like CBOE and C2, to comply, as of the compliance date of November 3, 2015, with security and capacity requirements with respect to their systems and accompanying compliance procedures. As part of complying with Reg SCI, CBOE and C2 were required to, among other things, establish written policies and procedures reasonably designed to provide for a resilient market in the event of a disruption. This includes, for example, each exchange ensuring that it has adequate disaster recovery facilities that are geographically diverse from the exchange's systems and that facilitate the ability to resume trading within specified timeframes when critical and non-critical SCI systems are rendered inoperable. It also requires timely and substantial notification to be made to the SEC in the event an exchange experiences certain system interruptions or interference. The SEC has also established various working groups of exchanges to focus on improving market resiliency, including regarding regulatory halts, trade nullification and additional market protections. As adopted, Reg SCI and the other SEC mandated working group initiatives are very complex, and, as such, compliance with rules may require significant resources.

### CFTC Core Principles

Dodd-Frank amended the core principles with which designated contract markets ("DCMs") like CFE must comply under the Commodity Exchange Act. As a result, CFE implemented a number of new rules, policies and procedures in relation to the new requirements. However, one aspect with respect to the amended core principles applicable to DCMs that remains pending relates to amended Core Principle 9. Core Principle 9 requires each DCM to provide a

competitive, open and efficient market and mechanism for executing transactions that protects the price discovery process of trading in the DCM's centralized market.

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CFTC regulations to implement Core Principle 9 remain pending and may address the extent to which a DCM may permit block trades and exchanges of derivatives for related positions in its products to occur through the DCM outside of the DCM's centralized market. CFE cannot predict or estimate the extent to which these regulations may affect CFE or its operations.

### Automated Trading

In November 2015, the CFTC issued a rulemaking proposal relating to automated trading on DCMs. The proposal, referred to as Regulation Automated Trading ("Regulation AT"), takes a multilevel approach by proposing risk controls and other requirements for (a) market participants using algorithmic trading systems ("ATs"), who are defined as "AT Persons" in the rulemaking, (b) clearing member futures commission merchants ("FCMs") with respect to their AT Person customers and (c) DCMs executing AT Person orders.

Regulation AT is intended to reduce potential risks arising from algorithmic trading activity by requiring the implementation of risk controls such as maximum order message and maximum order size parameters, and the establishment of standards for the development, testing and monitoring of ATs, among other requirements. AT Persons and clearing member FCMs would also be required to submit reports on their risk controls to DCMs, and maintain books and records regarding their risk controls and other algorithmic trading procedures for review by DCMs. Regulation AT also proposes to require the registration of proprietary traders engaged in algorithmic trading through direct electronic access to a DCM and to require that all AT Persons become members of a registered futures association. Regulation AT would also require the use of self-trade prevention tools by market participants on DCMs, while permitting trades originating from accounts with independent decision makers. In addition, Regulation AT is intended to foster transparency around DCM electronic trade matching platforms and DCM market-maker and trading incentive programs.

Although CFE may incur additional resources complying with the proposal if it were to be adopted by the CFTC, CFE does not expect that the proposal will have a material impact on CFE or its operations.

### Systems Safeguards

In December 2015, the CFTC issued a rulemaking proposal to amend its system safeguards rules for DCMs by enhancing and clarifying existing provisions relating to system safeguards, risk analysis and oversight, and cybersecurity testing, and adding new provisions concerning certain aspects of cybersecurity testing. The proposal clarifies the existing system safeguards rules for DCMs by specifying and defining the types of cybersecurity testing required to fulfill system safeguards testing obligations, including vulnerability testing, penetration testing, controls testing, security incident response plan testing, and enterprise technology risk assessment. The proposal also clarifies the categories of risk analysis and oversight that statutorily-required programs of system safeguards-related risk analysis and oversight must address; system safeguards-related books and records obligations; the scope of system safeguards testing; internal reporting and review of testing results; and remediation of vulnerabilities and deficiencies. CFE does not expect the proposal to result in significant changes to its operations if the proposal were to be adopted by the CFTC.

### Agency Rulemaking Areas

In addition to the above identified areas, the SEC has been directed under Dodd-Frank to implement many new rules, both alone and in conjunction with the CFTC. These areas include portfolio margining and security-based swap clearing and execution.

The SEC has proposed rules, including options fee caps and banning flash orders, that it has not acted upon. While we do not expect the SEC to take action with respect to options fee caps or banning flash orders, as these proposals are dated, if one or both of the proposals were adopted, they could cause significant changes to our market that may reduce our revenue per contract or reduce the volume of trading on our exchanges.

### Compliance

#### Securities Industry-CBOE and C2

Federal securities laws have established a two-tiered system for the regulation of securities exchanges and market participants. The first tier consists of the SEC, which has primary responsibility for enforcing federal securities laws. The second tier consists of self-regulatory organizations ("SROs"), which are non-governmental entities that must

register with and are regulated by the SEC. CBOE and C2 are SROs, each registered under Section 6 of the Exchange Act as a "national securities exchange" and are subject to oversight by the SEC. CBSX, which ceased offering stocks for trading on April 30, 2014, is not an SRO and was a stock trading facility of CBOE. As the SRO for CBSX, CBOE was responsible for the regulation of the CBSX marketplace and the following discussion of CBOE's responsibilities includes the responsibility to provide regulation for CBSX and CBOE's other facilities. In addition, NSX is a stock exchange that is an SRO and was wholly

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owned by CBSX until NSX was sold to a third party on February 18, 2015. During the time that CBSX owned NSX, NSX ceased operating its exchange on May 30, 2014 and CBOE supported NSX in fulfilling its self-regulatory responsibilities until its sale in 2015.

SROs are an essential component of the regulatory scheme of the Exchange Act for providing fair and orderly markets and protecting investors. To be registered as a national securities exchange, an exchange must successfully undergo an application and review process with the SEC prior to beginning operations. Among other things, the SEC must determine that the SRO has the ability to comply with the Exchange Act and to enforce compliance by its members and persons associated with its members with the provisions of the Exchange Act, the rules and regulations thereunder and the rules of the exchange.

In general, an SRO is responsible for regulating its members, known as TPHs at CBOE and C2, through the adoption and enforcement of rules governing the business conduct of its members. The rules of the exchange must also assure fair representation of its members in the selection of its directors and administration of its affairs and, among other things, provide that one or more directors be representative of issuers or investors and not be associated with a member of the exchange or with a broker or dealer. Additionally, the rules of the exchange must be adequate to ensure fair dealing and to protect investors and may not impose any burden on competition not necessary or appropriate in furtherance of the purposes of the Exchange Act.

As registered national securities exchanges, virtually all facets of our CBOE and C2 operations are subject to the SEC's oversight, as prescribed by the Exchange Act. The Exchange Act and the rules thereunder impose on us many regulatory and operational responsibilities, including the day-to-day responsibilities for market and broker-dealer oversight. Furthermore, as SROs, CBOE and C2 are potentially subject to regulatory or legal action by the SEC or other interested parties. The SEC also has broad enforcement powers to censure, fine, issue cease-and-desist orders, prohibit us from engaging in some of our businesses, suspend or revoke our designation as a registered securities exchange or to remove or censure any of our officers or directors who violate applicable laws or regulations.

As part of its regulatory oversight, the SEC conducts periodic reviews and inspections of exchanges, and CBOE and C2 have been subject to such routine reviews and inspections. To the extent such reviews and inspections result in regulatory or other changes, we may be required to modify the manner in which we conduct our business, which may adversely affect our business. We collect certain fees derived from our regulatory function and fines in connection with our disciplinary proceedings. Under the rules of each of our options exchanges, as required by the SEC, any revenue derived from the regulatory fees and fines cannot be used for non-regulatory purposes.

CBOE and C2 are also subject to the record keeping requirements of Section 17 of the Exchange Act, including the requirement pursuant to Section 17(b) of the Exchange Act to make certain records available to the SEC for examination.

Section 19 of the Exchange Act also provides that we must submit to the SEC proposed changes to any of CBOE's or C2's rules, including revisions of their certificates of incorporation and bylaws. The SEC will typically publish the proposal for public comment, following which the SEC may approve or disapprove the proposal, as it deems appropriate. The SEC's action is designed to ensure that the CBOE's and C2's rules and procedures are consistent with the Exchange Act and the rules and regulations under the Exchange Act. Certain categories of rule changes, like fee changes, can be effective on filing, but the SEC retains the ability to suspend or reject such filings within a prescribed period of time.

### Consent Order

On June 11, 2013, CBOE and C2 entered into a Consent Order with the SEC, under which CBOE and C2 were censured, ordered to cease and desist from violating certain sections of the Securities Exchange Act, paid a fine of \$6 million and agreed to complete certain undertakings. These undertakings included conducting a review of our regulatory programs, enterprise risk management and business influences on regulation, reviewing business practices to ensure compliance with the rules of the exchanges and implementing training programs for employees. We have certified to the completion of these undertakings. The Consent Order also requires on-going certifications by the Company's Chief Executive Officer and Chief Regulatory Officer until 2019.

CBOE Holdings

Certain aspects of CBOE Holdings are also subject to SEC oversight, including certain ownership and voting restrictions on its stockholders. The focus of the SEC's regulation of CBOE Holdings is to assure fair representation of Trading Permit Holders in the selection of CBOE and C2 directors, public participation in the governance of CBOE and C2 and that CBOE and C2 can satisfy their regulatory responsibilities under the Exchange Act. Furthermore, the SEC requires that CBOE Holdings give due regard to the preservation of the independence of the self-regulatory function of CBOE and C2 and to CBOE Holdings' obligations to investors and the general public. The SEC also requires that CBOE Holdings not take any actions that would interfere with the effectuation of any decisions by the board of directors of CBOE or C2 relating to their regulatory functions or the structure of the market that it regulates or that would interfere with the ability of the exchanges to carry out

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their responsibilities under the Exchange Act. To the extent that CBOE Holdings' business activities involve or relate to CBOE and C2, the officers and directors of CBOE Holdings may be deemed to be officers and directors of the exchanges for purposes of and subject to oversight under the federal securities laws. Accordingly, the SEC may exercise direct supervision and disciplinary authority over certain CBOE Holdings' activities and those activities may be subject to SEC approval and, in some cases, public notice and comment.

### Futures Industry-CFE

The operations of CFE are subject to regulation by the CFTC under the Commodity Exchange Act. The Commodity Exchange Act generally requires that futures trading in the U.S. be conducted on a commodity exchange designated as a contract market by the CFTC under the Act. The Commodity Exchange Act and CFTC regulations establish criteria for an exchange to be designated as a contract market on which futures and futures options contracts may be traded. Designation as a contract market for the trading of a specified futures contract is non-exclusive. This means that the CFTC may designate additional exchanges as contract markets for trading the same or similar contracts.

CFE is a designated contract market that is subject to the oversight of the CFTC and to a variety of ongoing regulatory and reporting responsibilities under the Commodity Exchange Act. As a designated contract market, CFE is required to comply with the applicable core principles and regulations under the Commodity Exchange Act. CFE has surveillance and regulatory operations and procedures to monitor and enforce compliance by Trading Privilege Holders with CFE rules. If CFE fails to comply with applicable laws, rules or regulations, CFE may be subject to censure, fines, cease-and-desist orders, suspension of its business, removal of personnel or other sanctions, including revocation of CFE's designation as a contract market.

### Regulatory Responsibilities

Our exchanges are responsible for assessing the compliance of their TPHs with the respective exchange's rules and the applicable rules of the SEC and CFTC. The main activities that the exchanges, as applicable, are required to provide to measure compliance with these rules include:

- surveillance designed to detect violations of exchange trading rules;
- surveillance designed to detect possible manipulation and violations of other SEC and CFTC rules;
- the further investigation of matters deemed to be problematic;
- the investigation of complaints about possible rule violations brought by customers, members or other SROs; and
- the examination of TPHs for compliance with rules such as those related to net capital, books and records, market access and other matters related to the TPHs' exchange business functions.

In order to ensure market integrity, we regulate and monitor our TPHs' trading activities by using both our employees and third parties under regulatory services agreements. See "Regulatory Agreements" below. Providing effective regulation is important for attracting and retaining the confidence and participation of market-makers, broker-dealers and institutional and retail investors.

We expend considerable time, financial resources and effort to ensure that the exchanges' rules and regulations conform to regulatory best practices within the securities and futures exchange industries and within the regulatory regime overseen by the SEC and CFTC, our primary regulators. In order to support our efforts and those of our market participants to comply with applicable law and our exchange rules, we developed a regulatory program to monitor market activity on our exchanges.

As part of the self-regulatory process, formal disciplinary matters are reviewed by our Business Conduct Committee, which includes both market participants and public representatives. CBOE, C2 and CFE are participants in the Intermarket Surveillance Group ("ISG"). ISG is an international information-sharing cooperative governed by a written agreement that provides for a comprehensive surveillance sharing arrangement. In addition to the agreement for confidential information sharing, the ISG provides a framework for the coordination of regulatory efforts among exchanges trading securities, commodity futures and related products to address potential intermarket manipulations and trading abuses.

We collect certain fees derived from our regulatory function and fines in connection with our disciplinary proceedings. Under the rules of each of CBOE and C2, as required by the SEC, any revenue derived from the regulatory fees and fines cannot be used for non-regulatory purposes.

### Regulatory Agreements

CBOE, C2 and CFE have entered into agreements, some of which are pursuant to Section 17(d) of the Exchange Act, under which third parties have agreed to perform regulatory services to our markets. As discussed below, in certain instances,

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the third party has assumed the regulatory responsibility under Rule 17d-2, while in others, we retain the regulatory responsibility for the activities.

### Regulatory Services Agreement with FINRA

On December 19, 2014, CBOE and C2 entered into an agreement with the Financial Industry Regulatory Authority ("FINRA") under which FINRA agreed to start providing regulatory services to CBOE and C2 on January 1, 2015. Under the agreement, FINRA performs the majority of the regulatory services for CBOE and C2. CBOE and C2 remain responsible for the regulation of their marketplaces, and retain the authority for bringing disciplinary actions against their Trading Permit Holders.

### Regulatory Services Agreement with NFA

The National Futures Association ("NFA") performs many regulatory functions for CFE pursuant to a Regulatory Services Agreement with CFE. CFE retains overall responsibility for the regulation of its marketplace. CFE also remains responsible for bringing disciplinary actions against Trading Privilege Holders, including issuing fines in the case of serious rule violations. In the case of financially distressed Trading Privilege Holders, CFE may take various emergency actions to protect customers, other Trading Privilege Holders and CFE. CFE is also a party to cooperative and regulatory information sharing agreements with other SROs and is a member of the ISG, described above.

### Rule 17d-2 Agreements

Section 17(d) of the Exchange Act and the related Exchange Act rules permit SROs to allocate certain regulatory responsibilities to avoid duplicative oversight and regulation. Under Exchange Act Rule 17d-1, the SEC designates one SRO to be the Designated Examining Authority ("DEA") for each broker-dealer that is a member of more than one SRO. The DEA is responsible for the regulatory oversight of the financial responsibility aspects of that broker-dealer. We are the DEA for many of our members.

Exchange Act Rule 17d-2 permits SROs to enter into agreements, commonly called Rule 17d-2 agreements, which are approved by the SEC and concern the enforcement of rules applicable to all of those SROs and relating to members those SROs have in common. We have entered into Rule 17d-2 agreements under which FINRA is allocated responsibility for enforcing certain federal securities laws and CBOE and C2 rules that are common with FINRA rules, rules related to options sales practices with respect to CBOE and C2 Trading Permit Holders and insider trading rules. We have entered into other Rule 17d-2 agreements that allocate responsibility to each SRO for ensuring that their allocated common members comply with rules governing expiring exercise declarations, options position limits and large options position reporting and position adjustments. Finally, we have entered into a Rule 17d-2 agreement that allocates certain responsibilities under Regulation NMS to a market participant's DEA.

### ORSA Plan

The SEC approved a national market system ("NMS") plan named the Options Regulatory Surveillance Authority Plan ("ORSA Plan") with the purpose of permitting the U.S. securities options exchanges to act jointly in the administration, operation and maintenance of a regulatory system for the surveillance, investigation and detection of the unlawful use of undisclosed, material information in trading in one or more of their markets. Through the sharing of the costs of these regulatory activities and the sharing of the regulatory information generated under the ORSA Plan, the ORSA Plan is intended to enhance the effectiveness and efficiency with which the exchanges regulate their respective markets and the national market system for options and to avoid duplication of certain regulatory efforts. The ORSA policy committee had delegated the operation of the surveillance and investigative facility contemplated by the ORSA Plan to CBOE. The exchanges also entered into a Regulatory Services Agreement with CBOE, as service provider, pursuant to which CBOE performed certain regulatory and surveillance functions under the ORSA Plan and used its automated insider trading surveillance system to perform these functions on behalf of the exchanges. Effective January 1, 2015, the ORSA policy committee delegated the operation of the ORSA Plan facility to FINRA, and FINRA became the service provider under the Regulatory Services Agreement.

### National Market System Plans

In addition to the ORSA Plan described above, CBOE and C2 are member participants of several other NMS plans, including the plans that are described below.

OPRA, CTA, CQ Plan and NASDAQ Unlisted Trading Privileges Plan

Like all U.S. options exchanges, CBOE and C2 are member exchanges in OPRA, a limited liability company. The OPRA limited liability company agreement sets forth a system for reporting options information that is administered by the member exchanges through OPRA, consisting of representatives of the member exchanges. OPRA is the designated securities



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information processor for market information that is generated through the trading of exchange-listed securities options in the U.S., and it disseminates certain core trading information, such as last sale reports and quotations. We also participate in the Consolidated Tape Association ("CTA"), the Consolidated Quotation Plan ("CQ Plan"), and the NASDAQ Unlisted Trading Privileges Plan, which perform analogous services for the U.S. equities market. NYSE Technologies, formerly the Securities Industry Automation Corporation, acts as the "processor" for OPRA, CTA and the CQ Plan. NASDAQ acts as the processor for the NASDAQ Unlisted Trading Privileges Plan.

### Options Intermarket Linkage Plan

We are a party to the Options Order Protection and Locked/Crossed Market Plan, known as the Options Intermarket Linkage Plan, which is designed to facilitate the routing of orders between exchanges in furtherance of a national market system. The principal purposes of the plan are to promote price protection and to assure that brokers may execute investors' orders at the best market price, the "National Best Bid and Offer" ("NBBO"). The plan requires price protection of an exchange's best displayed bid or offer when the bid or offer is at the NBBO. Under the plan, direct exchange-to-exchange access through broker-dealers is used to transmit intermarket sweep orders similar to sweep orders that are available in the stock market under Regulation NMS. Undisplayed bids and offers and bids and offers at prices that are inferior to an exchange's best bid or offer do not receive protection under this plan.

### Options Listing Procedures Plan and Symbology Plan

We are a party to the Options Listing Procedures Plan, which sets forth the procedures that the options exchanges must follow to list new options. We are also a party to the National Market System Plan for the selection and reservation of securities symbols.

### Consolidated Audit Trail ("CAT")

In 2012, the SEC directed the SROs through a new regulation, to submit a plan to create, implement and maintain a consolidated audit trail ("CAT"), which would serve as a comprehensive audit trail of orders that will allow regulators to efficiently and accurately track all activity in Regulation NMS securities in the U.S. market. The regulation requires, among other things, that, upon implementation of a plan, data be reported to a central repository the following day by each exchange and broker-dealer. We are working with the other SROs to develop the plan to implement a consolidated audit trail, which is required to detail technological and compliance aspects of the plan and the costs to implement the plan, among other details. Once the plan is finalized and effective, there will be a phased implementation over three years. The exchanges and their participants are likely to incur significant costs related to the implementation of the consolidated audit trail requirements.

### Intellectual Property

We own or have rights to a number of intellectual property assets, including trademarks, service marks, domain names, trade names, copyrights, trade secrets and patents. While the majority of our intellectual property is protected under U.S. law, we have many intellectual property assets protected by laws in Europe, Asia and other parts of the world. We license some intellectual property assets to other entities. We attempt to protect our intellectual property rights, while respecting the legitimate intellectual property rights of others.

### Employees

As of December 31, 2015, we employed 564 individuals. Of these employees, 267 were involved in systems development or operations and 127 were involved in direct support of trading operations. The remaining 170 employees provide financial, regulation, human resources, compliance, legal, planning and research, administrative and managerial support.

We have eight building engineers that are covered by a collective bargaining agreement, which expires on May 31, 2018, with the International Union of Operating Engineers Local 399, AFL-CIO. Management believes that we have strong relationships with our employees, and we have never experienced a work stoppage.

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## Executive Officers of CBOE Holdings

Set forth below is information regarding our executive officers and certain other key employees:

| Name                 | Age | Position  |
|----------------------|-----|---|
| Edward T. Tilly      | 52  | Chief Executive Officer   |
| Edward L. Provost    | 63  | President and Chief Operating Officer                             |
| Alan J. Dean         | 61  | Executive Vice President, Chief Financial Officer and Treasurer   |
| Joanne Moffic-Silver | 63  | Executive Vice President, General Counsel and Corporate Secretary |
| Gerald T. O'Connell  | 64  | Executive Vice President and Chief Information Officer            |
| David S. Reynolds    | 62  | Vice President and Chief Accounting Officer                       |

Edward T. Tilly. Mr. Tilly is our Chief Executive Officer. He has served in that capacity since May 2013. Prior to becoming CEO, Mr. Tilly served as President and Chief Operating Officer from November 2011, and Executive Vice Chairman from August 2006 until November 2011. He was a member of CBOE from 1989 until 2006, and served as Member Vice Chairman from 2004 through July 2006. Mr. Tilly serves on the board of directors of the OCC. He holds a B.A. degree in Economics from Northwestern University.

Edward L. Provost. Mr. Provost became our President and Chief Operating Officer in May 2013. Prior to that, Mr. Provost served as Executive Vice President and Chief Business Development Officer. He served as the head of our Business Development Division since 2000 and has been employed at the Company since 1975. He holds a B.B.A. in Finance from Loyola University of Chicago and an M.B.A. from the University of Chicago Graduate School of Business.

Alan J. Dean. Mr. Dean is our Executive Vice President, Chief Financial Officer and Treasurer. He has served in that capacity since 1988 and has been employed at the Company in the financial area since 1979. Mr. Dean serves on the board of directors of The Institute for Transfusion Medicine. He is a certified public accountant, and he holds a B.S. degree in Accounting from Western Illinois University and an M.B.A. from Northwestern University's Kellogg Graduate School of Management.

Joanne Moffic-Silver. Ms. Moffic-Silver is our Executive Vice President, General Counsel and Corporate Secretary. She has served in that capacity since 1997 and has been employed as an attorney at the Company since 1980. She is currently a member of the executive committee of the board of advisors of Northwestern University School of Law, a member of the Anti-Defamation League's Chicago/Upper Midwest Region Board, a member of the board of a not-for-profit education organization and a member of the Chicago Network. Ms. Moffic-Silver received her B.A. degree from the University of Wisconsin-Madison (Phi Beta Kappa). Ms. Moffic-Silver received her J.D. degree with honors from Northwestern University Pritzker School of Law.

Gerald T. O'Connell. Mr. O'Connell is our Executive Vice President and Chief Information Officer. He has served in that capacity since 1993 and has been employed at the Company since 1984. He holds a B.S. degree in Mathematics from Lewis University and a J.D. degree from John Marshall Law School.

David S. Reynolds. Mr. Reynolds is our Vice President and Chief Accounting Officer. He has served in that capacity since May 2009. Prior to that, Mr. Reynolds was with Hudson Highland Group, Inc., where he served in various roles including vice president, controller and chief accounting officer. From February 2005 to February 2007, Mr. Reynolds was vice president, controller and chief accounting officer of Bally Total Fitness Corporation. Prior to that, he spent twenty-two years in various financial roles at Comdisco, Inc., rising to senior vice president and controller.

Mr. Reynolds began his career at Ernst & Young. Mr. Reynolds is a certified public accountant and a certified cash manager. He is a graduate of Lehigh University where he obtained an M.B.A. and a B.S. in Finance.

## Available Information

Our website is [www.cboe.com](http://www.cboe.com). The Company files annual, quarterly and current reports, proxy statements and other information with the SEC under the Exchange Act. The Company makes available, free of charge, on its website its annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act, as soon as reasonably practicable after such reports are electronically filed with, or furnished to, the SEC. The Company's reports filed with, or furnished to, the SEC are also available on the SEC's website at [www.sec.gov](http://www.sec.gov).



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In addition, we have posted on our website the charters for our (i) Audit Committee, (ii) Compensation Committee, and (iii) Nominating and Governance Committee, as well as our Code of Business Conduct and Ethics and Corporate Governance Guidelines. We will provide a copy of these documents without charge to stockholders upon written request to Investor Relations, CBOE Holdings Inc., 400 South LaSalle Street, Chicago, Illinois 60605. Our website and information included in or linked to our website are not part of this Form 10-K.

### Item 1A. Risk Factors

The risks and uncertainties described below are those that we believe are material at this time. These risks and uncertainties, however, are not the only risks and uncertainties that we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial may also significantly impact us. Any of these risks and uncertainties may materially and adversely affect our business, financial condition or results of operations, liquidity and cash flows.

Loss of our right to exclusively list and trade certain index options and futures could have a material adverse effect on our financial performance.

We hold exclusive licenses to list securities index options on the S&P 500 Index, the S&P 100 Index, the Russell 2000 Index, as well as others, granted to us by the owners of such indexes and have developed our proprietary VIX methodology. In 2015, approximately 82.9% of our transaction fees were generated by our futures and index options, the overwhelming majority of which were generated by our exclusively-licensed products and products based on the VIX methodology. The bulk of this revenue is attributable to our S&P 500 Index options and VIX Index options and futures. As a result, our operating revenues are dependent in part on the exclusive licenses we hold for these products and our ability to maintain our exclusive VIX methodology.

There is a risk, with respect to each of our current exclusive licenses, that the owner of the index may not renew the license with us on an exclusive basis or at all. In the first event, we would be subject to multiple listing in the trading of what is now an exclusive index product, which could result in a loss of market share and negatively impact our profitability. In the second event, we could lose the right to list the index product entirely. The loss or limited use of any of our exclusive index licenses, especially for the S&P 500 Index, for any reason could have a material adverse effect on our business and profitability. See "Business—Products—Strategic Relationships" for a discussion of these licenses and their expiration dates.

In addition to the risks related to our exclusive licenses, if we are unable to retain exclusive proprietary rights in the VIX methodology, our volatility products could be subject to multiple listing, which could have a material adverse effect on us.

In addition, the European Parliament has adopted legislation that will require European exchanges to provide non-discriminatory access to benchmarks, like index options, and is considering other legislation that may impact the ability of European banks to trade our products. While similar legislation has not been proposed in the U.S., if it were passed, it could cause us to lose exclusivity in our internally developed and licensed index products. The adopted and proposed European legislation may impact our expansion activities in Europe, and may reduce the volume on our exchanges from international customers.

Furthermore, our competitors may succeed in providing a market for the trading of index-based or volatility products that are economically similar to those that we offer. It is also possible that a third party may offer trading in index-based products that are the same as those that are the subject of one of our exclusive licenses, but in a jurisdiction in which the index owner cannot require a license or in a manner otherwise not covered by our exclusive license.

The value of our exclusive licenses to list securities index options also depends on the continued ability of index owners to require licenses for the trading of options based on their indexes. Although we and the index owners have prevailed in legal actions challenging our rights to exclusively license indexes, we may be subject to legal or other action taken in the future that might impede our ability to exclusively license indexes. In addition, indexes underlying certain of our proprietary products may be licensed for use in OTC options. Options on ETFs and ETNs that have such licenses on these indexes are available for trading. As a result, trading in our proprietary products could decrease due to competitive pressures from these products.

We agreed with S&P that it may license one or more clearing agencies to clear OTC options based on the S&P 500 Index that meet certain criteria, and that S&P will compensate us for any transaction cleared under such a license based on the notional value of the transaction. Although we expect these transactions to generate incremental revenue, the clearing of options on the S&P 500 Index that are traded OTC could lead to the migration to the OTC market of some trades that today would be entered into on our exchanges, and there can be no assurance that the revenue gained will replace the revenue lost due to any migration.

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General economic conditions and other factors beyond our control could significantly reduce demand for our products and services and harm our business.

The volume of options and futures transactions and the demand for our products and services are directly affected by economic, political and market conditions in the U.S. and elsewhere in the world that are beyond our control, including:

- broad trends in business and finance;
- concerns over inflation and wavering institutional or retail confidence levels;
- changes in government fiscal and monetary policy and foreign currency exchange rates;
- the availability of short-term and long-term funding and capital;
- the availability of alternative investment opportunities;
- changes in the level of trading activity in underlying instruments;
- changes and volatility in the prices of securities;
- the level and volatility of interest rates;
- unforeseen market closures or other disruptions in trading; and
- concerns about terrorism and war.

General economic conditions affect options and futures trading in a variety of ways, from the availability of capital to investor confidence. The economic climate in recent years has been characterized by challenging business, economic and political conditions throughout the world. Adverse changes in the economy may have a negative impact on our revenues by causing a decline in trading volume. Significant declines in trading volumes or demand for market data may have a material adverse effect on our business, financial condition and operating results.

We operate in a highly regulated industry and may be subject to censures, fines and other legal proceedings if we fail to comply with legal and regulatory obligations.

CBOE and C2 are registered national securities exchanges and SROs, and, as such, are subject to comprehensive regulation by the SEC. CFE is a DCM registered with the CFTC and is subject to comprehensive regulation by the CFTC. See "Business—Regulatory Environment and Compliance—Compliance—Securities Industry-CBOE and C2" for information regarding our regulatory responsibilities for CBSX.

In addition to the requirements related to operating our markets imposed by the SEC and the CFTC, we also have certain responsibilities for regulating the TPHs that trade on our exchanges. While we have entered into agreements under which FINRA and other SROs with respect to our options exchanges, and NFA with respect to our futures exchange, provide certain regulatory services, we retain responsibility for the regulation of our TPHs. See "Business—Regulatory Responsibilities."

Our ability to comply with applicable laws and rules is largely dependent on the establishment and maintenance of appropriate systems and procedures, our ability to attract and retain qualified personnel, the ability of FINRA and NFA to perform under the regulatory services agreements and our oversight of the work done by FINRA and NFA. The SEC and CFTC have broad powers to audit, investigate and enforce compliance and to punish noncompliance by SROs and DCMs, respectively, pursuant to applicable laws, rules and regulations.

If the SEC were to find one of our programs of enforcement or compliance to be deficient, CBOE, C2 or CFE could be the subject of SEC or CFTC investigations and enforcement proceedings that may result in substantial sanctions, including revocation of an exchange's registration as a national securities exchange or DCM. Any such investigations or proceedings, whether successful or unsuccessful, could result in substantial costs, the diversion of resources, including management time, and potential harm to our reputation, which could have a material adverse effect on our business, results of operations or financial condition. In addition, CBOE, C2 or CFE may be required to modify or restructure their regulatory functions in response to any changes in the regulatory environment, or they may be required to rely on third parties to perform regulatory and oversight functions, each of which may require us to incur substantial expenses and may harm our reputation if our regulatory services are deemed inadequate.

Although CBOE Holdings itself is not an SRO, CBOE Holdings is subject to regulation by the SEC of activities that involve the options exchanges. Specifically, the SEC will exercise oversight over the governance of CBOE Holdings and its relationship with CBOE and C2. See "Business—Regulatory Responsibilities."



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Our business may be adversely affected by price competition.

The business of operating options exchanges is characterized by intense price competition, especially with respect to transaction fees. The pricing model for trade execution for options has changed in response to competitive market conditions and our competitors have adjusted transaction fees and fee structures accordingly, including by opening new exchanges, which allow them to offer multiple pricing models that can appeal to different segments of market participants. These changes have resulted in significant pricing pressures on us, especially on transaction fees and incentives for multiply-listed products. As a result of these pricing pressures, our average rate per multiply-listed options contract may decrease. It is likely that this pressure will continue and even intensify as our competitors continue to seek to increase their share of trading by further reducing their transaction fees or by offering other financial incentives to order providers and liquidity providers to induce them to direct orders to their markets. In addition, one or more competitors may engage in aggressive pricing strategies and significantly decrease or completely eliminate their profit margin for a period of time in order to capture a greater share of trading volume. Some order-providing firms on our exchanges have taken ownership positions in options exchanges that compete with us and such exchanges have given those firms added economic incentives to direct orders to them.

Like nearly all of the other options exchanges, our options exchanges charge an options regulatory fee ("ORF") to TPHs based on the total number of customer contracts cleared by that TPH, regardless of the exchange on which the trade is executed. Along with fines and other regulatory fees, the ORF revenues may only be used to support our regulatory functions. We may face competitive pressures to further reduce or not increase the ORFs on our exchanges, and if we are unable to maintain or, if necessary, increase the ORFs, our results of operation may be adversely affected.

With respect to our proprietary products, we compete on price against futures exchanges and swap execution facilities that offer similar products and other financial institutions that write over-the-counter derivatives. We also compete on price against certain multiply-listed options products, including SPY, that offer some of the features of our proprietary products.

We could lose a substantial percentage of our share of trading if we are unable to price transactions in a competitive manner. Also, our profits could decline if competitive pressures force us to reduce fees. If any of these events occur, our operating results and profitability could be adversely affected.

A significant portion of our operating revenues is generated by our transaction-based business. If the amount of trading volume on our exchanges decreases, or the product mix shifts to lower revenue products, our revenues from transaction fees will decrease.

In 2015, 2014 and 2013, approximately 71.9%, 70.9% and 69.4% of our operating revenues, respectively, were generated by our transaction-based business. This business is dependent on our ability to attract and maintain order flow, both in absolute terms and relative to other market centers. Our total trading volumes could decline if our market participants reduce their trading activity for any reason, such as:

- heightened capital requirements;
- regulatory or legislative actions;
- reduced access to capital required to fund trading activities; or
- significant market disruptions.

Over the past few years, a number of legislative actions have been taken, both domestically and internationally, that may cause market participants to be subject to increased capital requirements and additional compliance burdens. These actions, including Basel III, Dodd-Frank and the Collins Amendment to Dodd-Frank, may cause market participants to reduce the number of trades they make on our exchanges.

In addition, the transaction fees generated are different based on type of product and other factors, including the type of customer and certain volume discounts. See "Management's Discussion and Analysis—Operating Revenues—Average revenue per contract." If the amount of our trading volume decreases, or the mix traded shifts to our lower revenue per contract products, our revenues from transaction fees will decrease. We can offer no assurance that we would be able to reduce our costs to match the amount of any such decrease.





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Legislative or regulatory changes affecting the listed options or futures markets could have a material adverse effect on our business.

Changes in regulation by the SEC, CFTC, foreign regulators or other government action, including SEC approval of rule filings by other SROs or entities, including OCC, could materially affect our markets. In recent years, the securities and futures industries have been subject to significant regulatory changes as a result of increasing government and public scrutiny in response to the global economic crisis.

In 2010, Congress passed the Dodd-Frank Act and other legislation. While many of its requirements have been implemented or are in the process of being implemented, some of the provisions in Dodd-Frank that impact our markets require additional action by the SEC or the CFTC. Depending on how the SEC and CFTC interpret and implement these laws, exchanges like ours could be subject to increased competition and additional costs. We could also see reduced trading by our customers due to margin or other requirements placed on them.

Under the Collins Amendment to the Dodd-Frank Act, starting in 2015, U.S. banks are required to use a new approach in order to compute their risk weighted assets, which include exchange-traded options and futures. This, and other rulemaking, may lead to further increases in capital requirements for U.S. bank holding companies, and bank subsidiaries involved in the trading and clearing of derivatives. These increased capital requirements may reduce trading in options and futures due to bank-affiliated broker-dealers reducing their own trading, charging their customers more to trade or reducing the type or number of customers.

In 2012, the SEC directed the SROs to submit a plan to create, implement and maintain a consolidated audit trail, which would serve as a comprehensive audit trail of orders that will allow regulators to efficiently and accurately track all activity in Regulation NMS securities in the U.S. market. In addition to increased regulatory obligations, implementation of a consolidated audit trail could result in significant additional expenditures, including to implement any new technology to meet any plan's requirements. The SEC has also adopted Reg SCI and established working groups of exchanges to focus on improving market resiliency. Meeting the requirements of Reg SCI or other regulations or mandates generated by these working groups could result in significant additional expenses, including for technology and compliance.

Under European Union ("EU") regulations, European banks must take punitive capital charges if they transact options or futures through a non-qualifying clearinghouse. OCC, our clearinghouse for options and futures, and other U.S. clearinghouses are not currently recognized as qualified clearinghouses by the EU. The current deadline for the EU to grant equivalence to foreign clearinghouses is June 15, 2016. If OCC is not recognized as a qualified clearinghouse by the EU by June 15, 2016 or a subsequent deadline in the event that the current deadline is extended, we could experience the loss of a significant number of European market participants or a reduction in trading activity on our markets, either of which could have a material adverse effect on our business.

It is also possible that there will be additional legislative and regulatory changes or efforts in the environment in which we operate our businesses, although we cannot predict the nature of these changes or their impact on our business at this time. Actions on any of the specific regulatory issues currently under review in the U.S. and other proposals could have a material impact on our business. For a discussion of the regulatory environment in which we operate and proposed regulatory changes, see "Business—Regulatory Environment and Compliance."

In addition, Congress, the SEC, foreign regulators and other regulatory authorities could impose legislative or regulatory changes that could adversely impact the ability of our market participants to use our markets, or participate in the options or futures industry at all. Any such changes could result in the loss of a significant number of market participants or a reduction in trading activity on our markets, either of which could have a material adverse effect on our business. Changes or proposed changes in regulation may also result in additional costs of compliance and modification of market participants' trading activity on our exchanges.

Intense competition could materially adversely affect our market share and financial performance.

We compete with a number of entities on several different fronts, including the cost, quality and speed of our trade execution, functionality and ease of use of our trading platform, range of our products and services, our technological innovation and adaptation and our reputation. We compete with futures exchanges and swap execution facilities that offer comparable products and with the over-the-counter market with respect to our proprietary products. With respect to our multiply-listed products, our principal competitors are the twelve other U.S. options exchanges. See the risk

factor entitled "Our business may be adversely affected by price competition."

Most of the equity options and options on ETPs listed and traded on our exchanges are also listed and traded on other U.S. options exchanges. Changes we have implemented in response to competitive pressures may not be successful in

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maintaining or expanding our market share in those products in the future. Likewise, our future responses to these or other competitive developments may not be successful in maintaining or expanding our market share.

Some of our competitors and potential competitors have greater financial, marketing, technological, personnel and other resources than we do. These factors may enable them to develop similar or more innovative products, to offer lower transaction fees or better execution to their customers or to execute their business strategies more quickly or efficiently than we can.

Furthermore, our competitors may:

- respond more quickly to competitive pressures;
- develop products that compete with our products or are preferred by our customers;
- develop and expand their technology and service offerings more efficiently;
- provide better, more user-friendly and more reliable technology;
- take greater advantage of acquisitions, alliances and other opportunities;
- market, promote, bundle and sell their products and services more effectively;
- leverage existing relationships with customers and alliance partners more effectively or exploit brand names to market and sell their services; and
- exploit regulatory disparities between traditional, regulated exchanges and alternative markets, including over-the-counter markets, that benefit from a reduced regulatory burden and lower-cost business model.

The derivatives industry has witnessed both the consolidation of exchange holding companies and the growth in the number of exchanges, with a doubling of the number of options exchanges over the past decade. Consolidation or alliances among our competitors may achieve cost reductions or other increases in efficiency, which may allow them to offer better prices or services than we do. The increase to the number of competitors that we face may result in fragmentation of the market and a reduced market share for our exchanges.

If our products, markets, services and technology are not competitive, our financial condition and operating results would be materially harmed. A decline in our transaction fees or any loss of customers would lower our revenues, which would adversely affect our profitability. For a discussion of the competitive environment in which we operate, see "Business—Competition."

We depend on third party service providers for certain services that are important to our business. An interruption or cessation of such service by any third party could have a material adverse effect on our business.

We depend on a number of service providers, including clearing organizations such as OCC and its member clearing firms; securities information processors such as the CTA and OPRA; regulatory service providers such as FINRA and NFA; the host of our data center; and various vendors of communications and networking products and services. More specifically:

• OCC is the sole provider of clearing on all of our exchanges. If it were unable to perform clearing services, or its clearing members were unable or unwilling to clear through OCC, transactions could likely not occur on our markets. OPRA, UTP Securities Information Processor and the CTA consolidate market information such as last sale reports and quotations. If any of them were unable to provide this information for a sustained period of time, we may be unable to offer trading on our options markets.

We are heavily dependent on technology for our markets, including our data center, which is housed by a third party, and certain communications and networking products and services. If this technology is unavailable, and cannot be replaced in a short time period, we may be unable to operate our markets.

FINRA and NFA provide regulatory services for our options and futures exchanges, respectively, while we retain regulatory responsibilities for such services. If FINRA or NFA stopped providing services, or provided inadequate services, we may be subject to action by the SEC or CFTC, or may have limitations placed upon our markets.

We cannot provide assurance that any of these providers will be able to continue to provide these services in an efficient manner or that they will be able to adequately expand their services to meet our needs. An interruption or malfunction in or the cessation of an important service by a third party could cause us to halt trading in some or all of our products or our services, or make us unable to conduct other aspects of our business. In addition, our inability to make alternative arrangements in a timely manner, or at all, could have a material adverse impact on our business, financial condition and operating results.



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If one or more of the index providers from which we have licenses or service providers with respect to proprietary products fails to maintain the quality and integrity of their indexes or fails to perform under our agreements with them or if customer preferences change, revenues we generate from trading in these proprietary products may suffer. We are a party to an increasing number of license agreements pursuant to which we may list for trading securities options on various indexes including license agreements that we have with S&P, for the S&P 500 Index and S&P 100 Index, S&P Dow Jones Indices, LLC, for the Dow Jones Industrial Average, LSEG, for more than two dozen FTSE Russell indexes, including the Russell 2000 Index, and MSCI Inc., for six MSCI indexes, including the MSCI EAFE Index and MSCI Emerging Markets Index. These license agreements provide, among other things, that we are authorized to list options on their indexes, and some of the resulting index options are among the most actively traded products at CBOE. The quality and integrity of each of these indexes are dependent on the ability of the index providers to maintain the index, including by means of the calculation and rebalancing of the index, and we are dependent on the index providers for a number of things, including the provision of index data to us. We also rely on index providers to enforce intellectual property rights against unlicensed uses of the indexes and uses of the indexes that infringe on our licenses, as further discussed in risk factor "We may not be able to protect our intellectual property rights." Furthermore, some of our agreements concerning our proprietary products provide for the parties to those agreements to provide important services to us. If any of our index providers are unable to maintain the quality and integrity of their indexes, or if any of the index providers or service providers fail to perform their obligations under the agreements, trading in these products, and therefore transaction fees we receive, may be adversely affected or we may not receive the financial benefits of the agreements that we negotiated. If we are unable to fulfill our obligations under the Consent Order, it may have a significant adverse impact on our business.

In addition to entering into the Consent Order and agreeing to complete certain undertakings, we may be subject to additional investigations or proceedings by the SEC if the SEC were to find that we did not fulfill our obligations under the Consent Order. See "Business—Regulatory Environment and Compliance—Compliance—Consent Order." Any investigations or proceedings, whether successful or unsuccessful, could result in substantial costs, the diversion of resources, including management time, and potential harm to our reputation, which could have a material adverse effect on our business results of operations or financial condition.

We may not be able to protect our intellectual property rights.

We rely on patent, trade secret, copyright and trademark laws, the law of the doctrine of misappropriation and contractual protections to protect our proprietary technology, proprietary index and futures products, index methodologies and other proprietary rights. In addition, we rely on the intellectual property rights of our licensors in connection with our listing of exclusively-licensed index and futures products. We and our licensors may not be able to prevent third parties from copying, or otherwise obtaining and using, our intellectual property without authorization, listing our proprietary or exclusively-licensed index products without licenses or otherwise infringing on our rights. We and our licensors may have to rely on litigation to enforce our intellectual property rights, determine the validity and scope of the proprietary rights of others or defend against claims of infringement or invalidity. We and our licensors may not be successful in this regard. Such litigation, whether successful or unsuccessful, could result in substantial costs to us, diversion of our resources or a reduction in our revenues, any of which could materially adversely affect our business.

Any infringement by us on patent rights of others could result in litigation and could have a material adverse effect on our operations.

Our competitors, as well as others, have obtained, or may obtain, patents that are related to our technology or the types of products and services we offer or plan to offer. We may not be aware of all patents containing claims that may pose a risk of infringement by our products, services or technologies. In addition, some patent applications in the U.S. are confidential until a patent is issued, and therefore we cannot evaluate the extent to which our products and services may be covered or asserted to be covered in pending patent applications. Thus, we cannot be sure that our products and services do not infringe on the rights of others or that others will not make claims of infringement against us. Claims of infringement are not uncommon in our industry. If one or more of our products, services or technologies were determined to infringe a patent held by another party, we may be required to pay damages, stop using,

developing or marketing those products, services or technologies, obtain a license from the holders of the patents or redesign those products, services or technologies to avoid infringing the patent. If we were required to stop using, developing or marketing certain products, our business, results of operations and financial condition could be materially harmed. Moreover, if we were unable to obtain required licenses, we may not be able to redesign our products, services or technologies to avoid infringement, which could materially adversely affect our business, results of operations or financial condition.

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Computer and communications systems failures and capacity constraints could harm our reputation and our business. We operate, monitor and maintain our computer systems and networks, including the systems that comprise CBOE Command, the platform for trading on our exchanges and CBOE Vector, the platform that we are developing that is expected to replace CBOE Command. If we are unable to operate, monitor or maintain these systems and networks, program them so that they operate correctly and maintain the integrity of their data, or successfully transition from the CBOE Command platform to the new CBOE Vector platform, it could have a material adverse effect on our ability to conduct our business. Although we have a back-up of trading and key corporate systems, the back-up systems or disaster recovery plans may prove to be inadequate in the event of a systems failure or cyber-security breach. Despite the enhancements made to our disaster recovery facilities, there can be no guarantees that we will be able to open an efficient, transparent and liquid marketplace, if we can open at all.

With extended trading hours, we have to operate our systems longer and have fewer non-trading hours to address any potential concerns with the systems on which we rely.

Our systems may fail, in whole or in part, or may operate slowly, causing one or more of the following:

- unanticipated disruption in service to our participants;
- failures or delays during peak trading times or times of unusual market volatility;
- slower response times and delays in trade execution and processing;
- incomplete or inaccurate accounting, recording or processing of trades; and
- distribution of inaccurate or untimely market data to participants who rely on this data in their trading activity.

Any of these events may cause:

- a loss in transaction or other fees due to the inability to provide services for a time;
- requests by market participants or others that we reimburse them for financial loss, either within the constraints of the limited liability provisions of our exchanges' rules or in excess of those amounts;
- trading to diminish on our exchanges due to dissatisfaction with the platform; and
- one or more of our regulators to investigate or take enforcement action against us.

As a consequence of any of these events, our business, financial condition and results of operations could suffer materially.

In addition to other measures, we test our systems to confirm whether they will be able to handle anticipated present and future peak trading volume or times of unusual market volatility. However, we cannot assure you that our estimates of future trading volume will be accurate or that our systems will always be able to accommodate actual trading volume without failure or degradation of performance.

We anticipate that we will need to continue to make significant investments in hardware, software and telecommunications infrastructure to accommodate the increases in traffic. If we cannot increase the capacity and capabilities of our systems to accommodate an increasing volume of transactions and to execute our business strategy, our ability to maintain or expand our businesses would be adversely affected.

The computer systems and communication networks upon which we rely may be vulnerable to security risks and other disruptions.

The secure and reliable operation of our computer systems, our communications networks and the systems of our service providers and market participants, is a critical element of our operations. These systems and communications networks may be vulnerable to unauthorized access, including the improper access or disclosure of personally identifiable information, malware and other security problems, as well as to acts of terrorism, natural disasters and other events that are beyond our control. If our security measures are inadequate or if there are interruptions or malfunctions in our systems or communications networks, our business, financial condition and operating results could be materially impacted. We may be required to expend significant resources in the event of any real or threatened breaches in security or system failures, including to protect against threatened breaches and to alleviate harm caused by an actual breach, and may suffer harm to our reputation and litigation. Measures we implement for security and otherwise to provide for the confidentiality, integrity and reliability of our systems may prove to be inadequate in preventing system failures or delays in our systems or communications networks, which could lower



trading volume and have an adverse effect on our business, financial condition and operating results.

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We may not be able to maintain operating revenues generated by making trading permits available in exchange for a fee.

The right to trade on our exchanges is made available through trading permits for which the user pays a fee. These fees accounted for 8.4% of our operating revenues in 2015. CBOE charges the highest relative trading permit rates in the options industry. We may face pressure from our customers to lower these rates or may see larger firms electing to use fewer permits to access our exchanges. If the demand for trading permits to our exchanges is less than historic levels or if we are unable to maintain permit rates, our ability to generate operating revenues through the granting of permits for trading access would be negatively impacted, which could adversely affect our profitability.

Potential conflicts of interest between our for-profit status and our regulatory responsibilities may adversely affect our business.

As a for-profit business with regulatory responsibilities, we are responsible for disciplining TPHs for violating our rules, including by imposing fines and sanctions. This may create a conflict of interest between our business interests and our regulatory responsibilities. Any failure by us to fulfill our regulatory obligations could significantly harm our reputation, increase regulatory scrutiny or cause the SEC or CFTC to take action against us, all of which could adversely affect our business, results of operations or financial condition.

Our compliance methods might not be effective and may result in outcomes that could adversely affect our financial condition and operating results.

As the parent company for SROs, we are responsible for maintaining exchanges that comply with securities and futures laws, SEC and CFTC regulations and the rules of the respective exchanges. Our ability to comply with applicable laws and rules is largely dependent on our policies and procedures designed to meet those compliance responsibilities, as well as our ability to attract and retain qualified personnel throughout the company. Our policies and procedures to identify, monitor and manage compliance risks may not be fully effective. Management of legal and regulatory risk requires policies and procedures to properly monitor, record and verify a large number of transactions and events. We cannot provide assurance that our policies and procedures will always be effective or that we will always be successful in monitoring or evaluating the compliance risks to which we are or may be exposed, or that our compliance and internal audit functions would be able to identify any such ineffectiveness. If these policies and procedures are not effective, we may be subject to monetary or other penalties by our regulators.

If our risk management methods are not effective, our business, reputation and financial results may be adversely affected.

We have methods to identify, monitor and manage our risks. If our methods are not effective or we are not successful in monitoring or evaluating the risks to which we are or may be exposed, our business, reputation, financial condition and operating results could be materially adversely affected. In addition, our insurance policies may not provide adequate coverage.

Misconduct by our TPHs or others could harm us.

We run the risk that our TPHs, other persons who use our markets or our employees may engage in fraud, market manipulation or other misconduct, which could result in regulatory sanctions and serious harm to our reputation, especially because we are the parent company of SROs. It is not always possible to deter misconduct or market manipulation, and the precautions we take to prevent and detect this activity may not be effective in all cases. In addition, misconduct or market manipulation by, or failures of, participants on our exchanges may discourage trading on our exchanges, which could reduce revenues.

If we fail to attract or retain highly skilled management and other employees, our business may be harmed.

Our future success depends in large part on our management team, which possesses extensive knowledge and managerial skill with respect to the critical aspects of our business. The failure to retain members of our management team could adversely affect our ability to manage our business effectively and execute our business strategy.

Additionally, effective succession planning is also important to our long-term success. Failure to ensure effective transfer of knowledge and smooth transitions involving our management team and key employees could hinder our strategic planning and execution.

Our business is also dependent on highly skilled employees, especially those who provide specialized services to our clients and oversee our technology functions. Many of these employees have extensive knowledge and experience in

highly technical and complex areas of the options trading industry. Because of the complexity and risks associated with our business and the specialized knowledge required to conduct this business effectively, and because the growth in our industry has increased demand for qualified personnel, many of our employees could find employment at other firms if they chose to do so, particularly if we fail to continue to provide competitive levels of compensation. If we fail to retain our current employees, it would be difficult and costly to identify, recruit and train replacements needed to continue to conduct and expand our business.

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In particular, failure to retain and attract qualified systems personnel could result in systems errors. Consequently, our reputation may be harmed, we may incur additional costs and our profitability could decline.

We may not effectively manage our growth, which could materially harm our business.

Over the past five years, we have experienced significantly increased volume on our futures exchange, extended trading hours on our futures exchange and in SPX and VIX options and developed several proprietary products. We expect that our business will continue to grow, which may place a significant strain on our management, personnel, systems and resources. We must continually improve our operational, financial and regulatory systems and managerial controls and procedures, and may need to continue to expand, train and manage our workforce. We must also maintain close coordination among our technology, legal, accounting, finance, marketing, sales, regulatory and compliance functions. We cannot assure you that we will manage our growth effectively. If we fail to do so, our business could be materially harmed.

Our continued growth will require increased investment by us in technology, facilities, personnel, and financial and management systems and controls. It also will require expansion of our procedures for monitoring and assuring our compliance with applicable regulations, and we will need to integrate, train and manage a growing employee base. The expansion of our existing businesses, any expansion into new businesses and the resulting growth of our employee base will increase our need for internal audit and monitoring processes, which may be more extensive and broader in scope than those we have historically required. We may not be successful in identifying or implementing all of the processes that are necessary. Further, unless our growth results in an increase in our revenues that is proportionally greater than or equal to the increase in our costs associated with this growth, our operating margins will be adversely affected.

Our ability to implement or amend rules could be limited or delayed because of regulation, which could negatively affect our ability to implement needed changes.

Our options exchanges registered with the SEC must submit proposed rule changes to the SEC for its review and, in many cases, its approval. Even where a proposed rule change may be effective upon filing with the SEC, the SEC retains the right to suspend and disapprove such rule changes. Also, the CFTC may stay or disapprove rules that we file with it for CFE, our futures exchange. The rule review process can be lengthy and can significantly delay the implementation of proposed rule changes that we believe are necessary to the operation of our markets. If the SEC or CFTC delays or does not allow one of our exchanges to implement a rule change, this could negatively affect our ability to make needed changes or implement business activities.

Similarly, the SEC must approve amendments to our options exchange subsidiaries' certificates of incorporation and bylaws as well as certain amendments to the certificate of incorporation and bylaws of CBOE Holdings. The SEC may decide not to approve a proposed amendment or may delay such approval in a manner that could negatively affect our ability to make a desired change, which could prevent or delay us from improving the operations of our markets or recognize income from new products.

As one of the largest options exchanges in the world and the largest options exchange in the U.S., we may be at a greater risk for a cyber attack and other cyber security risks.

The frequency of cyber attacks is increasing in general, and a variety of threat actors have specifically targeted the financial services industry. At the date of this filing, we have no evidence of any material cases of data theft, corruption or destruction of data or compromised customer data. Security breaches may, among other consequences, lead to increased scrutiny by our regulators and have significant costs in terms of cash outlays, business disruption, revenue losses, internal labor, overhead and other expenses. Measures we implement to monitor the environment and protect our infrastructure against security breaches and misappropriation of our intellectual property assets may prove insufficient, which could cause us to lose market participants, experience lower trading volume, incur significant liabilities or have a negative impact on our competitive advantage.

Changes in the tax laws and regulations affecting us and our market participants could have a material adverse effect on our business.

Legislation may be proposed, both domestically and internationally, that could change the way that our market participants are taxed on the products they trade on our markets. Legislation has been proposed for the implementation of a transaction tax. Further, proposals may include modifications to the taxation of financial products, including

repealing the "60/40 Rule," which allows market-makers to pay a blend of capital gains and ordinary tax rates on their income, requiring all derivatives to be marked-to-market, and eliminating the exemption for "qualified covered calls." If such proposals, a transaction tax or other tax change that detrimentally impacts options or futures trading were to become law, they could have a negative impact on the options and futures industry and us by making transactions more costly to market participants, which may reduce trading.

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In 2015, the Internal Revenue Service issued and proposed new regulations under Section 871(m) that require dividend tax withholding for certain transactions completed by foreign persons. Unless substantive changes are made to the regulations, there may be a significant reduction in trading by foreign persons, either by their choice or due to brokers refusing to trade options for such persons.

In addition to proposed tax changes that could affect our market participants, there has been a trend toward states changing the income tax laws to increase the apportionment factors on which state income taxes are based and becoming more aggressive asserting nexus over corporations that are not domiciled in the state. If state income tax laws change, or if states are successful asserting nexus against us, we may become subject to income taxes in additional states or at a higher rate in the states where income tax filing requirements exists. If this occurs, we may experience a higher effective state tax rate.

We selectively explore acquisition opportunities or strategic alliances relating to other businesses, products or technologies. We may not be successful in integrating other businesses, products or technologies with our business. Any such transaction also may not produce the results we anticipate, which could adversely affect us.

We selectively explore and pursue acquisition and other opportunities to strengthen our business and grow our company. We may enter into business combination transactions, make acquisitions or enter into strategic partnerships, joint ventures or alliances, any of which may be material. The market for acquisition targets and strategic alliances is highly competitive, which could make it more difficult to find appropriate merger or acquisition opportunities. If we are required to raise capital by incurring debt or issuing additional equity for any reason in connection with a strategic acquisition or investment, financing may not be available or the terms of such financing may not be favorable to us and our stockholders, whose interests may be diluted by the issuance of additional stock.

In 2015, we acquired the market data services and trading analytics platforms of Livevol, Inc., we and Environmental Financial Products, LLC launched the American Financial Exchange, an electronic marketplace for small and mid-sized banks to lend and borrow short-term funds, and, in early 2016, we made a majority equity investment in Vest Financial Group Inc., an investment advisor that provides options-centric products.

The process of integration may produce unforeseen regulatory issues and operating difficulties and expenditures and may divert the attention of management from the ongoing operation of our business and harm the reputation of the companies. We may not successfully achieve the integration objectives, and we may not realize the anticipated cost savings, revenue growth and synergies in full or at all, or it may take longer to realize them than expected, any of which could negatively impact our results of operations, financial condition or the market price of our common stock. Any decision to pay dividends on our common stock is at the discretion of our board of directors and depends upon the earnings of our operating subsidiaries. Accordingly, there can be no guarantee that we will pay dividends to our stockholders.

We have paid quarterly dividends since the restructuring transaction and initial public offering and intend to continue paying regular quarterly dividends to our stockholders. However, any decision to pay dividends on our common stock will be at the discretion of the board of directors, which may determine not to declare dividends at all or at a reduced amount. The board's determination to declare dividends will depend upon our profitability and financial condition, contractual restrictions, restrictions imposed by applicable law and the SEC and other factors that the board deems relevant. As a holding company with no significant business operations of its own, CBOE Holdings depends entirely on distributions, if any, it may receive from its subsidiaries to meet its obligations and pay dividends to its stockholders. If these subsidiaries are not profitable, or even if they are and they determine to retain their profits for use in their businesses, we will be unable to pay dividends to our stockholders.

Certain provisions in our organizational documents could enable the board of directors to prevent or delay a change of control.

Our organizational documents contain provisions that could block actions that stockholders might find favorable, including discouraging, delaying or preventing a change of control or and unsolicited acquisition proposals for us.

These include provisions:

- prohibiting stockholders from acting by written consent;
- requiring advance notice of director nominations and of business to be brought before a meeting of stockholders; and
- limiting the persons who may call special stockholders' meetings.

In addition, our organizational documents include provisions that:

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restrict any person from voting or causing the voting of shares of stock representing more than 20% of our outstanding voting capital stock; and

restrict any person from beneficially owning shares of stock representing more than 20% of the outstanding shares of our capital stock.

Furthermore, our board of directors has the authority to issue shares of preferred stock in one or more series and to fix the rights and preferences of these shares without stockholder approval. Any series of our preferred stock is likely to be senior to our common stock with respect to dividends, liquidation rights and, possibly, voting rights. The ability of the board of directors to issue preferred stock also could have the effect of discouraging unsolicited acquisition proposals, thus adversely affecting the market price of our common stock.

Delaware law makes it difficult for stockholders that have recently acquired a large interest in a corporation to cause the merger or acquisition of the corporation against the directors' wishes. Under Section 203 of the Delaware General Corporation Law, a Delaware corporation may not engage in any merger or other business combination with an interested stockholder for a period of three years following the date that the stockholder became an interested stockholder except in limited circumstances, including by approval of the corporation's board of directors.

### Item 1B. Unresolved Staff Comments

Not applicable.

### Item 2. Properties

Our principal offices are located at 400 South LaSalle Street, Chicago, Illinois 60605. Through our wholly-owned subsidiary, Chicago Options Exchange Building Corporation, we own the building in which our principal offices are located and occupy approximately 300,000 square feet of this building. In addition to our principal offices, we lease approximately 13,000 square feet, which includes office space, our data center and remote network operations.

We believe the space we occupy is sufficient to meet our current and expected future needs.

### Item 3. Legal Proceedings

As of December 31, 2015, the end of the period covered by this report, the Company was subject to the various legal proceedings and claims discussed below, as well as certain other legal proceedings and claims that have not been fully resolved and that have arisen in the ordinary course of business.

The Company reviews its legal proceedings and claims, regulatory reviews and inspections and other legal proceedings on an ongoing basis and follows appropriate accounting guidance when making accrual and disclosure decisions. The Company establishes accruals for those contingencies where the incurrence of a loss is probable and can be reasonably estimated, and we disclose the amount accrued and the amount of a reasonably possible loss in excess of the amount accrued, if such disclosure is necessary for our financial statements to not be misleading. The Company does not record liabilities when the likelihood that the liability has been incurred is probable, but the amount cannot be reasonably estimated, or when the liability is believed to be only reasonably possible or remote. The Company's assessment of whether a loss is reasonably possible or probable is based on its assessment of the ultimate outcome of the matter following all appeals.

As of December 31, 2015, the Company does not believe that there is a reasonable possibility that any material loss exceeding the amounts already recognized for these reviews, inspections or other legal proceedings, if any, has been incurred. While the consequences of certain unresolved proceedings are not presently determinable, the outcome of any litigation is inherently uncertain and an adverse outcome from certain matters could have a material effect on our earnings in any given reporting period. However, in the opinion of management, the ultimate liability is not expected to have a material effect on our financial position, liquidity or capital resources.

#### Patent Litigation

##### ISE -- QRM

On November 12, 2012, CBOE brought suit against International Securities Exchange, LLC ("ISE") in the United States District Court for the Northern District of Illinois alleging that ISE infringes three of its patents (United States Patent Nos. 7,356,498; 7,980,457; and 8,266,044 (the "QRM patents")) related to quote risk monitor ("QRM") technology. CBOE has requested injunctive relief and monetary damages. On February 20, 2013, the court ruled that



the case be transferred to the

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United States District Court for the Southern District of New York. On October 31, 2013, the court stayed the litigation pending resolution of Covered Business Method ("CBM") Patent Reviews at the United States Patent and Trademark Office ("USPTO") that ISE had petitioned for. On March 4, 2014, the USPTO instituted CBM Patent Reviews on CBOE's three QRM patents. On May 22, 2014, the USPTO instituted Inter Parties Review ("IPR") Proceedings, which ISE had petitioned for, on some but not all claims of two of CBOE's QRM patents (United States Patent Nos. 7,356,498 and 7,980,457). On March 2, 2015, the USPTO ruled in the CBM proceedings, finding that the subject matter of the patents is not eligible for patent protection, and in the IPR proceedings, finding for CBOE that the claims were not invalidated by the asserted prior art. On April 30, 2015, ISE filed notice of its appeal of the IPR decisions, and on May 1, 2015, CBOE filed notice of its appeal of the CBM decisions. The appeals are being handled by the United States Court of Appeals for the Federal Circuit. Opening, response and reply briefs were filed September 18, 2015, November 2, 2015 and November 25, 2015, respectively, and briefing on the appeals has concluded. The United States Court of Appeals has set oral argument on the appeals for March 10, 2016.

### Lanier Litigation

On May 23, 2014, Harold R. Lanier sued 14 securities exchanges, including CBOE, in the United States District Court for the Southern District of New York on behalf of himself and a putative class consisting of all persons in the United States who entered into contracts to receive market data through certain data plans at any time since May 19, 2008 to the present. The complaint alleged that the market data provided under the CQ Plan and CTA Plans was inferior to the data that the exchanges provided to those that directly receive other data from the exchanges, which the plaintiffs alleged is a breach of their "subscriber contracts" and a violation of the exchanges' obligations under the CQ and CTA Plans. The plaintiffs sought monetary and injunctive relief. On May 30, 2014, Mr. Lanier filed two additional suits in the same Court, alleging substantially the same claims and requesting the same types of relief against the exchanges who participate in the UTP and the OPRA data plans. CBOE was a defendant in each of these suits, while C2 was only a defendant in the suit regarding the OPRA Plan. On April 28, 2015, the Court dismissed Lanier's complaint with prejudice because it was preempted by the federal regulatory scheme and because the claims were precluded by the terms of the applicable subscriber agreements. Mr. Lanier appealed the orders dismissing each of his three cases and, on September 2, 2015, he filed his opening appellate briefs in those cases. The defendants' response briefs were filed November 24, 2015 and briefing on the appeals has concluded. The appeals have been set for oral argument on March 3, 2016.

### Other

As a self-regulatory organization under the jurisdiction of the SEC, with respect to CBOE and C2, and as a designated contract market under the jurisdiction of the CFTC, with respect to CFE, we are subject to routine reviews and inspections by the SEC and the CFTC.

We are also currently a party to various other legal proceedings in addition to those already mentioned. Management does not believe that the outcome of any of these other reviews, inspections or other legal proceedings will have a material impact on our consolidated financial position, results of operations or cash flows.

### Item 4. Mine Safety Disclosures

Not applicable.

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## PART II

## Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

## Common Stock

The Company's common stock is listed on the NASDAQ Global Select Market under the trading symbol CBOE. As of January 30, 2016, there were approximately 161 holders of record of our common stock.

The following table sets forth the high and low sales prices by quarter for shares of our common stock as reported on NASDAQ and cash dividends declared per quarter:

| Calendar Period               | Price Range |         | Cash Dividends Declared per Share |
|-------------------------------|-------------|---------|-----------------------------------|
|                               | High        | Low     |                                   |
| 2014                          |             |         |                                   |
| First Quarter                 | \$59.28     | \$48.22 | \$0.18                            |
| Second Quarter                | 56.98       | 46.84   | 0.18                              |
| Third Quarter                 | 56.36       | 46.52   | 0.21                              |
| Fourth Quarter                | 65.39       | 52.90   | 0.21                              |
| 2015                          |             |         |                                   |
| First Quarter                 | 68.00       | 56.57   | 0.21                              |
| Second Quarter                | 59.64       | 55.04   | 0.21                              |
| Third Quarter                 | 67.22       | 57.41   | 0.23                              |
| Fourth Quarter                | 72.53       | 63.65   | 0.23                              |
| 2016                          |             |         |                                   |
| Through February 17, 2016 (1) | 66.86       | 58.43   | 0.23                              |

(1) On February 17, 2016, the Company's board of directors declared a quarterly cash dividend of \$0.23 per share. The dividend is payable on March 18, 2016 to stockholders of record at the close of business on March 4, 2016.

## Dividends

Each share of common stock, including restricted stock awards and restricted stock units, is entitled to receive dividend and dividend equivalents, respectively, if, as and when declared by the board of directors of the Company. The Company's expectation is to continue to pay dividends. The decision to pay a dividend, however, remains within the discretion of our board of directors and may be affected by various factors, including our earnings, financial condition, capital requirements, level of indebtedness and other considerations our board of directors deems relevant. Future debt obligations and statutory provisions, among other things, may limit, or in some cases prohibit, our ability to pay dividends.

As a holding company, the Company's ability to declare and continue to pay dividends in the future with respect to its common stock will also be dependent upon the ability of its subsidiaries to pay dividends to it under applicable corporate law.

## Recent Sales of Unregistered Securities

Not applicable.

## Use of Proceeds

Not applicable.

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## Purchases of Equity Securities by the Issuer and Affiliated Purchasers

The table below shows the purchases of equity securities by the Company in the three months ended December 31, 2015, reflecting the purchase of common stock under the Company's share repurchase program:

| Period                               | Total Number of Shares Purchased | Average Price Paid per Share | Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs | Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (1) |
|--------------------------------------|----------------------------------|------------------------------|--|--|
| October 1, 2015 – October 31, 2015   | 186,810                          | \$66.25                      | 186,810  | \$79,868,623   |
| November 1, 2015 – November 30, 2015 | 138,000                          | 70.16                        | 138,000  | 70,186,605   |
| December 1, 2015 – December 31, 2015 | 191,834                          | 66.24                        | 191,834  | 57,480,107   |
| Totals                               | 516,644                          | \$67.29                      | 516,644  |  |

(1) In 2011, the board of directors approved an initial authorization for the Company to repurchase shares of its outstanding common stock of \$100 million and approved additional authorizations of \$100 million in each of 2012, 2013, 2014 and 2015 for a total authorization of \$500 million. The program permits the Company to purchase shares through a variety of methods, including in the open market or through privately negotiated transactions, in accordance with applicable securities laws. It does not obligate the Company to make any repurchases at any specific time or situation.

## Stockholder Return Performance Graph

The following graph compares the cumulative total return provided to stockholders on our common stock since our initial public offering against the return of the S&P Midcap 400 Index and a customized peer group that includes CME Group Inc., Intercontinental Exchange Inc., NASDAQ, Inc. and CBOE Holdings.

An investment of \$100, with reinvestment of all dividends, is assumed to have been made in our common stock, the index and the peer groups on December 31, 2010, and its performance is tracked on an annual basis through December 31, 2015.

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Comparison of Cumulative Total Return of the  
Company, Peer Groups, Industry Indexes and/or Broad Markets

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN\*  
Among CBOE Holdings, Inc., the S&P Midcap 400 Index  
and a Peer Group

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\* \$100 invested on 12/31/10 in stock or index, including reinvestment of dividends.  
Fiscal year ending December 31.

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|                     | 12/2010 | 12/2011 | 12/2012 | 12/2013 | 12/2014 | 12/2015 |
|---------------------|---------|---------|---------|---------|---------|---------|
| CBOE Holdings, Inc. | 100     | 115.04  | 137.01  | 247.68  | 306.68  | 318.22  |
| S&P Midcap 400      | 100     | 98.27   | 115.84  | 154.64  | 169.75  | 166.05  |
| Peer Group          | 100     | 88.52   | 96.01   | 163.29  | 181.48  | 205.24  |

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## Item 6. Selected Financial Data

The following table shows selected financial data of the Company that should be read together with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the Consolidated Financial Statements and corresponding notes included in Items 7 and 8, respectively, of this Form 10-K:

|   | Year Ended December 31,                  |           |           |           |           |
|---|--|-----------|-----------|-----------|-----------|
|   | 2015                                     | 2014      | 2013      | 2012      | 2011      |
|   | (In thousands, except per share amounts) |           |           |           |           |
| <b>Income Statement Data:</b>                         |  |           |           |           |           |
| Total operating revenues                              | \$634,545                                | \$617,225 | \$572,050 | \$512,338 | \$508,144 |
| Total operating expenses                              | 314,617                                  | 303,424   | 286,236   | 268,241   | 266,512   |
| Operating income                                      | 319,928                                  | 313,801   | 285,814   | 244,097   | 241,632   |
| Total other income/(expense)                          | 4,096                                    | (4,104)   | (2,158)   | (1,546)   | (1,548)   |
| Income before income taxes                            | 324,024                                  | 309,697   | 283,656   | 242,551   | 240,084   |
| Income tax provision                                  | 119,001                                  | 119,983   | 107,657   | 85,156    | 100,678   |
| Net income  | \$205,023                                | \$189,714 | \$175,999 | \$157,395 | \$139,406 |
| Net income allocated to common stockholders           | \$204,125                                | \$188,392 | \$173,863 | \$155,254 | \$136,582 |
| Net income per share allocated to common stockholders |  |           |           |           |           |
| Basic   | \$2.46                                   | \$2.21    | \$1.99    | \$1.78    | \$1.52    |
| Diluted   | 2.46                                     | 2.21      | 1.99      | 1.78      | 1.52      |
| Cash dividends declared per share (1) (2)             | 0.88                                     | 0.78      | 1.16      | 1.29      | 0.44      |
| <b>Balance Sheet Data:</b>                            |  |           |           |           |           |
| Total assets  | \$384,788                                | \$383,901 | \$441,589 | \$338,858 | \$327,868 |
| Total liabilities                                     | 125,143                                  | 133,834   | 157,072   | 99,736    | 91,598    |
| Total stockholders' equity                            | 259,645                                  | 250,067   | 284,517   | 239,122   | 236,270   |
| <b>Average daily volume by product (3)</b>            |  |           |           |           |           |
| Equities  | 1,559                                    | 1,939     | 1,721     | 1,977     | 2,048     |
| Indexes   | 1,620                                    | 1,613     | 1,479     | 1,217     | 1,271     |
| Exchange-traded products                              | 1,274                                    | 1,507     | 1,353     | 1,247     | 1,462     |
| Total options average daily volume                    | 4,453                                    | 5,059     | 4,553     | 4,441     | 4,781     |
| Futures   | 205                                      | 201       | 159       | 96        | 48        |
| Total average daily volume                            | 4,658                                    | 5,260     | 4,712     | 4,537     | 4,829     |

On December 11, 2012, the Company's board of directors declared a special cash dividend of \$0.75 per share. This (1) was in addition to the quarterly cash dividends which aggregated \$0.54 per share for the year ended December 31, 2012.

On December 10, 2013, the Company's board of directors declared a special cash dividend of \$0.50 per share. This (2) was in addition to the quarterly cash dividends which aggregated \$0.66 per share for the year ended December 31, 2013.

(3) Average daily volume equals the total contracts traded during the period divided by the number of trading days in the period.

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

General

Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") should be read in conjunction with the consolidated financial statements of the Company and the notes thereto included in Item 8 of this Annual Report on Form 10-K. The following discussion contains forward-looking statements. Actual results could differ materially from the results discussed in the forward-looking statements. See "Risk Factors" and "Forward-Looking Statements" above.

Overview

CBOE Holdings, Inc. is the holding company for Chicago Board Options Exchange, Incorporated, CBOE Futures Exchange, LLC, C2 Options Exchange, Incorporated and other subsidiaries.

The Company's principal business is operating markets that offer for trading options on various market indexes (index options), mostly on an exclusive basis, and futures contracts, as well as on non-exclusive "multiply-listed" options, such as options on the stocks of individual corporations (equity options) and options on other exchange-traded products (ETP options), such as exchange-traded funds (ETF options) and exchange-traded notes (ETN options). The Company operates three stand-alone exchanges, but reports the results of its operations in one reporting segment. CBOE is our primary options market and offers trading in listed options through a single system that integrates electronic trading and traditional open outcry trading on our trading floor in Chicago. This integration of electronic trading and traditional open outcry trading into a single exchange is known as our Hybrid trading model. CFE, our all-electronic futures exchange, offers trading of futures on the VIX Index and other products. C2 is our all-electronic exchange that also offers trading for listed options, and may operate with a different market model and fee structure than CBOE. All of our exchanges operate on our proprietary technology platform known as CBOE Command.

Business Highlights

Transaction fees accounted for 71.9%, 70.9% and 69.4% of total operating revenues for the years ended December 31, 2015, 2014 and 2013, respectively.

Index options and futures contracts accounted for 82.9%, 81.8% and 78.8% of our transaction fees for the years ended December 31, 2015, 2014 and 2013, respectively.

Our share of total U.S. exchange-traded options contracts for the year ended December 31, 2015 was 27.1%, down from 29.9% and 27.9% in 2014 and 2013, respectively.

Operating expenses were 49.6%, 49.2% and 50.0%, of total operating revenues for the years ended December 31, 2015, 2014 and 2013, respectively.

Compensation and benefits, representing our largest expense category, were 16.7%, 19.7% and 20.6%, of total operating revenues for the years ended December 31, 2015, 2014 and 2013, respectively.

In December 2014, we entered into an agreement with the Financial Industry Regulatory Authority ("FINRA") to provide a majority of regulatory services to the CBOE and C2 options markets. As a result of this agreement, we experienced a shift in expenses from compensation and benefits to professional fees and outside services.

On August 7, 2015, we acquired the market data services and trading analytics platform of Livevol, Inc. ("Livevol"), which included Livevol Core, Livevol Pro and Livevol X trading analytics platforms, as well as Livevol Enterprise and other market data solutions products.

Business Strategy

We believe that the derivatives industry, especially the listed options and futures industry, has significant growth potential, including through new participants and products. We expect to further expand our business and increase our revenues and profitability by pursuing the following growth strategies:

We intend to continue our efforts to expand the use of our products domestically and internationally. At the core of that effort is extended trading hours in our exclusive index options and futures products and investor education.

- We intend to continue developing innovative proprietary products that meet the needs of the derivatives industry and complement our core products, both through strategic relationships and internal development.

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We have designed our fee schedule to provide economic benefits to market participants that concentrate their overall trading activity at our exchanges.

We intend to continue to enhance our trading platform by continuing to invest in hardening and augmenting the functionality and capacity of our trading systems and by developing the next generation of trading technology, CBOE Vector.

We evaluate strategic opportunities that leverage and complement our core business and that we believe will enhance stockholder value.

### Components of Operating Revenues

#### Transaction Fees

The primary and largest source of operating revenues is transaction fees. Transaction fees are a function of many variables with the main three being: (1) exchange fee rates; (2) trading volume mix (products traded); and (3) transaction mix between order type. Because transaction fees are assessed on a per contract basis, transaction fee revenue is highly correlated to the volume of contracts traded on the Company's exchanges. While exchange fee rates are established by the Company, trading volume and transaction mix are influenced by a number of factors, including price competition, price volatility in the underlying securities and national and international economic and political conditions.

Revenue is recorded as transactions occur on a trade-date basis. The main products we trade are equity, index and ETP options and futures contracts.

Equity options reflect trading in options contracts on the stocks of individual companies.

Index options reflect trading in index options contracts on market indexes.

ETP options include ETF options that are options on baskets of stocks designed to generally track an index,

- but which trade like individual stocks, and ETN options that are options on senior, unsecured, unsubordinated debt securities issued by an underwriting bank.

Futures contracts are standardized, transferable, exchange-traded contracts that require delivery of a commodity, bond, currency, stock index or other benchmark interests at a specified price and on a specified future date, which are settled in cash.

#### Access Fees

Access fees represent fees assessed to Trading Permit and Privilege Holders for the opportunity to trade, including fees for trading-related functionality, on CBOE, C2 and CFE. The CBOE program contains a tier-based market-maker appointment system with different trading permits based on trading function and, in the case of market-makers, the assessment of a surcharge for certain CBOE proprietary products. Beginning in mid-2013, CBOE implemented sliding scales for all Market-Maker and Floor Broker Trading Permits held by affiliated Trading Permit Holders and TPH Organizations that are used in any options classes other than certain proprietary indexes. The number of trading permits made available is limited.

#### Exchange Services and Other Fees

To facilitate trading, the Company offers technology services, terminal and other equipment rentals, maintenance services, trading floor space and telecommunications services. Trading floor and equipment rentals are generally on a month-to-month basis. Facilities, systems services and other fees are generally monthly fee-based, although certain services are influenced by trading volume or other defined metrics, while others are based solely on demand. Also included in this category are the market data services and trading analytics platforms of Livevol which we acquired in August 2015.



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### Market Data Fees

Market data fees represent income derived from the sale of our transaction information through the Options Price Reporting Authority ("OPRA") and primarily through our subsidiary, Market Data Express, LLC ("MDX"). Through MDX, we sell historical options data, as well as real-time data for certain proprietary products and indexes. It also provides market data through CBOE Streaming Markets, a high-availability, low latency streaming data feed. OPRA is a limited liability company consisting of representatives of the member exchanges, including CBOE and C2, authorized by the SEC to provide consolidated options information. OPRA gathers market data from various options exchanges, including CBOE and C2, and, in turn, disseminates this data to third parties who pay fees to OPRA to access the data. Revenue generated by OPRA from the dissemination of market data is shared among OPRA members according to the number of total cleared options transactions by each of the member exchanges as calculated each quarter. OPRA is not consolidated with the Company.

### Regulatory Fees

Regulatory fees are charged to Trading Permit Holders in support of our regulatory responsibilities as self-regulatory organizations under the Exchange Act. Regulatory fees include an Options Regulatory Fee under which fees are based on industry-wide customer volume of Trading Permit Holders and designated examining authority fees for certain Trading Permit Holders. This source of revenue could decline in the future if the number of customer contracts executed by Trading Permit Holders declines and rates are not increased or are decreased or if our costs to perform our regulatory responsibilities stabilize or decrease.

The SEC requires that the revenues derived from certain of the fees from our regulatory functions, some of which are included in this revenue category, and regulatory fines must be used for regulatory purposes. Expenses related to our regulatory functions are included in our operating expenses, mainly in compensation and benefits in 2014 and professional fees and outside services in 2015.

In December 2014, we entered into an agreement with the FINRA to provide certain regulatory services to the CBOE and C2 options markets. Additionally, CBOE entered into a separate agreement with FINRA, under which it assigned to FINRA the responsibility to perform regulatory services for the Options Regulatory Surveillance Authority ("ORSA"). FINRA began performing the services on January 1, 2015.

### Other Revenue

The following sub-categories are the sources of revenue within this category:

- Revenue generated through various licensing agreements;
- Revenue derived from fines assessed for rule violations;
- Revenue generated through our order routing cancel fee (in 2015, we waived order routing cancel fees) and position transfer fee;
- Revenue associated with advertisements through our corporate web site, [www.cboe.com](http://www.cboe.com);
- Revenue generated from courses and seminars offered through CBOE's Options Institute;
- Revenue generated through regulatory service agreements with other options exchanges (in 2015, we no longer generated revenue from these regulatory service agreements);
- Rental of commercial space in the lobby of our building; and
- Other sources of revenue.

### Components of Operating Expenses

Most of our expenses do not vary directly with changes in our trading volume except royalty fees and order routing.

### Compensation and Benefits

Compensation and benefits are our most significant expense and include salaries and benefits, stock-based compensation, incentive compensation, severance and employer taxes. Salaries and benefits represent our largest expense category and tend to be driven by both our staffing requirements and the general dynamics of the employment market. Stock-based compensation is a non-cash expense related to equity awards. Stock-based compensation can vary depending on the quantity and fair value of the award on the date of grant and the related service period.

### Depreciation and Amortization



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Depreciation and amortization expense results from the depreciation of long-lived assets purchased and the amortization of purchased and internally developed software.

### Technology Support Services

Technology support services expense consists primarily of costs related to the maintenance of computer equipment supporting our system architecture, circuits supporting our wide area network, support for production software, fees paid to information vendors for displaying data and off-site system hosting fees.

### Professional Fees and Outside Services

Professional fees and outside services consist primarily of consulting services, which include: the supplementation of staff for activities primarily related to systems development and maintenance, legal, regulatory and audit and tax advisory services.

### Royalty Fees

Royalty fees primarily consist of license fees paid for the use of underlying indexes in our proprietary products usually based on contracts traded. The Company has licenses with the owners of the S&P 500 Index, S&P 100 Index and certain other S&P indexes, the DJIA, the NASDAQ 100, MSCI and the FTSE Russell indexes. This category also includes fees related to the dissemination of market data related to S&P indexes and in prior years, certain fees paid to market participants for order flow that they directed or caused to be directed to our exchanges.

### Order Routing

Order routing consists of market linkage expenses incurred to send certain orders to other exchanges. If a competing exchange quotes a better price, we route the customer's order to that exchange and pay certain of the associated costs. Regardless of whether the transaction is traded at our options exchanges, the order flow potential enhances our overall market position and participation and provides cost savings to customers.

### Travel and Promotional Expenses

Travel and promotional expenses primarily consist of advertising, costs for special events, sponsorship of industry conferences, options education seminars and travel related expenses.

### Facilities Costs

Facilities costs primarily consist of expenses related to owned and leased properties including rent, maintenance, utilities, real estate taxes and telecommunications costs.

### Other Expenses

Other expenses represent costs necessary to support our operations but are not included in the above categories.

### Other Income/(Expense)

Income and expenses incurred through activities outside of our core operations are considered non-operating and are classified as other income/(expense). These activities primarily include interest earned on the investing of excess cash, dividend income and equity earnings or losses from our investments in other business ventures.

### Critical Accounting Policies and Estimates

The preparation of the Company's consolidated financial statements requires the Company to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses, and related disclosure of contingent assets and liabilities. On an ongoing basis, the Company evaluates its estimates, including those related to areas that require a significant level of judgment or are otherwise subject to an inherent degree of uncertainty. The Company bases its estimates on historical experience, observance of trends in particular areas, information available from outside sources and various other assumptions that are believed to be reasonable under the circumstances. Information from these sources form the basis for making judgments about the carrying values of assets and liabilities that may not be readily apparent from other sources. Actual amounts may differ from these estimates under different assumptions or conditions.

We have identified the policies below as critical to our business operations and the understanding of our results of operations. The impact of, and any associated risks related to, these policies on our business operations is discussed throughout "Management's Discussion and Analysis of Financial Condition and Results of Operations." For a detailed discussion on the



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application of these and other accounting policies, see Note 1 to our consolidated financial statements and related notes included elsewhere in this Annual Report on Form 10-K.

### Revenue Recognition

Transaction fees revenue is considered earned upon the execution of the trade recognized on a trade-date basis and presented net of applicable volume discounts. In the event liquidity providers prepay transaction fees, revenue is recognized based on the attainment of volume thresholds resulting in the amortization of the prepayment over the calendar year.

Access fee revenue is recognized during the period access is granted and assurance of collectability is provided.

Exchange services and other fees revenue is recognized during the period the service is provided.

Market data fees from OPRA are allocated based upon the share of total options transactions cleared for each of the OPRA members and is received quarterly. Revenue from our market data services is recognized in the period the data is provided.

Regulatory fees are recognized primarily on a trade-date basis.

### Income Taxes

Deferred income taxes arise from temporary differences between the tax basis and book basis of assets and liabilities. The Company accounts for income taxes under the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of the events that have been included in the consolidated financial statements. Under this method, deferred tax assets and liabilities are determined based on the differences between the book and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to be reversed. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in the period that includes the enactment date. The Company files tax returns for federal, state and local income tax purposes. A valuation allowance is recognized if it is anticipated that some or all of a deferred tax asset may not be realized.

If the Company considers that a tax position is "more-likely-than-not" to be sustained upon audit, based solely on the technical merits of the position, it recognizes the tax benefit. The Company measures the tax benefit by determining the largest amount that is greater than 50% likely of being realized upon settlement, presuming that the tax position is examined by the appropriate taxing authority that has full knowledge of all relevant information. These assessments can be complex and require specific analysis to determine the impact of the position, as such the Company often obtains assistance from external advisors. The Company considers the information and arrives at the percentage to apply as a possible uncertain portion related to the position. To the extent that the Company's estimates change or the final tax outcome of these matters is different than the amounts recorded, such differences will impact the income tax provision in the period in which such determinations are made. Uncertain tax positions are classified as current only when the Company expects to pay cash within the next twelve months. Interest and penalties, if any, are recorded within the provision for income taxes in the Company's consolidated statements of income and are classified on the consolidated balance sheets with the related liability for unrecognized tax benefits.

### Recent Accounting Pronouncements

In May 2014, the FASB issued ASU 2014-09, Revenue from Contracts with Customers. This standard outlines a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and supersedes most current revenue recognition guidance, including industry-specific guidance. In addition, the ASU provides guidance on accounting for certain revenue-related costs including when to capitalize costs associated with obtaining and fulfilling a contract. ASU 2014-09 provides companies with two implementation methods. Companies can choose to apply the standard retrospectively to each prior reporting period presented (full retrospective application) or retrospectively with the cumulative effect of initially applying the standard as an adjustment to the opening balance of retained earnings of the annual reporting period that includes the date of initial application (modified retrospective application). This guidance is effective for annual reporting periods beginning after December 15, 2016, including interim periods within that reporting period. Early application is not permitted. The FASB deferred the effective date by one year to December 15, 2017 for annual reporting periods beginning after that date. Early adoption of the standard is permitted as of annual reporting periods beginning after December 15, 2016,

including interim reporting periods within those annual periods. The Company is in the process of evaluating this guidance, though we do not expect it will materially impact our consolidated balance sheets, statements of income, comprehensive income or cash flows.

In September 2015, the FASB issued ASU-2015-16, Business Combinations. This standard simplifies the accounting for adjustments made to provisional amounts recognized in a business combination. First, it requires that the acquirer recognize

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adjustments to provisional amounts that are identified during the measurement period in the reporting period in which the adjustment amount is determined. The acquirer also should record, in the same period's financial statements, the effect on earnings of changes in depreciation, amortization, or other income effects, if any, as a result of the change to the provisional amounts, calculated as if the accounting had been completed at the acquisition date. The amendments should be applied prospectively to adjustments to provisional amounts that are identified after December 15, 2015 and that are within the measurement period. Upon transition, an entity would be required to disclose the nature of, and reason for, the change in accounting principle. An entity would provide that disclosure in the first annual period of adoption and in the interim periods within the first annual period. The Company is in the process of evaluating this guidance, though we do not expect it will materially impact our consolidated balance sheets, statements of income, comprehensive income or cash flows.

In November 2015, the FASB issued ASU-2015-17, Income Taxes- Balance Sheet Classification of Deferred Taxes. This standard affects only entities that present a classified statement of financial position. Deferred tax liabilities and assets will be classified as noncurrent in a classified statement of financial position and the current requirement that deferred tax liabilities and assets of a tax-paying component of an entity be offset and presented as a single amount remains the same. Notably, ASU No. 2015-17 aligns the presentation of deferred income tax assets and liabilities with International Accounting Standard 1, Presentation of Financial Statements, which requires deferred tax assets and liabilities to be classified as noncurrent in a classified statement of financial position. For public business entities, ASU No. 2015-17 is effective for annual periods, including interim periods within those annual periods, beginning after December 15, 2016. Earlier application is permitted for all entities as of the beginning of an interim or annual reporting period. For all other entities, ASU No. 2015-17 is effective for annual periods beginning after December 15, 2017, and interim periods in annual periods beginning after December 15, 2018. Entities are required to apply the proposed amendments prospectively to all deferred income tax liabilities and assets or retrospectively to all periods presented. We decided to early adopt this standard on a retrospective basis for the period ended December 31, 2015 and the adoption did not have a material effect on our consolidated balance sheet.

## Results of Operations

Year ended December 31, 2015 compared to the year ended December 31, 2014

## Consolidated Results

The following summarizes financial performance for the year ended December 31, 2015 compared to 2014.

|   | 2015                                    | 2014    | Inc./ (Dec.) | Percent Change |    |
|---|---|---------|--------------|----------------|----|
|   | (in millions, except per share amounts) |         |              |                |    |
| Total operating revenues                                      | \$634.5                                 | \$617.2 | \$17.3       | 2.8            | %  |
| Total operating expenses                                      | 314.6                                   | 303.4   | 11.2         | 3.7            | %  |
| Operating income  | 319.9                                   | 313.8   | 6.1          | 1.9            | %  |
| Total other income/(expense)                                  | 4.1                                     | (4.1)   | 8.2          | 199.8          | %  |
| Income before income taxes                                    | 324.0                                   | 309.7   | 14.3         | 4.6            | %  |
| Income tax provision  | 119.0                                   | 120.0   | (1.0)        | (0.8)          | )% |
| Net income  | \$205.0                                 | \$189.7 | \$15.3       | 8.1            | %  |
| Net income allocated to common stockholders                   | \$204.1                                 | \$188.4 | \$15.7       | 8.4            | %  |
| Operating income percentage                                   | 50.4                                    | % 50.8  | %            |                |    |
| Net income percentage   | 32.3                                    | % 30.7  | %            |                |    |
| Diluted—net income per share allocated to common stockholders | \$2.46                                  | \$2.21  |              |                |    |

The increase in total operating revenues was primarily driven by higher transaction fees, exchange services and other fees and other revenue, partially offset by lower access fees and regulatory fees.

The increase in total operating expenses was primarily driven by higher depreciation and amortization, technology support services, professional fees and outside services and royalty fees, partially offset by lower compensation and

benefits.

The increase in total other income/(expense) was primarily driven by the dividend declared by OCC in December 2015. The prior year included an impairment charge related to our investment in IPXI Holdings, LLC ("IPXI").

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## Operating Revenues

Total operating revenues for the year ended December 31, 2015 increased \$17.3 million, or 2.8%, to \$634.5 million from \$617.2 million in the prior year. The following summarizes changes in total operating revenues for the year ended December 31, 2015 compared to 2014.

|                                  | 2015          | 2014    | Inc./ (Dec.) | Percent Change |    |
|----------------------------------|---------------|---------|--------------|----------------|----|
|                                  | (in millions) |         |              |                |    |
| Transaction fees                 | \$456.0       | \$437.8 | \$18.2       | 4.2            | %  |
| Access fees                      | 53.3          | 59.3    | (6.0)        | (10.2)         | )% |
| Exchange services and other fees | 42.2          | 38.0    | 4.2          | 11.0           | %  |
| Market data fees                 | 30.0          | 30.4    | (0.4)        | (1.4)          | )% |
| Regulatory fees                  | 33.5          | 37.1    | (3.6)        | (9.7)          | )% |
| Other revenue                    | 19.5          | 14.6    | 4.9          | 34.0           | %  |
| Total operating revenues         | \$634.5       | \$617.2 | \$17.3       | 2.8            | %  |

## Transaction Fees

Transaction fees increased 4.2% to \$456.0 million for the year ended December 31, 2015, representing 71.9% of total operating revenues, compared with \$437.8 million for the prior year period, or 70.9% of total operating revenues. This increase was largely driven by a 17.6% increase in the average revenue per contract, partially offset by an 11.4% decrease in trading volume. The increase in average revenue per contract resulted primarily from a shift in volume mix of products traded, fee changes implemented in 2015 and lower volume discounts and incentives. As a percent of total trading volume, index options and futures contracts, which generate our highest options and overall average revenue per contract, respectively, accounted for 39.2% of trading volume for the year ended December 31, 2015, up from 34.5% during the same period in 2014.

Average revenue per contract, discussed in more detail below, is impacted by our fee structure, which includes volume based incentive programs, mix of products traded, the account type (customer, firm, market-maker, etc.) and the manner in which a trade is executed. The implementation of fee changes, which may increase or decrease our average revenue per contract, is primarily to ensure that we are competitive in the options marketplace and to ultimately improve and continue to drive order flow to our exchanges. We cannot predict the trading patterns of exchange participants, which may be based on factors outside our control, but we can attempt to price our products at levels that are competitive in our market.

Trading volume is impacted by many factors, including: macroeconomic events, market volatility, regulatory actions or considerations, availability of capital, competition and pricing.

The following summarizes transaction fees by product category for 2015 compared to 2014.

|                                | 2015          | 2014    | Inc./ (Dec.) | Percent Change |    |
|--------------------------------|---------------|---------|--------------|----------------|----|
|                                | (in millions) |         |              |                |    |
| Equities                       | \$36.4        | \$37.2  | \$(0.8)      | (2.1)          | )% |
| Indexes                        | 290.3         | 276.0   | 14.3         | 5.2            | %  |
| Exchange-traded products       | 41.8          | 42.4    | (0.6)        | (1.5)          | )% |
| Total options transaction fees | 368.5         | 355.6   | 12.9         | 3.6            | %  |
| Futures                        | 87.5          | 82.2    | 5.3          | 6.5            | %  |
| Total transaction fees         | \$456.0       | \$437.8 | \$18.2       | 4.2            | %  |

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## Trading Volume

Our average daily trading volume ("ADV") was 4.66 million contracts in 2015, down 11.4% compared with 5.26 million for 2014. Total trading days in 2015 and 2014 were two hundred fifty-two.

The following summarizes changes in total trading volume and ADV by product category for 2015 compared to 2014.

|                          | 2015          |      | 2014    |      | Volume<br>Percent<br>Change | ADV<br>Percent<br>Change |       |    |
|--------------------------|---------------|------|---------|------|-----------------------------|--------------------------|-------|----|
|                          | Volume        | ADV  | Volume  | ADV  |                             |                          |       |    |
|                          | (in millions) |      |         |      |                             |                          |       |    |
| Equities                 | 393.0         | 1.56 | 488.6   | 1.94 | (19.6                       | )%                       | (19.6 | )% |
| Indexes                  | 408.3         | 1.62 | 406.5   | 1.61 | 0.4                         | %                        | 0.4   | %  |
| Exchange-traded products | 321.0         | 1.27 | 379.7   | 1.51 | (15.5                       | )%                       | (15.5 | )% |
| Total options contracts  | 1,122.3       | 4.45 | 1,274.8 | 5.06 | (12.0                       | )%                       | (12.0 | )% |
| Futures contracts        | 51.7          | 0.21 | 50.6    | 0.20 | 2.1                         | %                        | 2.1   | %  |
| Total contracts          | 1,174.0       | 4.66 | 1,325.4 | 5.26 | (11.4                       | )%                       | (11.4 | )% |

The following provides the percentage of volume by product category for the years ended December 31, 2015 and 2014.

|                          | 2015  | 2014    |   |
|--------------------------|-------|---------|---|
| Equities                 | 33.5  | % 36.9  | % |
| Indexes                  | 34.8  | % 30.7  | % |
| Exchange-traded products | 27.3  | % 28.6  | % |
| Futures                  | 4.4   | % 3.8   | % |
| Total                    | 100.0 | % 100.0 | % |

## Average revenue per contract

The average revenue per contract was \$0.388 in 2015, an increase of 17.6% compared with \$0.330 in 2014. Average revenue per contract represents transaction fees divided by total contracts.

The following summarizes average revenue per contract by product category for 2015 compared to 2014.

|  | 2015    | 2014    | Percent<br>Change |   |
|--|---------|---------|-------------------|---|
| Equities                                   | \$0.093 | \$0.076 | 22.4              | % |
| Indexes                                    | 0.711   | 0.679   | 4.7               | % |
| Exchange-traded products                   | 0.130   | 0.112   | 16.1              | % |
| Total options average revenue per contract | 0.328   | 0.279   | 17.6              | % |
| Futures                                    | 1.694   | 1.623   | 4.4               | % |
| Total average revenue per contract         | \$0.388 | \$0.330 | 17.6              | % |

Factors contributing to the change in total average revenue per contract for the year ended December 31, 2015 compared to the same period in 2014 included:

**Product mix**—We experienced a shift in overall product mix. As a percentage of total volume, equities decreased to 33.5% from 36.9%, indexes increased to 34.8% from 30.7% and futures increased to 4.4% from 3.8%. Equities represent our lowest average revenue per contract, while index options and futures generate our highest options average revenue per contract and our highest total average revenue per contract, respectively.

**Rate structure**—Our rate structure includes sliding scales, volume discounts, volume incentive programs and caps on fees as part of our effort to increase liquidity and market share in multiply-listed options. The increase in average revenue per contract across all product categories was primarily a result of fee changes implemented in 2015 and lower volume discounts and incentives.



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### Access Fees

Access fees for the year ended December 31, 2015 decreased to \$53.3 million from \$59.3 million in the comparable prior year period. The decrease in access fees was primarily due to a reduction in the number of trading permits.

### Exchange Services and Other Fees

Exchange services and other fees for the year ended December 31, 2015 increased 11.0% to \$42.2 million from \$38.0 million in the comparable period in the prior year. The increase was primarily a result of higher fees for technology services and revenue generated from Livevol, which was acquired on August 7, 2015.

In 2016, we expect exchange services and other fees to be higher as a result of the recognition of a full year of revenue generated by Livevol.

### Market Data Fees

Market data fees decreased 1.4% to \$30.0 million for the year ended December 31, 2015 from \$30.4 million in the prior year. For the years ended December 31, 2015 and 2014, income derived from our market data services totaled \$16.0 million and \$15.4 million, respectively, and OPRA income totaled \$14.0 million and \$15.0 million, respectively. Revenue generated from our market data services, which provide current and historical options and futures data, increased \$0.6 million, resulting primarily from an increase in subscribers and fees for certain market data services. Income derived from OPRA is allocated based on each exchange's share of total cleared options transactions. The Company's share of total cleared options transactions for the period ended December 31, 2015 decreased to 23.3% from 24.9% for the same period in 2014 and total distributable OPRA income decreased compared to the prior year period resulting in lower revenue for the period ended December 31, 2015 compared to the same period in 2014.

### Regulatory Fees

Regulatory fees decreased 9.7% for the year ended 2015 to \$33.5 million from \$37.1 million in the same period in the prior year. The decrease in regulatory fees was primarily the result of lower options regulatory fees and a decrease in regulatory fees received for other regulatory services.

Regulatory fees are primarily generated by the options regulatory fee that we charge on all Trading Permit Holder customer volume industry-wide, which decreased compared to the prior period and a decrease in regulatory fees received for other regulatory services, primarily related to CBOE Stock Exchange, LLC ("CBSX"), which ceased trading operations on April 30, 2014.

Under the rules of each of our options exchanges, as required by the SEC, any revenue derived from regulatory fees and fines cannot be used for non-regulatory purposes.

### Other Revenue

Other revenue increased \$4.9 million for the year ended 2015 to \$19.5 million from \$14.6 million in the same period in the prior year. The increase in other revenue was primarily due to higher regulatory fines assessed for disciplinary actions and the recognition of revenue to adjust for incorrect coding of transactions by an exchange participant related to prior periods.

### Concentration of Revenue

All contracts traded on our exchanges must be cleared through clearing members of OCC. At December 31, 2015, there were one hundred thirteen Trading Permit Holders that are clearing members of OCC. Two clearing members accounted for 45% of transaction and other fees collected through OCC in 2015. The next largest clearing member accounted for approximately 12% of transaction and other fees collected through OCC. No one Trading Permit Holder using the clearing services of the top two clearing member firms represented more than 27% of transaction and other fees collected through OCC, for the respective clearing member, in 2015. Should a clearing member withdraw from CBOE, we believe the Trading Permit Holder portion of that clearing member's trading activity would likely transfer to another clearing member.

The two largest clearing members mentioned above clear the majority of the market-maker sides of transactions at CBOE, C2 and at all of the U.S. options exchanges. If either of these clearing members were to withdraw from the business of market-maker clearing and market-makers were unable to transfer to another clearing member, this could create significant disruption to the U.S. options markets, including ours.

Operating Expenses

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Total operating expenses increased \$11.2 million, or 3.7%, to \$314.6 million for the year ended 2015 from \$303.4 million in the year ago period, resulting from higher depreciation and amortization, technology support services, professional fees and outside services and royalty fees, partially offset by lower compensation and benefits. Expenses increased to 49.6% of total operating revenues in the year ended 2015 compared with 49.2% in the same period in 2014.

The following summarizes changes in operating expenses for the year ended December 31, 2015 compared to 2014.

|  | 2015          | 2014    | Inc./ (Dec.) | Percent Change |    |
|--|---------------|---------|--------------|----------------|----|
|  | (in millions) |         |              |                |    |
| Compensation and benefits              | \$105.9       | \$121.7 | \$(15.8)     | (13.0)         | )% |
| Depreciation and amortization          | 46.3          | 39.9    | 6.4          | 15.9           | %  |
| Technology support services            | 20.7          | 19.2    | 1.5          | 7.7            | %  |
| Professional fees and outside services | 50.1          | 32.0    | 18.1         | 56.6           | %  |
| Royalty fees                           | 70.6          | 66.1    | 4.5          | 6.8            | %  |
| Order routing                          | 2.3           | 4.1     | (1.8)        | (43.8)         | )% |
| Travel and promotional expenses        | 8.9           | 9.0     | (0.1)        | (0.7)          | )% |
| Facilities costs                       | 5.0           | 5.7     | (0.7)        | (12.6)         | )% |
| Other expenses                         | 4.8           | 5.7     | (0.9)        | (14.3)         | )% |
| Total operating expenses               | \$314.6       | \$303.4 | \$11.2       | 3.7            | %  |

**Compensation and Benefits**

For the year ended December 31, 2015, compensation and benefits were \$105.9 million, or 16.7% of total operating revenues, compared with \$121.7 million, or 19.7% of total operating revenues, in the same period in 2014. This represented a decrease of \$15.8 million, or 13.0%, which primarily resulted from lower stock-based compensation, a reduction in headcount and lower severance expense. The reduction in headcount and severance was primarily due to the transition of certain regulatory functions to FINRA which occurred in December 2014. The twelve months ended December 31, 2014 included \$2.5 million of accelerated stock-based compensation expense for certain executives due to provisions contained in their employment arrangements.

**Depreciation and Amortization**

Depreciation and amortization increased by \$6.4 million to \$46.3 million for the year ended December 31, 2015 compared with \$39.9 million for the same period in 2014. The increase in depreciation and amortization primarily resulted from capital spending to harden and enhance our trading platform and operations and the acceleration of depreciation for certain assets that have a shorter than expected useful life.

**Professional Fees and Outside Services**

Expenses related to professional fees and outside services increased to \$50.1 million for the year ended December 31, 2015 from \$32.0 million in the prior-year period, an increase of \$18.1 million, which primarily resulted from higher contract services related to the transition of certain regulatory services for CBOE and C2 to FINRA which occurred in December 2014.

**Royalty Fees**

Royalty fees for the year ended December 31, 2015 were \$70.6 million compared with \$66.1 million for the prior year period, an increase of \$4.5 million, which primarily resulted from higher trading volume in licensed products.

**Operating Income**

As a result of the items above, operating income in 2015 was \$319.9 million compared to \$313.8 million in 2014, an increase of \$6.1 million.

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## Other Income/(Expense)

Other income/(expense) reflected income of \$4.1 million for the year ended December 31, 2015 compared with a loss of \$4.1 million for the same period in the prior year. The income in 2015 primarily included the Company's share of equity earnings of Signal Trading Systems, LLC ("Signal") and the \$3.4 million of dividend income declared by the OCC in December 2015. In 2014, the expense primarily included the Company's share of the operating losses of Signal and the impairment of our investment in IPXI, which totaled \$3.0 million.

## Income before Income Taxes

As a result of the items above, income before income taxes in 2015 was \$324.0 million compared to \$309.7 million in 2014, an increase of \$14.3 million.

## Income Tax Provision

For the year ended December 31, 2015, the income tax provision was \$119.0 million compared with \$120.0 million for the same period in 2014. The effective tax rate was 36.7% and 38.7% for the years ended December 31, 2015 and 2014, respectively. The lower effective tax rate was primarily due to the recognition of a tax benefit associated with the release and expiration of uncertain tax positions.

## Net Income

As a result of the items above, net income allocated to common stockholders in 2015 was \$204.1 million compared to \$188.4 million in 2014, an increase of \$15.7 million. Basic and diluted net income per share allocated to common stockholders were \$2.46 and \$2.21 for the years ended December 31, 2015 and 2014, respectively.

Year ended December 31, 2014 compared to the year ended December 31, 2013

## Consolidated Results

The following summarizes changes in financial performance for the year ended December 31, 2014 compared to 2013.

|   | 2014                                    | 2013    | Inc./(Dec.) | Percent Change |   |
|---|---|---------|-------------|----------------|---|
|   | (in millions, except per share amounts) |         |             |                |   |
| Total operating revenues                                      | \$617.2                                 | \$572.1 | \$45.1      | 7.9            | % |
| Total operating expenses                                      | 303.4                                   | 286.2   | 17.2        | 6.0            | % |
| Operating income  | 313.8                                   | 285.9   | 27.9        | 9.8            | % |
| Total other expense   | (4.1)                                   | (2.2)   | 1.9         | 90.2           | % |
| Income before income taxes                                    | 309.7                                   | 283.7   | 26.0        | 9.1            | % |
| Income tax provision  | 120.0                                   | 107.7   | 12.3        | 11.4           | % |
| Net income  | \$189.7                                 | \$176.0 | \$13.7      | 7.8            | % |
| Net income allocated to common stockholders                   | \$188.4                                 | \$173.9 | \$14.5      | 8.4            | % |
| Operating income percentage                                   | 50.8                                    | % 50.0  | %           |                |   |
| Net income percentage   | 30.7                                    | % 30.8  | %           |                |   |
| Diluted—net income per share allocated to common stockholders | \$2.21                                  | \$1.99  |             |                |   |

The increase in total operating revenues was primarily driven by higher transaction fees and market data fees. The increase in transaction fees was primarily driven by an 11.6% increase in total volume in 2014.

The increase in total operating expenses was primarily driven by higher compensation and benefits, depreciation and amortization, technology support services and royalty fees, partially offset by lower professional fees and outside services.

The increase in total other expense was primarily driven by an impairment charge of \$3.0 million related to our investment in IPXI, partially offset by a reduction in equity losses in other investments.

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## Operating Revenues

Total operating revenues for the year ended December 31, 2014 increased \$45.1 million, or 7.9%, to \$617.2 million from \$572.1 million in the prior year. The following summarizes changes in total operating revenues for the year ended December 31, 2014 compared to 2013.

|                                  | 2014          | 2013    | Inc./ (Dec.) | Percent Change |    |
|----------------------------------|---------------|---------|--------------|----------------|----|
|                                  | (in millions) |         |              |                |    |
| Transaction fees                 | \$437.8       | \$397.2 | \$40.6       | 10.2           | %  |
| Access fees                      | 59.3          | 61.0    | (1.7)        | (2.8)          | )% |
| Exchange services and other fees | 38.0          | 37.3    | 0.7          | 2.1            | %  |
| Market data fees                 | 30.4          | 24.9    | 5.5          | 22.2           | %  |
| Regulatory fees                  | 37.1          | 36.7    | 0.4          | 1.2            | %  |
| Other revenue                    | 14.6          | 15.0    | (0.4)        | (3.1)          | )% |
| Total operating revenues         | \$617.2       | \$572.1 | \$45.1       | 7.9            | %  |

## Transaction Fees

Transaction fees increased 10.2% to \$437.8 million for the year ended December 31, 2014, representing 70.9% of total operating revenues, compared with \$397.2 million for the prior year period, or 69.4% of total operating revenues. This increase was largely driven by an 11.6% increase in trading volume, partially offset by a 1.2% decrease in the average revenue per contract. The increase in trading volume was across all product categories and the decrease in average revenue per contract primarily resulted from a shift in volume mix and an increase in volume based incentives. We believe volume across our product segments increased year over year due to market volatility, increased use of our proprietary products most directly tied to volatility and success in capturing market share.



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The following summarizes transaction fees by product category for 2014 compared to 2013.

|                                | 2014          | 2013    | Inc./ (Dec.) | Percent Change |
|--------------------------------|---------------|---------|--------------|----------------|
|                                | (in millions) |         |              |                |
| Equities                       | \$37.2        | \$40.6  | \$(3.4)      | (8.5)%         |
| Indexes                        | 276.0         | 249.8   | 26.2         | 10.5%          |
| Exchange-traded products       | 42.4          | 43.7    | (1.3)        | (3.1)%         |
| Total options transaction fees | 355.6         | 334.1   | 21.5         | 6.4%           |
| Futures                        | 82.2          | 63.1    | 19.1         | 30.2%          |
| Total transaction fees         | \$437.8       | \$397.2 | \$40.6       | 10.2%          |

**Trading Volume**

The Company's ADV was 5.26 million contracts in 2014, up 11.6% compared with 4.71 million for 2013. The Company experienced ADV increases across all product categories. We continued to experience growth in the trading of our proprietary products, primarily SPX options, VIX options and VIX futures. For the year ended December 31, 2014 as compared to the prior year period, we experienced increases in total volume in SPX options, VIX options and VIX futures, of 7.9% and 11.5% and 26.7%, respectively. Total trading days in 2014 and 2013 were two hundred fifty-two.

The following summarizes changes in total trading volume and ADV by product category for 2014 compared to 2013.

|                          | 2014          |      | 2013    |      | Volume<br>Percent<br>Change | ADV<br>Percent<br>Change |
|--------------------------|---------------|------|---------|------|-----------------------------|--------------------------|
|                          | Volume        | ADV  | Volume  | ADV  |                             |                          |
|                          | (in millions) |      |         |      |                             |                          |
| Equities                 | 488.6         | 1.94 | 433.8   | 1.72 | 12.6%                       | 12.6%                    |
| Indexes                  | 406.5         | 1.61 | 372.6   | 1.48 | 9.1%                        | 9.1%                     |
| Exchange-traded products | 379.7         | 1.51 | 341.0   | 1.35 | 11.4%                       | 11.4%                    |
| Total options contracts  | 1,274.8       | 5.06 | 1,147.4 | 4.55 | 11.1%                       | 11.1%                    |
| Futures contracts        | 50.6          | 0.20 | 40.2    | 0.16 | 25.9%                       | 25.9%                    |
| Total contracts          | 1,325.4       | 5.26 | 1,187.6 | 4.71 | 11.6%                       | 11.6%                    |

The following provides the percentage of volume by product category for the year ended December 31, 2014 and 2013.

|                          | 2014   | 2013   |
|--------------------------|--------|--------|
| Equities                 | 36.9%  | 36.5%  |
| Indexes                  | 30.7%  | 31.4%  |
| Exchange-traded products | 28.6%  | 28.7%  |
| Futures                  | 3.8%   | 3.4%   |
| Total                    | 100.0% | 100.0% |

**Average Revenue Per Contract**

The average revenue per contract was \$0.330 in 2014, a decrease of 1.2% compared with \$0.334 in 2013. Average revenue per contract represents transaction fees divided by total contracts.

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The following summarizes average revenue per contract by product category for 2014 compared to 2013.

|                                    | 2014    | 2013    | Percent<br>Change |    |
|------------------------------------|---------|---------|-------------------|----|
| Equities                           | \$0.076 | \$0.094 | (19.1             | )% |
| Indexes                            | 0.679   | 0.670   | 1.3               | %  |
| Exchange-traded products           | 0.112   | 0.128   | (12.5             | )% |
| Total options revenue per contract | 0.279   | 0.291   | (4.1              | )% |
| Futures                            | 1.623   | 1.570   | 3.4               | %  |
| Total average revenue per contract | \$0.330 | \$0.334 | (1.2              | )% |

Factors contributing to the change in total average revenue per contract for the year ended December 31, 2014 compared to the same period in 2013 included:

Product mix—We experienced a shift in overall product mix. As a percentage of total volume, equities increased to 36.9% from 36.5%, indexes decreased to 30.7% from 31.4% and futures increased to 3.8% from 3.4%. Equities represent our lowest average revenue per contract, while index options and futures generate our highest options average revenue per contract and our highest total average revenue per contract, respectively.

Rate structure—Our rate structure includes sliding scales, volume discounts, volume incentive programs and caps on fees as part of our effort to increase liquidity and market share in multiply-listed options. Average revenue per contract on multiply-listed options (equities and exchange-traded products) decreased 19.1% and 12.5%, respectively. These decreases resulted primarily from increases in volume-based incentives for these products. Average revenue per contract on futures increased 3.4%. The increase was primarily due to fee changes implemented in 2014.

#### Access Fees

Access fees for the year ended December 31, 2014 decreased to \$59.3 million from \$61.0 million in the comparable prior year period. The decrease in access fees was primarily due to incentive programs for market-maker trading permits and floor brokers implemented in May 2013 and a reduction in the number of trading permits.

#### Exchange Services and Other Fees

Exchange services and other fees for the year ended December 31, 2014 increased 2.1% to \$38.0 million from \$37.3 million in the comparable period in the prior year. The increase was primarily due to increased demand for technology services, terminal and other equipment rentals and certain services impacted by trading volume.

#### Market Data Fees

Market data fees increased 22.2% to \$30.4 million for the year ended December 31, 2014 from \$24.9 million in the prior year. OPRA and Company market data fees for 2014 and 2013 were \$15.0 million and \$15.4 million and \$12.9 million and \$12.0 million, respectively. The Company's share of OPRA income for the period ended December 31, 2014 increased to 24.9% from 21.7% for the same period in 2013 as a result of an increase in the Company's share of total cleared options transactions. Revenue generated from the Company's market data services increased \$3.4 million, resulting primarily from an increase in subscribers and rates for certain market data services.

#### Regulatory Fees

Regulatory fees increased 1.2% for the year ended 2014 to \$37.1 million from \$36.7 million in the same period in the prior year. Regulatory fees are primarily generated by the options regulatory fee that we charge on all Trading Permit Holder customer volume industry-wide which increased compared to the prior period. The higher revenue attributed to volume was partially offset by CBOE and C2 lowering their respective options regulatory fee rates as of August 1, 2014, and a decrease in regulatory fees received for other regulatory services, primarily related to CBSX, which ceased trading operations on April 30, 2014.

In December 2014, we entered into an agreement with the FINRA to provide a majority of the regulatory services to the CBOE and C2 options markets. The Company does not expect revenue generated from regulatory fees to be materially impacted by the agreement with FINRA.



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## Operating Expenses

Total operating expenses increased \$17.2 million, or 6.0%, to \$303.4 million for the year ended 2014 from \$286.2 million in the year ago period, resulting from higher compensation and benefits, depreciation and amortization, technology support services and royalty fees, partially offset by lower professional fees and outside services. Expenses decreased to 49.2% of total operating revenues in the year ended 2014 compared with 50.0% in the same period in 2013.

The following summarizes changes in operating expenses for the year ended December 31, 2014 compared to 2013.

|  | 2014          | 2013    | Inc./(Dec.) | Percent Change |   |
|--|---------------|---------|-------------|----------------|---|
|  | (in millions) |         |             |                |   |
| Compensation and benefits              | \$121.7       | \$118.1 | \$3.6       | 3.1            | % |
| Depreciation and amortization          | 39.9          | 34.5    | 5.4         | 15.7           | % |
| Technology support services            | 19.2          | 17.9    | 1.3         | 7.2            | % |
| Professional fees and outside services | 32.0          | 34.5    | (2.5)       | (7.2)          | % |
| Royalty fees                           | 66.1          | 56.6    | 9.5         | 16.9           | % |
| Order routing                          | 4.1           | 4.3     | (0.2)       | (6.3)          | % |
| Travel and promotional expenses        | 9.0           | 9.8     | (0.8)       | (7.8)          | % |
| Facilities costs                       | 5.7           | 5.0     | 0.7         | 13.2           | % |
| Other expenses                         | 5.7           | 5.5     | 0.2         | 2.7            | % |
| Total operating expenses               | \$303.4       | \$286.2 | \$17.2      | 6.0            | % |

## Compensation and Benefits

For the year ended December 31, 2014, compensation and benefits were \$121.7 million, or 19.7% of total operating revenues, compared with \$118.1 million, or 20.6% of total operating revenues, in the same period in 2013. This represents an increase of \$3.6 million, or 3.1%, resulting from higher salaries of \$3.6 million, driven primarily from annual pay adjustments, higher payroll taxes of \$0.5 million and higher health insurance costs of \$0.4 million, higher severance expense of \$2.4 million, primarily due to transition of a majority of regulatory services to FINRA, and higher annual incentive compensation of \$2.0 million, which is aligned with performance targets, partially offset by lower stock-based compensation expense of \$5.2 million.

In December 2014, we entered into an agreement with FINRA to provide certain regulatory services to the CBOE and C2 options markets. As part of the agreement, a significant number of our regulatory staff, as well as certain systems staff supporting our regulatory functions, transitioned to FINRA resulting in a headcount reduction of over 100 employees.

## Depreciation and Amortization

Depreciation and amortization increased by \$5.4 million to \$39.9 million for the year ended December 31, 2014 compared with \$34.5 million for the same period in 2013. The increase in depreciation and amortization primarily resulted from increased capital spending to harden and enhance our trading platform and operations.

## Technology Support Services

Technology support services increased \$1.3 million to \$19.2 million for the year ended December 31, 2014 compared with \$17.9 million in the prior-year period. The increase in technology support services is primarily due to higher costs for hardware and software maintenance.

## Professional Fees and Outside Services

Expenses related to professional fees and outside services decreased to \$32.0 million for the year ended December 31, 2014 from \$34.5 million in the prior-year period. The \$2.5 million decrease is primarily due to lower costs related to litigation, partially offset by higher costs for contract programmers. The Company received insurance reimbursement for legal expenses of \$1.5 million in 2013.

In December 2014, we entered into an agreement with FINRA to provide certain regulatory services to the CBOE and C2 options markets. As noted above, certain staff transitioned from CBOE to FINRA. As a result of the transition, costs for former employees in regulatory and systems staff supporting our regulatory functions, will be included in professional fees and outside services in 2015.



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### Royalty Fees

Royalty fees expense for the year ended December 31, 2014 were \$66.1 million compared with \$56.6 million for the prior year period, an increase of \$9.5 million. The increase was primarily due to higher trading volume in licensed products and an increase in royalty rates as a result of the amendment the Company executed with S&P OPCO LLC (“S&P”), effective as of March 2013, relating to the Company's license to trade options and futures and create products based on certain S&P indexes and higher fees associated with dissemination of certain market data.

### Operating Income

As a result of the items above, operating income in 2014 was \$313.8 million compared to \$285.9 million in 2013, an increase of \$27.9 million.

### Other Expense

#### Net Loss from Investment in Affiliates

Net loss from investment in affiliates was \$4.2 million for the year ended December 31, 2014 compared with \$2.2 million for the same period in the prior year. The loss in 2014 and 2013 primarily included the Company's share of the operating loss of Signal Trading Systems, LLC and, in 2014, the impairment of our investment in IPXI which totaled \$3.0 million.

#### Income before Income Taxes

As a result of the items above, income before income taxes in 2014 was \$309.7 million compared to \$283.7 million in 2013, an increase of \$26.0 million.

#### Income Tax Provision

For the year ended December 31, 2014, the income tax provision was \$120.0 million compared with \$107.7 million for the same period in 2013. This increase was primarily a result of higher taxable income and a higher effective tax rate. The effective tax rate was 38.7% and 38.0% for the years ended December 31, 2014 and 2013, respectively.

#### Net Income

As a result of the items above, net income allocated to common stockholders in 2014 was \$188.4 million compared to \$173.9 million in 2013, an increase of \$14.5 million. Basic and diluted net income per share allocated to common stockholders were \$2.21 and \$1.99 for the years ended December 31, 2014 and 2013, respectively.

### Liquidity and Capital Resources

Historically, we have financed our operations, capital expenditures and other cash needs through cash generated from operations. Cash requirements principally consist of funding operating expenses, capital expenditures, actual and anticipated quarterly and special dividend payments and common stock repurchases under the announced program. We expect to use cash on hand at December 31, 2015 and funds generated from operations to continue to meet our 2016 cash requirements. From time to time, we consider the possibility of acquisitions, dispositions and strategic alliances that we believe would strengthen our business in the long-term; however, if consummated, these transactions may negatively impact our liquidity in the short-term.

### Cash Flows

#### Year Ended December 31, 2015 Compared to the Year Ended December 31, 2014

##### Operating Activities

Net cash provided by operating activities was \$245.3 million and \$262.7 million for the years ended December 31, 2015 and 2014, respectively. The decrease in net cash flows provided by operating activities was primarily due to lower deferred income taxes, income tax liability and stock-based compensation, higher accounts receivable and income taxes receivable, partially offset by higher net income and higher depreciation and amortization.

Net cash provided by operating activities was \$40.3 million higher than net income for the fiscal year ended December 31, 2015. The difference was mainly a result of \$46.3 million in depreciation and amortization and the recognition of stock-based compensation totaling \$12.2 million, partially offset by increases in accounts receivable of \$4.8 million and income taxes receivable of \$6.4 million.

##### Investing Activities

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Net cash flows used in investing activities totaled \$79.4 million and \$52.1 million for the years ended December 31, 2015 and 2014, respectively. Expenditures for capital and other assets totaled \$39.3 million and \$50.2 million for the years ended December 31, 2015 and 2014, respectively, primarily representing purchases of systems hardware and development of software to harden and enhance our trading platform and operations. We also acquired a business, Livevol, which totaled \$3.0 million. Additionally, investments totaled \$35.4 million in 2015, which primarily reflects our \$30.0 million contribution to OCC, as part of the capital plan discussed below, and other minority investments.

Our future expenditures for capital and other assets are expected to be primarily driven by spending to harden the company's systems, as well as ongoing investments in systems hardware and software that enhance trading technology. In 2015, we announced the development of a new trading platform, called CBOE Vector. With the development of CBOE Vector, we expect capital expenditures in 2016 to be higher than 2015 and comparable with 2014 capital spending.

### Financing Activities

Net cash flows used in financing activities totaled \$211.5 million and \$283.9 million for the years ended December 31, 2015 and 2014, respectively. The \$72.4 million decrease in net cash flows used in financing activities resulted primarily from a special dividend paid in 2014 totaling \$43.8 million and lower repurchases of common stock in 2015.

For the year ended December 31, 2015, net cash flows used in financing activities consisted of \$132.2 million in common stock purchases under the Company's share repurchase program, \$73.4 million for the payment of quarterly dividends, \$3.2 million for other share repurchases, which consisted of common stock surrendered to satisfy employees' tax obligations upon the vesting of restricted stock and the payment of outstanding debt in conjunction with the acquisition of Livevol totaling \$4.0 million.

Year Ended December 31, 2014 Compared to the Year Ended December 31, 2013

### Operating Activities

Net cash provided by operating activities was \$262.7 million and \$224.4 million for the years ended December 31, 2014 and 2013, respectively. The increase in net cash flows provided by operating activities was primarily due to higher net income and comparable balances year over year in deferred taxes and income tax receivable.

Net cash provided by operating activities was \$72.9 million higher than net income for the fiscal year ended December 31, 2014. The difference was mainly a result of \$39.9 million in depreciation and amortization, the recognition of stock-based compensation totaling \$15.6 million and an increase in income tax liability of \$10.8 million, partially offset by an increase in accounts receivable of \$8.5 million.

### Investing Activities

Net cash flows used in investing activities totaled \$52.1 million and \$31.2 million for the years ended December 31, 2014 and 2013, respectively. Expenditures for capital and other assets totaled \$50.2 million and \$28.7 million for the years ended December 31, 2014 and 2013, respectively, primarily representing purchases of systems hardware and development of software to harden and enhance our trading platform and operations. The Company made an investment in Signal Trading Systems, LLC for \$2.0 million in 2014.

### Financing Activities

Net cash flows used in financing activities totaled \$283.9 million and \$107.4 million for the years ended December 31, 2014 and 2013, respectively. The \$176.5 million increase in net cash flows used in financing activities resulted primarily from higher quarterly dividends, the payment of a special dividend in 2014 and repurchases of common stock.

For the year ended December 31, 2014, net cash flows used in financing activities consisted of \$168.3 million in common stock purchases under the Company's share repurchase program, \$67.0 million for the payment of quarterly dividends, \$43.8 million for the payment of a special dividend and \$8.3 million for other shares purchases, which consisted of common stock surrendered to satisfy employees' tax obligations upon the vesting of restricted stock.

### Dividends

The Company's expectation is to continue to pay dividends. The decision to pay a dividend, however, remains within the discretion of our board of directors and may be affected by various factors, including our earnings, financial

condition, capital requirements, level of indebtedness and other considerations our board of directors deems relevant. Future debt obligations and statutory provisions, among other things, may limit, or in some cases prohibit, our ability to pay dividends.



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### Share Repurchase Program

In 2011, the board of directors approved an initial authorization for the Company to repurchase shares of its outstanding common stock of \$100 million and approved additional authorizations of \$100 million in each of 2012, 2013, 2014 and 2015 for total authorizations of \$500 million. The program permits the Company to purchase shares through a variety of methods, including in the open market or through privately negotiated transactions, in accordance with applicable securities laws. It does not obligate the Company to make any repurchases at any specific time or situation.

For the twelve months ended December 31, 2015, the Company purchased 2,144,545 shares of common stock at an average cost per share of \$61.63, totaling \$132.2 million in purchases under the program.

Since inception of the program, the Company purchased 9,999,615 shares of common stock at an average cost per share of \$44.25, totaling \$442.5 million in purchases under the program.

As of December 31, 2015, the company had \$57.5 million of availability remaining under its existing share repurchase authorizations.

### OCC Capital Plan

In December 2014, OCC announced a newly-formed capital plan. The OCC capital plan was designed to strengthen OCC's capital base and facilitate its compliance with proposed SEC regulations for Systemically Important Financial Market Utilities ("SIFMUs") as well as international standards applicable to financial market infrastructures. On February 26, 2015, the SEC issued a notice of no objection to OCC's advance notice filing regarding the capital plan, and OCC and OCC's existing exchange stockholders, which include CBOE, subsequently executed agreements effecting the capital plan. Under the plan, each of OCC's existing exchange stockholders agreed to contribute its pro-rata share, based on ownership percentage, of \$150 million in equity capital, which would increase OCC's shareholders' equity, and to provide its pro rata share in replenishment capital, up to a maximum of \$40 million per exchange stockholder, if certain capital thresholds are breached. OCC also adopted policies under the plan with respect to fees, customer refunds, and stockholder dividends, which envision an annual dividend payment to the exchange stockholders equal to the portion of OCC's after-tax income that exceeds OCC's capital requirements after payment of refunds to OCC's clearing members (with such customer refunds generally to constitute 50% of the portion of OCC's pre-tax income that exceeds OCC's capital requirements). On March 3, 2015, in accordance with the plan, CBOE contributed \$30 million to OCC. On March 6, 2015, OCC informed CBOE that the SEC, acting through delegated authority, had approved OCC's proposed rule filing for the capital plan. The SEC approval order was stayed on March 13, 2015 automatically as a result of the initiation of petitions to review the order. On September 10, 2015, the SEC issued orders that discontinued the automatic stay of the approval order and granted the petitions for the SEC to review the approval order. On September 15, 2015, the petitioners filed motions to reinstitute the automatic stay. On February 11, 2016, based on a de novo review of the entire record, the SEC approved the proposed rule change implementing OCC's capital plan and dismissed the petitions for review and the petitioners' motions. CBOE's contribution has been recorded under Investments in the balance sheet at December 31, 2015. On December 17, 2015, OCC declared a dividend in accordance with the policies adopted under the new capital plan. The Company's portion of the dividend, payable following issuance of OCC's financial statements for 2015, is \$3.4 million and is recorded under Investment income in the Company's consolidated statement of income.

### Off-Balance Sheet Arrangements

We currently do not have any relationships with unconsolidated entities or financial partnerships, often referred to as structured finance or special purpose entities, that have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

### Lease and Contractual Obligations

The Company currently leases additional office space, a data center and remote network operations center, with lease terms remaining from 7 months to 115 months as of December 31, 2015. In December 2014, we entered into an agreement with FINRA to provide certain regulatory services to the CBOE and C2 options markets. The agreement

included the assignment of the office space CBOE leased for regulatory operations.

Total rent expense related to current and former lease obligations for the years ended December 31, 2015, 2014 and 2013 totaled \$4.1 million, \$3.8 million and \$3.0 million, respectively. Future minimum payments under our operating leases and contractual obligations were as follows at December 31, 2015 (in thousands):

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|                             | Total(1)  | Less than<br>1 year | 1 - 3 years | 3 - 5 years | More than 5<br>years |
|-----------------------------|-----------|---------------------|-------------|-------------|----------------------|
| Operating leases            | \$6,441   | \$3,210             | \$1,707     | \$409       | \$1,115              |
| Contractual obligations (2) | 232,361   | 32,111              | 65,289      | 53,932      | 81,029               |
| Other liabilities (3)       | 3,379     | 2,000               | 1,379       | —           | —                    |
| Total                       | \$242,181 | \$37,321            | \$68,375    | \$54,341    | \$82,144             |

(1) Gross unrecognized income tax liabilities, excluding interest and penalties, of \$31.9 million are not included in the table due to uncertainty about the date of their settlement.

(2) Contractual obligations means an agreement to purchase goods or services that is enforceable and legally binding and that specifies all significant terms, including: fixed or minimum quantities to be purchased; fixed, minimum or variable price provisions; and the approximate timing of the transaction.

(3) Other liabilities represent contingent consideration of \$3.3 million related to the acquisition of Livevol.

#### Item 7A. Quantitative and Qualitative Disclosure About Market Risk

We are exposed to market risk in the ordinary course of business. This market risk consists primarily of interest rate risk associated with our cash and cash equivalents. We have no long-term or short-term debt. The Company does not trade options for its own account.

##### Interest Rate Risk

We have exposure to market risk for changes in interest rates relating to our cash and cash equivalents. As of December 31, 2015 and 2014, our cash and cash equivalents were \$102.3 million and \$147.9 million, respectively. We invest available cash in highly liquid, short-term investments, such as money market funds and U.S. Treasury securities. Our investment policy is to preserve capital and liquidity. A hypothetical three basis point decrease in short-term interest rates would decrease annual earnings by less than \$75,000, assuming no change in the amount or composition of our cash and cash equivalents.

##### Impact of Inflation

We have not been adversely affected by inflation as technological advances and competition have generally caused prices for hardware and software that we use for our electronic platforms to remain constant or decline. Since transactions on our exchanges are not governed by long-term contracts, we believe that any increases in inflation are unlikely to have a material adverse effect on us.

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Item 8. Financial Statements and Supplementary Data

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of  
CBOE Holdings, Inc. and Subsidiaries  
Chicago, Illinois

We have audited the accompanying consolidated balance sheets of CBOE Holdings, Inc. and subsidiaries (the "Company") as of December 31, 2015 and 2014, and the related consolidated statements of income, comprehensive income, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2015. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of CBOE Holdings, Inc. and subsidiaries as of December 31, 2015 and 2014, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2015, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Company's internal control over financial reporting as of December 31, 2015, based on the criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 19, 2016 expressed an unqualified opinion on the Company's internal control over financial reporting.

/s/ DELOITTE & TOUCHE LLP  
Chicago, Illinois  
February 19, 2016

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of  
CBOE Holdings, Inc. and Subsidiaries  
Chicago, Illinois

We have audited the internal control over financial reporting of CBOE Holdings, Inc. and subsidiaries (the "Company") as of December 31, 2015, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed by, or under the supervision of, the company's principal executive and principal financial officers, or persons performing similar functions, and effected by the company's board of directors, management, and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of the inherent limitations of internal control over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may not be prevented or detected on a timely basis. Also, projections of any evaluation of the effectiveness of the internal control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2015, based on the criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated financial statements as of and for the year ended December 31, 2015 of the Company and our report dated February 19, 2016 expressed an unqualified opinion on those financial statements.

/s/ DELOITTE & TOUCHE LLP

Chicago, Illinois  
February 19, 2016

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## CBOE Holdings, Inc. and Subsidiaries

## Consolidated Balance Sheets

December 31, 2015 and December 31, 2014

| (in thousands, except share amounts)  | December 31,<br>2015 | December 31,<br>2014 |
|---|----------------------|----------------------|
| Assets  |                      |                      |
| Current Assets:   |                      |                      |
| Cash and cash equivalents   | \$102,253            | \$147,927            |
| Accounts receivable—net allowances of 2015 - \$150 and 2014 - \$285   | 62,535               | 58,386               |
| Marketing fee receivable  | 5,682                | 10,697               |
| Income taxes receivable   | 27,901               | 21,503               |
| Other prepaid expenses  | 5,122                | 4,622                |
| Other current assets  | 625                  | 972                  |
| Total Current Assets  | 204,118              | 244,107              |
| Investments   | 48,430               | 12,351               |
| Land  | 4,914                | 4,914                |
| Property and Equipment:   |                      |                      |
| Construction in progress  | 885                  | —                    |
| Building  | 70,531               | 68,019               |
| Furniture and equipment   | 144,597              | 286,723              |
| Less accumulated depreciation and amortization  | (155,653)            | (287,886)            |
| Total Property and Equipment—Net  | 60,360               | 66,856               |
| Goodwill  | 7,655                | —                    |
| Other Assets:   |                      |                      |
| Intangible assets (less accumulated amortization --2015 - \$182 and 2014 - \$0)                                 | 2,378                | —                    |
| Software development work in progress   | 13,836               | 7,817                |
| Data processing software and other assets (less accumulated amortization of 2015 - \$164,152; 2014 - \$163,486) | 43,097               | 47,856               |
| Total Other Assets—Net  | 59,311               | 55,673               |
| Total   | \$384,788            | \$383,901            |
| Liabilities and Stockholders' Equity  |                      |                      |
| Current Liabilities:  |                      |                      |
| Accounts payable and accrued expenses   | \$60,104             | \$58,566             |
| Marketing fee payable   | 6,141                | 11,236               |
| Contingent consideration - current  | 2,000                | —                    |
| Deferred revenue and other liabilities  | 4,019                | 1,988                |
| Post-retirement benefit obligation - current  | 100                  | 101                  |
| Income taxes payable  | 1,633                | 1,774                |
| Total Current Liabilities   | 73,997               | 73,665               |
| Long-term Liabilities:  |                      |                      |
| Post-retirement benefit obligation - long-term  | 1,896                | 1,612                |
| Contingent consideration - long-term  | 1,379                | —                    |
| Income taxes liability  | 39,679               | 40,683               |
| Other long-term liabilities   | 2,883                | 4,197                |
| Deferred income taxes   | 5,309                | 13,677               |
| Total Long-term Liabilities   | 51,146               | 60,169               |
| Commitments and Contingencies   |                      |                      |
| Total Liabilities   | 125,143              | 133,834              |
| Stockholders' Equity:   |                      |                      |



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|   |           |           |
|---|-----------|-----------|
| Preferred stock, \$0.01 par value: 20,000,000 shares authorized, no shares issued and outstanding at December 31, 2015 or 2014  | —         | —         |
| Common stock, \$0.01 par value: 325,000,000 shares authorized; 92,738,803 issued and 82,088,549 outstanding at December 31, 2015; 92,569,189 issued and 84,114,475 outstanding at December 31, 2014 |           | 926       |
| Additional paid-in-capital  | 123,577   | 110,112   |
| Retained earnings   | 603,597   | 472,005   |
| Treasury stock at cost – 10,650,254 shares at December 31, 2015 and 8,454,714 shares at December 31, 2014   | (467,632) | (332,287) |
| Accumulated other comprehensive loss  | (824)     | (689)     |
| Total Stockholders' Equity  | 259,645   | 250,067   |
| Total   | \$384,788 | \$383,901 |
| See notes to consolidated financial statements  |           |           |

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CBOE Holdings, Inc. and Subsidiaries  
 Consolidated Statements of Income  
 Years Ended December 31, 2015, 2014 and 2013

| (in thousands, except per share amounts)                           | Year Ended<br>December 31,<br>2015 | Year Ended<br>December 31,<br>2014 | Year Ended<br>December 31,<br>2013 |
|--|------------------------------------|------------------------------------|------------------------------------|
| <b>Operating Revenues:</b>   |                                    |                                    |                                    |
| Transaction fees   | \$456,016                          | \$437,764                          | \$397,218                          |
| Access fees  | 53,295                             | 59,332                             | 61,022                             |
| Exchange services and other fees                                   | 42,209                             | 38,042                             | 37,250                             |
| Market data fees   | 30,034                             | 30,447                             | 24,911                             |
| Regulatory fees  | 33,489                             | 37,083                             | 36,631                             |
| Other revenue  | 19,502                             | 14,557                             | 15,018                             |
| <b>Total Operating Revenues</b>                                    | <b>634,545</b>                     | <b>617,225</b>                     | <b>572,050</b>                     |
| <b>Operating Expenses:</b>   |                                    |                                    |                                    |
| Compensation and benefits  | 105,925                            | 121,734                            | 118,083                            |
| Depreciation and amortization                                      | 46,274                             | 39,913                             | 34,488                             |
| Technology support services  | 20,662                             | 19,189                             | 17,898                             |
| Professional fees and outside services                             | 50,060                             | 31,976                             | 34,473                             |
| Royalty fees   | 70,574                             | 66,110                             | 56,576                             |
| Order routing  | 2,293                              | 4,080                              | 4,355                              |
| Travel and promotional expenses                                    | 8,982                              | 9,046                              | 9,806                              |
| Facilities costs   | 4,998                              | 5,721                              | 5,053                              |
| Other expenses   | 4,849                              | 5,655                              | 5,504                              |
| <b>Total Operating Expenses</b>                                    | <b>314,617</b>                     | <b>303,424</b>                     | <b>286,236</b>                     |
| <b>Operating Income</b>  | <b>319,928</b>                     | <b>313,801</b>                     | <b>285,814</b>                     |
| <b>Other Income/(Expense):</b>                                     |                                    |                                    |                                    |
| Investment income  | 3,692                              | 113                                | 63                                 |
| Net income/(loss) from investments                                 | 447                                | (4,217                             | ) (2,221                           |
| Interest and other borrowing costs                                 | (43                                | ) —                                | —                                  |
| <b>Total Other Income/(Expense)</b>                                | <b>4,096</b>                       | <b>(4,104</b>                      | <b>) (2,158</b>                    |
| <b>Income Before Income Taxes</b>                                  | <b>324,024</b>                     | <b>309,697</b>                     | <b>283,656</b>                     |
| Income tax provision   | 119,001                            | 119,983                            | 107,657                            |
| <b>Net Income</b>  | <b>205,023</b>                     | <b>189,714</b>                     | <b>175,999</b>                     |
| Net Income allocated to participating securities                   | (898                               | ) (1,322                           | ) (2,136                           |
| <b>Net Income Allocated to Common Stockholders</b>                 | <b>\$204,125</b>                   | <b>\$188,392</b>                   | <b>\$173,863</b>                   |
| <b>Net Income Per Share Allocated to Common Stockholders:</b>      |                                    |                                    |                                    |
| Basic  | \$2.46                             | \$2.21                             | \$1.99                             |
| Diluted  | 2.46                               | 2.21                               | 1.99                               |
| <b>Weighted average shares used in computing income per share:</b> |                                    |                                    |                                    |
| Basic  | 83,081                             | 85,406                             | 87,331                             |
| Diluted  | 83,081                             | 85,406                             | 87,331                             |

See notes to consolidated financial statements

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CBOE Holdings, Inc. and Subsidiaries  
 Consolidated Statements of Comprehensive Income  
 Years Ended December 31, 2015, 2014 and 2013

| (in thousands)   | Year Ended<br>December 31,<br>2015 | Year Ended<br>December 31,<br>2014 | Year Ended<br>December 31,<br>2013 |
|--|------------------------------------|------------------------------------|------------------------------------|
| Net Income   | \$205,023                          | \$189,714                          | \$175,999                          |
| Comprehensive Income (Loss) - net of tax:                  |                                    |                                    |                                    |
| Post retirement benefit obligation                         | (135                               | ) 361                              | (157 )                             |
| Comprehensive Income                                       | 204,888                            | 190,075                            | 175,842                            |
| Comprehensive Income allocated to participating securities | (898                               | ) (1,322                           | ) (2,136 )                         |
| Comprehensive Income allocated to common stockholders      | \$203,990                          | \$188,753                          | \$173,706                          |

See notes to consolidated financial statements

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CBOE Holdings, Inc. and Subsidiaries  
Consolidated Statements of Cash Flows  
Years Ended December 31, 2015, 2014 and 2013

| (in thousands)   | Year Ended<br>December 31,<br>2015 | Year Ended<br>December 31,<br>2014 | Year Ended<br>December 31,<br>2013 |
|--|------------------------------------|------------------------------------|------------------------------------|
| Cash Flows from Operating Activities:  |                                    |                                    |                                    |
| Net Income   | \$205,023                          | \$189,714                          | \$175,999                          |
| Adjustments to reconcile net income to net cash flows from operating activities: |                                    |                                    |                                    |
| Depreciation and amortization  | 46,274                             | 39,913                             | 34,488                             |
| Other amortization   | 81                                 | 87                                 | 114                                |
| Provision for deferred income taxes  | (8,282)                            | (290)                              | (7,145)                            |
| Stock-based compensation   | 12,181                             | 15,577                             | 20,823                             |
| Equity (gain)/loss in investments  | (811)                              | 1,217                              | 1,976                              |
| Impairment of investment and other assets  | 118                                | 3,000                              | 245                                |
| Loss on disposition of property  | 617                                | 662                                | 3                                  |
| Changes in assets and liabilities:   |                                    |                                    |                                    |
| Accounts receivable  | (4,847)                            | (8,498)                            | (4,222)                            |
| Marketing fee receivable   | 5,015                              | (1,828)                            | (3,653)                            |
| Income taxes receivable  | (6,398)                            | 536                                | (10,321)                           |
| Prepaid expenses   | (500)                              | (615)                              | 139                                |
| Other current assets   | 799                                | 1,745                              | (2,151)                            |
| Accounts payable and accrued expenses  | 1,550                              | 5,888                              | 5,516                              |
| Marketing fee payable  | (5,095)                            | 1,794                              | 3,634                              |
| Income tax payable   | (141)                              | 1,774                              | —                                  |
| Deferred revenue and other liabilities   | 717                                | 1,229                              | (75)                               |
| Post-retirement benefit obligations  | (19)                               | (28)                               | (36)                               |
| Income tax liability   | (1,004)                            | 10,780                             | 9,046                              |
| Net Cash Flows Provided by Operating Activities                                  | 245,278                            | 262,657                            | 224,380                            |
| Cash Flows from Investing Activities:  |                                    |                                    |                                    |
| Capital and other assets expenditures  | (39,340)                           | (50,154)                           | (28,673)                           |
| Acquisition of a business  | (2,960)                            | —                                  | —                                  |
| Investments  | (35,386)                           | (1,987)                            | (1,920)                            |
| Investment in IPXI Holdings, LLC   | —                                  | —                                  | (612)                              |
| Other  | (1,735)                            | 3                                  | 8                                  |
| Net Cash Flows Used in Investing Activities                                      | (79,421)                           | (52,138)                           | (31,197)                           |
| Cash Flows from Financing Activities:  |                                    |                                    |                                    |
| Payment of quarterly dividends   | (73,431)                           | (66,999)                           | (58,369)                           |
| Payment of special dividend  | —                                  | (43,831)                           | —                                  |
| Excess tax benefit from stock-based compensation                                 | 1,285                              | 3,557                              | 2,356                              |
| Purchase of common stock from employees  | (3,178)                            | (8,332)                            | (6,136)                            |
| Payment of outstanding debt in conjunction with acquisition of a business        | (4,040)                            | —                                  | —                                  |
| Purchase of common stock under announced program                                 | (132,167)                          | (168,328)                          | (45,290)                           |
| Net Cash Flows Used in Financing Activities                                      | (211,531)                          | (283,933)                          | (107,439)                          |
| Net Increase/(Decrease) in Cash and Cash Equivalents                             | (45,674)                           | (73,414)                           | 85,744                             |
| Cash and Cash Equivalents at Beginning of Period                                 | 147,927                            | 221,341                            | 135,597                            |
| Cash and Cash Equivalents at End of Period                                       | \$102,253                          | \$147,927                          | \$221,341                          |

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Supplemental Disclosure of Cash Flow Information

|  |           |           |           |
|--|-----------|-----------|-----------|
| Cash paid for income taxes                         | \$133,460 | \$103,976 | \$113,741 |
| Non-cash activities:                               |           |           |           |
| Change in post-retirement benefit obligation       | 220       | (583      | ) 255     |
| Unpaid liability - dividends payable               | —         | —         | 43,831    |
| Unpaid liability to acquire equipment and software | 2,756     | 2,769     | 3,048     |
| Contingent consideration - current                 | 2,000     | —         | —         |
| Contingent consideration - long-term               | 1,379     | —         | —         |

See notes to consolidated financial statements

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CBOE Holdings, Inc. and Subsidiaries  
 Consolidated Statements of Stockholders' Equity  
 Years Ended December 31, 2015, 2014 and 2013

| (in thousands)  | Preferred Stock | Common Stock | Additional Paid-In Capital | Retained Earnings | Treasury Stock | Accumulated Other Comprehensive Loss | Total Stockholders' Equity |
|---|-----------------|--------------|----------------------------|-------------------|----------------|--------------------------------------|----------------------------|
| Balance—January 1, 2013   | \$—             | \$913        | \$67,812                   | \$275,491         | \$(104,201)    | \$ (893 )                            | \$ 239,122                 |
| Cash dividends on common stock  |                 |              |                            | (102,200 )        |                |                                      | (102,200 )                 |
| Stock-based compensation  |                 |              | 20,823                     |                   |                |                                      | 20,823                     |
| Issuance of vested restricted stock granted to employees                  |                 | 6            | (6 )                       |                   |                |                                      | —                          |
| Excess tax benefits from stock-based compensation plan                    |                 |              | 2,356                      |                   |                |                                      | 2,356                      |
| Purchase of common stock  |                 |              |                            |                   | (51,426 )      |                                      | (51,426 )                  |
| Net income  |                 |              |                            | 175,999           |                |                                      | 175,999                    |
| Post-retirement benefit obligation adjustment—net of tax benefit of \$99  |                 |              |                            |                   |                | (157 )                               | (157 )                     |
| Balance-December 31, 2013   | —               | 919          | 90,985                     | 349,290           | (155,627 )     | (1,050 )                             | 284,517                    |
| Cash dividends on common stock  |                 |              |                            | (66,999 )         |                |                                      | (66,999 )                  |
| Stock-based compensation  |                 |              | 15,577                     |                   |                |                                      | 15,577                     |
| Issuance of vested restricted stock granted to employees                  |                 | 7            | (7 )                       |                   |                |                                      | —                          |
| Excess tax benefits from stock-based compensation plan                    |                 |              | 3,557                      |                   |                |                                      | 3,557                      |
| Purchase of common stock  |                 |              |                            |                   | (176,660 )     |                                      | (176,660 )                 |
| Net income  |                 |              |                            | 189,714           |                |                                      | 189,714                    |
| Post-retirement benefit obligation adjustment—net of tax expense of \$222 |                 |              |                            |                   |                | 361                                  | 361                        |
| Balance-December 31, 2014   | —               | 926          | 110,112                    | 472,005           | (332,287 )     | (689 )                               | 250,067                    |
| Cash dividends on common stock  |                 |              |                            | (73,431 )         |                |                                      | (73,431 )                  |
| Stock-based compensation  |                 |              | 12,181                     |                   |                |                                      | 12,181                     |
| Issuance of vested restricted stock granted to employees                  |                 | 1            | (1 )                       |                   |                |                                      | —                          |
| Excess tax benefits from stock-based compensation plan                    |                 |              | 1,285                      |                   |                |                                      | 1,285                      |
| Purchase of common stock  |                 |              |                            |                   | (135,345 )     |                                      | (135,345 )                 |
| Net income  |                 |              |                            | 205,023           |                |                                      | 205,023                    |
| Post-retirement benefit obligation adjustment—net of tax benefit of \$86  |                 |              |                            |                   |                | (135 )                               | (135 )                     |
| Balance-December 31, 2015   | \$—             | \$927        | \$123,577                  | \$603,597         | \$(467,632)    | \$ (824 )                            | \$ 259,645                 |

See notes to consolidated financial statements.

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CBOE HOLDINGS, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

For the years ended December 31, 2015, 2014 and 2013

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Nature of Business—CBOE Holdings, Inc. ("CBOE Holdings" or the "Company") is the holding company of registered securities exchanges, subject to oversight by the Securities and Exchange Commission ("SEC"), and a designated contract market under the jurisdiction of the Commodity Futures Trading Commission ("CFTC"). The Company's principal business is operating markets that offer for trading exclusive options on various market indexes (index options) and futures contracts, as well as on non-exclusive "multiply-listed" options, such as options on the stocks of individual corporations (equity options) and options on other exchange-traded products (ETP options), such as exchange-traded funds (ETF options) and exchange-traded notes (ETN options), and certain other index options.

Basis of Presentation—The consolidated financial statements include the accounts and results of operations of CBOE Holdings and its wholly-owned subsidiaries, including: Chicago Board Options Exchange, Incorporated ("CBOE"), CBOE Futures Exchange, LLC ("CFE"), C2 Options Exchange, Incorporated ("C2"), Market Data Express, LLC and Chicago Options Exchange Building Corporation. Inter-company balances and transactions have been eliminated in consolidation. The Company reports the results of its operations in one reporting segment.

Effective January 1, 2015, we updated certain line item descriptions on our Consolidated Statement of Income. The table below highlights the changes:

| Prior description         | Current description                    |
|---------------------------|--|
| Employee costs            | Compensation and benefits              |
| Data processing           | Technology support services            |
| Outside services          | Professional fees and outside services |
| Trading volume incentives | Order routing                          |

Fixed Asset Retirements

In the third quarter of 2015, we completed a review of fixed assets, which resulted in the retirement of furniture and equipment and data processing software that were no longer in use and had a net book value of zero. The retired furniture and equipment and data processing software had a gross cost and accumulated depreciation of \$144.3 million and \$19.5 million, respectively.

Common Stock

As of December 16, 2015, we amended and restated our Amended and Restated Certificate of Incorporation to, among other items, change the name of our unrestricted common stock to common stock and remove obsolete provisions related to the designations, rights and preferences of Class A-1 and Class A-2 common stock.

With the exception of the line item descriptions, fixed asset retirements and common stock, there have been no other material changes in the manner or basis for presenting the items.

Use of Estimates—The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States ("GAAP") requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosures of contingent assets and liabilities and reported amounts of revenues and expenses. On an ongoing basis, management evaluates its estimates based upon historical experience, observance of trends, information available from outside sources and various other assumptions that are believed to be reasonable under the circumstances. Actual results may differ from these estimates under different conditions or assumptions.

Cash and Cash Equivalents—Cash and cash equivalents include highly liquid investments with maturities of three months or less from the date of purchase. The Company places its cash and cash equivalents with highly-rated financial institutions, limits the amount of credit exposure with any one financial institution and conducts ongoing evaluations of the



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CBOE HOLDINGS, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

For the years ended December 31, 2015, 2014 and 2013

creditworthiness of the financial institutions with which it does business; therefore concentrations of credit risk are limited. There are no redemption restrictions on the Company's invested cash balances.

Accounts Receivable—Accounts receivable consists primarily of transaction and regulatory fees from The Options Clearing Corporation ("OCC") and the Company's share of distributable revenue receivable from Options Price Reporting Authority ("OPRA"). Accounts receivable are primarily collected through OCC, and are with large, highly-rated clearing firms; therefore concentrations of credit risk are limited. The Company has no financing-related receivables.

Prepaid Expenses—Prepaid expenses primarily consist of prepaid software maintenance and licensing expenses which are amortized over the respective periods.

Investments - Cost and Equity Method—We use the cost method to account for a non-marketable equity investment in an entity that we do not control and for which we do not have the ability to exercise significant influence over an entity's operating and financial policies. When we do not have a controlling financial interest in an entity but exercise significant influence over the entity's operating and financial policies, such investment is accounted for using the equity method. We recognize dividend income when declared.

Investments are periodically reviewed to determine whether any events or changes in circumstances indicate that the investments may be other than temporarily impaired. In the event of impairment, the Company would recognize a loss for the difference between the carrying amount and the estimated fair value of the investment.

Property and Equipment—Property and equipment are carried at cost, net of accumulated depreciation. Depreciation is calculated using the straight-line method, generally over five to forty years. Leasehold improvements are amortized over the lesser of their estimated useful lives or the remaining term of the applicable leases.

Property and Equipment—Construction in progress is capitalized and carried at cost. Upon completion, the projects are placed in service and amortized over the appropriate useful lives, using the straight-line method commencing with the date the asset is placed in service.

Software Development Work in Progress and Data Processing Software and Other Assets—The Company expenses software development costs as incurred during the preliminary project stage, while capitalizing costs incurred during the application development stage, which includes design, coding, installation and testing activities. Estimated useful lives are generally three to ten years for internally developed and other data processing software and generally are five years or less for other assets.

Goodwill and Intangible Assets—Goodwill represents the excess of the purchase price of our acquisitions over the fair value of identifiable net assets acquired, including other identified intangible assets (See Note 3). We recognize specifically identifiable intangibles when a specific right or contract is acquired. Goodwill has been allocated to specific reporting units for purposes of impairment testing. The reporting unit identified for our goodwill testing is exchange services and other fees. Goodwill impairment testing is performed annually in the fiscal fourth quarter or more frequently if conditions exist that indicate that the asset may be impaired.

We also evaluate intangible assets for impairment annually in the fiscal fourth quarter or more frequently if conditions exist that indicate that the asset may be impaired. Such evaluation includes determining the fair value of the asset and comparing the fair value of the asset with its carrying value. If the fair value of the indefinite-lived intangible asset is less than its carrying value, an impairment loss is recognized in an amount equal to the difference.

For both goodwill and indefinite-lived impairment testing, we have the option to first perform a qualitative assessment to determine whether it is more likely than not that the fair value of a reporting unit or indefinite-lived intangible asset is less than its carrying amount. If we conclude that this is the case, we must perform additional testing of the asset or reporting unit. Otherwise, no further testing is necessary.

As of December 31, 2015, we did not identify any factors that would result in an impairment charge related to goodwill or intangible assets.

Employee Benefit Plans—The funded status of a post retirement benefit plan is recognized in the Consolidated Balance Sheet and changes in that funded status are recognized in the year of change in other comprehensive income (loss).

Plan assets and obligations are measured at year end. The Company recognizes changes in actuarial gains and losses and prior service costs in the year in which the changes occur through accumulated other comprehensive loss.

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CBOE HOLDINGS, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

For the years ended December 31, 2015, 2014 and 2013

**Commitments and Contingencies—Litigation—**The Company accrues loss contingencies when the loss is both probable and estimable. All legal costs incurred in connection with loss contingencies are expensed as service is provided.

**Revenue Recognition—**Revenue recognition policies for specific sources of revenue are discussed below:

**Transaction Fees:** Transaction fees are a function of three variables: (1) exchange fee rates; (2) trading volume; and (3) transaction mix between contract type. Transaction fees are assessed on a per contract basis and are considered earned upon the execution of a trade and are recognized on a trade date basis. Transaction fees are presented net of applicable volume discounts. In the event liquidity providers prepay for transaction fees, revenue is recognized based on the attainment of volume thresholds resulting in the amortization of the prepayment over the calendar year.

**Access Fees:** Access fees represent fees assessed to Trading Permit Holders for the opportunity to trade and use other related functions of CBOE, C2 and CFE. Access fees are recognized during the period the service is provided.

**Exchange Services and Other Fees:** Exchange services and other fees include system services, trading floor charges and application revenue. Exchange services and other fees are recognized during the period the service is provided.

**Market Data Fees:** Market data fees include OPRA income and fees generated from the Company's market data services. OPRA is a limited liability company consisting of representatives of the member exchanges and is authorized by the SEC to provide consolidated options information. The Company's market data services are provided through CBOE Streaming Markets ("CSM") and other services. OPRA income is allocated based upon the individual exchange's relative volume of total cleared options transactions. The Company receives monthly estimates of OPRA's distributable revenue (See Note 5) and income is distributed on a quarterly basis. Company market data fees represent charges for current and historical options and futures data provided directly by the Company. Market data services are recognized in the period the data is provided.

**Regulatory Fees:** Regulatory fees are primarily based on the number of customer contracts traded on all U.S. options exchanges by Trading Permit Holders and are primarily recognized on a trade-date basis. Under the rules of each of our options exchanges, as required by the SEC, any revenue derived from regulatory fees and fines cannot be used for non-regulatory purposes.

**Concentration of Revenue:** All contracts traded on our exchanges must be cleared through clearing members of OCC. At December 31, 2015, there were one hundred thirteen Trading Permit Holders that are clearing members of OCC. Two clearing members accounted for 45% of transaction and other fees collected through OCC in 2015. The next largest clearing member accounted for approximately 12% of transaction and other fees collected through the OCC. No one Trading Permit Holder using the clearing services of the top two clearing member firms represented more than 27% of transaction and other fees collected through OCC, for the respective clearing member, in 2015. Should a clearing member withdraw from CBOE, we believe the Trading Permit Holder portion of that clearing member's trading activity would likely transfer to another clearing member.

The two largest clearing members mentioned above clear the majority of the market-maker sides of transactions at CBOE, C2 and at all of the U.S. options exchanges. If either of these clearing members were to withdraw from the business of market-maker clearing and market-makers were unable to transfer to another clearing member, this could create significant disruption to the U.S. options markets, including ours.

**Advertising Costs—**Advertising costs, including print advertising and production costs, product promotion campaigns and seminar, conference convention costs related to trade shows and other industry events and, in prior years, sponsorships with local professional sports organizations, are expensed as incurred or amortized over the respective period. The Company incurred advertising costs of \$4.7 million, \$4.3 million and \$5.4 million for the years ended December 31, 2015, 2014 and 2013, respectively. Advertising costs are included in travel and promotional expenses in the consolidated statements of income.

**Stock-Based Compensation—**Stock-based compensation is based on the fair value of the award on the grant date and recognized over the related service period, net of estimated forfeitures. For performance based units, we use the Monte Carlo valuation model method to estimate the fair value of the award.

Income Taxes—Deferred income taxes arise from temporary differences between the tax basis and book basis of assets and liabilities. A valuation allowance is recognized if it is anticipated that some or all of a deferred tax asset may not be realized.

The Company accounts for uncertainty in income taxes recognized in its consolidated financial statements by using a more-likely-than-not recognition threshold based solely on the technical merits of the position taken or expected to be taken.

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CBOE HOLDINGS, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

For the years ended December 31, 2015, 2014 and 2013

Interest and penalties are recorded within the provision for income taxes in the Company's consolidated statements of income and are classified on the consolidated balance sheets with the related liability for unrecognized tax benefits. See Note 10 for further discussion of the Company's income taxes.

Recent Accounting Pronouncements—In May 2014, the FASB issued ASU 2014-09, Revenue from Contracts with Customers. This standard outlines a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and supersedes most current revenue recognition guidance, including industry-specific guidance. In addition, the ASU provides guidance on accounting for certain revenue-related costs including when to capitalize costs associated with obtaining and fulfilling a contract. ASU 2014-09 provides companies with two implementation methods. Companies can choose to apply the standard retrospectively to each prior reporting period presented (full retrospective application) or retrospectively with the cumulative effect of initially applying the standard as an adjustment to the opening balance of retained earnings of the annual reporting period that includes the date of initial application (modified retrospective application). This guidance is effective for annual reporting periods beginning after December 15, 2016, including interim periods within that reporting period. Early application is not permitted. The FASB deferred the effective date by one year to December 15, 2017 for annual reporting periods beginning after that date. Early adoption of the standard is permitted as of annual reporting periods beginning after December 15, 2016, including interim reporting periods within those annual periods. The Company is in the process of evaluating this guidance, though we do not expect it will materially impact our consolidated balance sheets, statements of income, comprehensive income or cash flows.

In September 2015, the FASB issued ASU-2015-16, Business Combinations. This standard simplifies the accounting for adjustments made to provisional amounts recognized in a business combination. First, it requires that the acquirer recognize adjustments to provisional amounts that are identified during the measurement period in the reporting period in which the adjustment amount is determined. The acquirer also should record, in the same period's financial statements, the effect on earnings of changes in depreciation, amortization, or other income effects, if any, as a result of the change to the provisional amounts, calculated as if the accounting had been completed at the acquisition date. The amendments should be applied prospectively to adjustments to provisional amounts that are identified after December 15, 2015 and that are within the measurement period. Upon transition, an entity would be required to disclose the nature of, and reason for, the change in accounting principle. An entity would provide that disclosure in the first annual period of adoption and in the interim periods within the first annual period. The Company is in the process of evaluating this guidance, though we do not expect it will materially impact our consolidated balance sheets, statements of income, comprehensive income or cash flows.

In November 2015, the FASB issued ASU-2015-17, Income Taxes- Balance Sheet Classification of Deferred Taxes. This standard affects only entities that present a classified statement of financial position. Deferred tax liabilities and assets will be classified as noncurrent in a classified statement of financial position and the current requirement that deferred tax liabilities and assets of a tax-paying component of an entity be offset and presented as a single amount remains the same. Notably, ASU No. 2015-17 aligns the presentation of deferred income tax assets and liabilities with International Accounting Standard 1, Presentation of Financial Statements, which requires deferred tax assets and liabilities to be classified as noncurrent in a classified statement of financial position. For public business entities, ASU No. 2015-17 is effective for annual periods, including interim periods within those annual periods, beginning after December 15, 2016. Earlier application is permitted for all entities as of the beginning of an interim or annual reporting period. For all other entities, ASU No. 2015-17 is effective for annual periods beginning after December 15, 2017, and interim periods in annual periods beginning after December 15, 2018. Entities are required to apply the proposed amendments prospectively to all deferred income tax liabilities and assets or retrospectively to all periods presented. We decided to early adopt this standard on a retrospective basis for the period ended December 31, 2015 and the adoption did not have a material effect on our consolidated balance sheet.

## 2. SHARE REPURCHASE PROGRAM

In 2011, the board of directors approved an initial authorization for the Company to repurchase shares of its outstanding common stock of \$100 million and approved additional authorizations of \$100 million in each of 2012, 2013, 2014 and 2015 for total authorizations of \$500 million. The program permits the Company to purchase shares through a variety of methods, including in the open market or through privately negotiated transactions, in accordance with applicable securities laws. It does not obligate the Company to make any repurchases at any specific time or situation.

Under the program, for the twelve months ended December 31, 2015, the Company purchased 2,144,545 shares of common stock at an average cost per share of \$61.63 totaling \$132.2 million.

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## CBOE HOLDINGS, INC. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

For the years ended December 31, 2015, 2014 and 2013

Since inception of the program through December 31, 2015, the Company has purchased 9,999,615 shares of common stock at an average cost per share of \$44.25 totaling \$442.5 million.

**3. ACQUISITION - GOODWILL AND INTANGIBLE ASSETS**

On August 7, 2015, the Company acquired the market data services and trading analytics platforms of Livevol, Inc. ("Livevol"), which included Livevol Core, Livevol Pro and Livevol X trading analytics platforms, as well as Livevol Enterprise and other market data solutions products. The purchase price consisted of \$7.0 million cash, including \$4.0 million paid to existing Livevol debt holders and \$3.0 million to Livevol owners, upon closing plus contingent consideration based on achievement of certain performance targets, measured at nine and eighteen months from the acquisition date of August 7, 2015. The purchase price was allocated on a preliminary basis, subject to final allocation, to the assets acquired based on their fair values at the acquisition date. The acquisition included tangible and intangible assets totaling \$0.1 million and \$2.6 million, respectively. The tangible assets primarily reflect computer hardware and intangible assets include: customer relationships, trade names, existing technology, non-compete agreements and a leasehold right.

In addition to the assets, goodwill totaling \$7.7 million was recorded in connection with the acquisition. Goodwill was calculated as the excess of the consideration transferred over the net assets recognized and represents potential future economic benefits arising from other assets acquired that could not be individually identified and separately recognized. The goodwill is expected to be fully deductible for tax purposes.

The company recorded contingent consideration of \$3.3 million, which is based on management's estimate of the performance target achievement by Livevol. If Livevol were to exceed management's estimates it could result in an additional payment in excess of the recorded contingent consideration.

**Intangible Assets**

Intangible assets totaling \$2.6 million were recorded in connection with the acquisition of Livevol. The intangible assets include: customer relationships, trade names, existing technology, non-compete agreements and leasehold rights. Intangible assets and related accumulated amortization consisted of the following as of December 31, 2015 (in thousands):

|                               | As of December 31, 2015 | Estimated Useful Lives |
|-------------------------------|-------------------------|------------------------|
| Customer relationships        | \$910                   | 13 years               |
| Trade names                   | 370                     | 10 years               |
| Technology                    | 1,130                   | 2-5 years              |
| Other                         | 150                     | 1-4 years              |
| Total                         | \$2,560                 |                        |
| Less accumulated amortization | 182                     |                        |
| Total intangibles, net        | \$2,378                 |                        |

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## CBOE HOLDINGS, INC. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

For the years ended December 31, 2015, 2014 and 2013

For the year ended December 31, 2015, amortization of intangible assets was \$0.2 million. The remaining weighted average useful lives of the intangible assets is 8.0 years as of December 31, 2015. The future amortization expense from the intangible assets as of December 31, 2015 is as follows (in thousands):

| Year  | Amortization expense |
|-------|----------------------|
| 2016  | \$434                |
| 2017  | 379                  |
| 2018  | 349                  |
| 2019  | 309                  |
| 2020  | 206                  |
| Total | \$1,677              |

## 4. INVESTMENTS

At December 31, 2015 and 2014, the Company's investments were comprised of the following (in thousands):

|   | 2015            | 2014            |
|---|-----------------|-----------------|
| <b>Equity Method</b>                      |                 |                 |
| Investment in Signal Trading Systems, LLC | \$12,185        | \$11,900        |
| Investment in CBOE Stock Exchange, LLC    | —               | —               |
| Total equity method investments           | 12,185          | 11,900          |
| <b>Cost Method</b>                        |                 |                 |
| Investment in OCC                         | 30,333          | 333             |
| Other cost method investments             | 5,912           | 118             |
| Total cost method investments             | 36,245          | 451             |
| <b>Total Investments</b>                  | <b>\$48,430</b> | <b>\$12,351</b> |

## Equity Method

The carrying amount of our equity method investments totaled \$12.2 million and \$11.9 million as of December 31, 2015 and 2014, respectively, and is included in Investments in our Consolidated Balance Sheet. Our equity method investments include our investments in Signal Trading Systems, LLC ("Signal") and CBOE Stock Exchange, LLC ("CBSX").

In May 2010, CBOE acquired a 50% interest in Signal from FlexTrade Systems, Inc. ("FlexTrade"). The joint venture develops and markets a multi-asset front-end order entry system, known as "Pulse," which has a particular emphasis on options trading. The Company assists in the development of the terminals and provides marketing services to the joint venture, which is accounted for under the equity method. We account for the investment in Signal under the equity method due to the substantive participating rights provided to the other limited liability company member, FlexTrade. In the twelve months ended December 31, 2015, the Company recorded contributions to Signal of \$1.9 million and equity earnings in Signal of \$0.8 million. Additionally, the Company received distributions from Signal of \$2.4 million which reduced the carrying value of our investment.

The Company currently holds a 49.96% equity interest in CBSX in return for non-cash property contributions. CBSX ceased trading operations on April 30, 2014. CBOE is responsible for the compliance and regulation of the CBSX marketplace. In addition, the Company has a services agreement under which it provides financial, accounting and technology support.





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## Cost method

The carrying amount of our cost method investments totaled \$36.2 million and \$0.5 million as of December 31, 2015 and 2014, respectively, and is included in Investments in our Consolidated Balance Sheet. We account for our cost-method investments primarily as a result of our inability to exercise significant influence over these investments. As of December 31, 2015, our cost method investments primarily reflect our 20% investment in OCC and minority investments in American Financial Exchange ("AFX") and IPXI Holdings, LLC ("IPXI").

In December 2014, OCC announced a newly-formed capital plan. The OCC capital plan was designed to strengthen OCC's capital base and facilitate its compliance with proposed SEC regulations for Systemically Important Financial Market Utilities ("SIFMUs") as well as international standards applicable to financial market infrastructures. On February 26, 2015, the SEC issued a notice of no objection to OCC's advance notice filing regarding the capital plan, and OCC and OCC's existing exchange stockholders, which include CBOE, subsequently executed agreements effecting the capital plan. Under the plan, each of OCC's existing exchange stockholders agreed to contribute its pro-rata share, based on ownership percentage, of \$150 million in equity capital, which would increase OCC's shareholders' equity, and to provide its pro rata share in replenishment capital, up to a maximum of \$40 million per exchange stockholder, if certain capital thresholds are breached. OCC also adopted policies under the plan with respect to fees, customer refunds, and stockholder dividends, which envision an annual dividend payment to the exchange stockholders equal to the portion of OCC's after-tax income that exceeds OCC's capital requirements after payment of refunds to OCC's clearing members (with such customer refunds generally to constitute 50% of the portion of OCC's pre-tax income that exceeds OCC's capital requirements). On March 3, 2015, in accordance with the plan, CBOE contributed \$30 million to OCC. On March 6, 2015, OCC informed CBOE that the SEC, acting through delegated authority, had approved OCC's proposed rule filing for the capital plan. The SEC approval order was stayed on March 13, 2015 automatically as a result of the initiation of petitions to review the order. On September 10, 2015, the SEC issued orders that discontinued the automatic stay of the approval order and granted the petitions for the SEC to review the approval order. On September 15, 2015, the petitioners filed motions to reinstitute the automatic stay. On February 11, 2016, based on a de novo review of the entire record, the SEC approved the proposed rule change implementing OCC's capital plan and dismissed the petitions for review and the petitioners' motions. CBOE's contribution has been recorded under Investments in the balance sheet at December 31, 2015. On December 17, 2015, OCC declared a dividend in accordance with the policies adopted under the new capital plan. The Company's portion of the dividend, payable following issuance of OCC's financial statements for 2015, is \$3.4 million and is recorded under Investment income in the Company's consolidated statement of income.

In September 2015, CBOE Holdings, through its subsidiary Loan Markets, LLC, acquired a minority interest in AFX, an electronic marketplace for small and mid-sized banks to lend and borrow short-term funds.

The Company, through DerivaTech Corporation, a wholly-owned subsidiary, held a minority interest in IPXI totaling \$3.1 million. In December 2014, the Company recorded an impairment charge of \$3.0 million. The impairment was the result of an additional investment in IPXI by an investor at a fair value significantly lower than our original investment. IPXI ceased operations on March 23, 2015, resulting in an impairment of our remaining investment balance.

**5. RELATED PARTIES**

The Company collected transaction and other fees of \$596.1 million, \$687.5 million and \$610.3 million in the years ended December 31, 2015, 2014 and 2013, respectively, by drawing on accounts of CBOE and C2 market participants held at OCC. The amounts collected by OCC for CBOE included \$95.7 million, \$121.4 million and \$99.7 million of marketing fees during the years ended December 31, 2015, 2014 and 2013, respectively. Additionally, the Company collected transaction and other fees of \$96.1 million, \$84.7 million and \$65.7 million in the years ended December 31, 2015, 2014 and 2013, respectively, by drawing on accounts of CFE market participants held at OCC. The Company had a receivable due from OCC of \$57.0 million and \$59.8 million at December 31, 2015 and 2014, respectively. OPRA is a limited liability company consisting of representatives of the member exchanges and is authorized by the SEC to provide consolidated options information. This information is provided by the exchanges and is sold to market

data vendors, outside news services and customers. OPRA's operating income is distributed among the exchanges based on their relative volume of total cleared options transactions. The Company's share of OPRA operating income was \$14.0 million, \$15.1 million and \$12.9 million during the years ended December 31, 2015, 2014 and 2013, respectively. The Company had a receivable from OPRA of \$3.7 million and \$4.2 million at December 31, 2015 and 2014, respectively.

The Company incurred re-billable expenses on behalf of CBSX for expenses such as compensation and benefits, computer equipment and software of \$0.1 million, \$2.4 million and \$4.6 million during the years ended December 31, 2015, 2014 and 2013, respectively. These amounts are included as a reduction of the underlying expenses. The Company had an

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immaterial receivable balance at December 31, 2015 and 2014 as a result of CBSX ceasing trading operations on April 30, 2014.

Options Regulatory Surveillance Authority ("ORSA") is responsible for conducting insider trading investigations related to options on behalf of all options exchanges. CBOE through December 2014 was the Regulatory Services Provider under a plan entered into by the options exchanges and approved by the SEC to administer ORSA. Effective January 1, 2015, the ORSA policy committee delegated the operation of the ORSA Plan facility to FINRA, and FINRA became the service provider under the Regulatory Services Agreement. During the year, the Company incurred re-billable expenses on behalf of ORSA for expenses such as compensation and benefits, occupancy and operating systems of \$0.3 million, \$2.7 million and \$2.3 million, during the years ended December 31, 2015, 2014 and 2013, respectively. These amounts were included as a reduction of the underlying expenses. The Company had a receivable due from ORSA of \$0.1 million and \$1.2 million at December 31, 2015 and 2014, respectively.

**6. ACCOUNTS PAYABLE AND ACCRUED LIABILITIES**

At December 31, 2015 and 2014, accounts payable and accrued liabilities consisted of the following (in thousands):

|  | 2015     | 2014     |
|--|----------|----------|
| Compensation and benefit related liabilities | \$23,304 | \$23,032 |
| Royalties                                    | 15,409   | 17,624   |
| Contract services (1)                        | 6,684    | 2,335    |
| Accounts payable                             | 1,762    | 2,779    |
| Purchase of common stock (2)                 | 1,778    | 1,159    |
| Facilities                                   | 2,099    | 1,942    |
| Legal  | 1,536    | 1,355    |
| Market linkage                               | 628      | 1,183    |
| Other  | 6,904    | 7,157    |
| Total  | \$60,104 | \$58,566 |

(1) Reflects costs primarily for certain regulatory functions and contract programming work related to projects that are in process. For comparability purposes, contract services balances previously reflected in Other as of December 31, 2014 have been included on this line.

(2) Reflects shares purchased at the end of the period that are not settled until three trading days after the trade occurs.

**7. MARKETING FEE**

The Company facilitates the collection and payment of marketing fees assessed on certain trades taking place at CBOE. Funds resulting from the marketing fees are made available to Designated Primary Market-Makers and Preferred Market-Makers as an economic inducement to route orders to CBOE. Pursuant to ASC 605-45, Revenue Recognition—Principal Agent Considerations, the Company reflects the assessments and payments on a net basis, with no impact on revenues or expenses.

As of December 31, 2015 and 2014, amounts assessed by the Company on behalf of others included in current assets totaled \$5.7 million and \$10.7 million, respectively, and payments due to others included in current liabilities totaled \$6.1 million and \$11.2 million, respectively.

**8. DEFERRED REVENUE**

The following tables summarize the activity in deferred revenue for the years ended December 31, 2015 and 2014 (in thousands):

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## CBOE HOLDINGS, INC. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

For the years ended December 31, 2015, 2014 and 2013

|                                      | Balance at<br>December 31,<br>2014 | Cash<br>Additions | Revenue<br>Recognition | Balance at<br>December 31,<br>2015 |
|--------------------------------------|------------------------------------|-------------------|------------------------|------------------------------------|
| Liquidity provider sliding scale (1) | \$—                                | \$ 14,400         | \$(14,400)             | ) \$—                              |
| Other, net                           | 1,988                              | 11,610            | (9,579)                | ) 4,019                            |
| Total deferred revenue               | \$ 1,988                           | \$ 26,010         | \$(23,979)             | ) \$ 4,019                         |
|                                      | Balance at<br>December 31,<br>2013 | Cash<br>Additions | Revenue<br>Recognition | Balance at<br>December 31,<br>2014 |
| Liquidity provider sliding scale (1) | —                                  | \$ 15,800         | \$(15,800)             | ) \$—                              |
| Other, net                           | 1,100                              | 11,429            | (10,541)               | ) 1,988                            |
| Total deferred revenue               | \$ 1,100                           | \$ 27,229         | \$(26,341)             | ) \$ 1,988                         |

(1) Liquidity providers are eligible to participate in the sliding scale program, which involves prepayment of transaction fees, and receive reduced fees based on the achievement of certain volume thresholds within a month. The prepayment of 2015 and 2014 transaction fees totaled \$14.4 million and \$15.8 million, respectively. These amounts were amortized and recorded ratably, as transaction fees over the respective twelve month periods.

**9. EMPLOYEE BENEFITS**

Employees are eligible to participate in the Chicago Board Options Exchange SMART Plan (“SMART Plan”). The SMART Plan is a defined contribution plan, which is qualified under Internal Revenue Code Section 401(k). In addition, eligible employees may participate in the Supplemental Employee Retirement Plan, Executive Retirement Plan and Deferred Compensation Plan. Each plan is a defined contribution plan that is non-qualified under Internal Revenue Code. The Company contributed \$4.7 million, \$6.0 million and \$5.6 million to the defined contribution plans for each of the years ended December 31, 2015, 2014 and 2013, respectively.

The Company has a post-retirement medical plan for certain former members of senior management. The Company recorded immaterial post-retirement benefits expense for the years ended December 31, 2015, 2014 and 2013, resulting from the amortization of service costs and actuarial expense included in accumulated other comprehensive loss at December 31, 2015, 2014 and 2013.

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## CBOE HOLDINGS, INC. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

For the years ended December 31, 2015, 2014 and 2013

## 10. INCOME TAXES

A reconciliation of the statutory federal income tax rate to the effective income tax rate for the years ended December 31, 2015, 2014 and 2013 is as follows:

|   | 2015 |   | 2014   |   | 2013   |   |
|---|------|---|--------|---|--------|---|
| Statutory federal income tax rate                       | 35.0 |   | % 35.0 |   | % 35.0 | % |
| State income tax rate, net of federal income tax effect | 4.4  |   | 3.5    |   | 3.6    |   |
| Section 199 deductions                                  | (1.9 | ) | (1.7   | ) | (2.1   | ) |
| Other, net  | (0.8 | ) | 1.9    |   | 1.5    |   |
| Effective income tax rate                               | 36.7 |   | % 38.7 |   | % 38.0 | % |

The components of income tax expense for the years ended December 31, 2015, 2014 and 2013 are as follows (in thousands):

|                | 2015       |   | 2014       |   | 2013       |   |
|----------------|------------|---|------------|---|------------|---|
| Current        |            |   |            |   |            |   |
| Federal        | \$ 103,344 |   | \$ 95,946  |   | \$ 93,844  |   |
| State          | 23,939     |   | 24,327     |   | 20,958     |   |
| Total current  | 127,283    |   | 120,273    |   | 114,802    |   |
| Deferred       |            |   |            |   |            |   |
| Federal        | (6,381     | ) | 1,955      |   | (4,636     | ) |
| State          | (1,901     | ) | (2,245     | ) | (2,509     | ) |
| Total deferred | (8,282     | ) | (290       | ) | (7,145     | ) |
| Total          | \$ 119,001 |   | \$ 119,983 |   | \$ 107,657 |   |

At December 31, 2015 and 2014, the net deferred income tax liability is as follows (in thousands):

|                                   | 2015      |   | 2014       |   |
|-----------------------------------|-----------|---|------------|---|
| Deferred tax assets               | \$ 33,564 |   | \$ 26,962  |   |
| Deferred tax liabilities          | (38,873   | ) | (40,639    | ) |
| Net deferred income tax liability | \$ (5,309 | ) | \$ (13,677 | ) |

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## CBOE HOLDINGS, INC. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

For the years ended December 31, 2015, 2014 and 2013

The tax effect of temporary differences giving rise to significant portions of deferred tax assets and liabilities at December 31, 2015 and 2014 are presented below (in thousands):

|   | 2015     | 2014        |
|---|----------|-------------|
| Deferred tax assets:                    |          |             |
| Intangibles                             | \$38     | \$44        |
| Accrued compensation and benefits       | 15,406   | 9,347       |
| Property, equipment and technology, net | 645      | 596         |
| Investment in affiliates                | 7,264    | 6,325       |
| Other                                   | 10,211   | 10,650      |
| Total deferred tax assets               | 33,564   | 26,962      |
| Deferred tax liabilities:               |          |             |
| Property, equipment and technology, net | (35,859  | ) (37,851   |
| Investment in affiliates                | (1,707   | ) (1,696    |
| Prepaid                                 | (1,303   | ) (1,080    |
| Other                                   | (4       | ) (12       |
| Total deferred tax liabilities          | (38,873  | ) (40,639   |
| Net deferred tax liabilities            | \$(5,309 | ) \$(13,677 |

The net deferred tax liabilities are classified as long-term liabilities in the Consolidated Balance Sheets at December 31, 2015 and 2014.

A reconciliation of the beginning and ending uncertain tax positions, excluding interest and penalties, is as follows (in thousands):

|  | 2015     | 2014     | 2013     |
|--|----------|----------|----------|
| Balance as of January 1                            | \$35,429 | \$26,745 | \$19,493 |
| Gross increases on tax positions in prior period   | 70       | 2,828    | 549      |
| Gross decreases on tax positions in prior period   | (4,245   | ) (1,053 | ) (18    |
| Gross increases on tax positions in current period | 1,891    | 8,113    | 7,270    |
| Lapse of statute of limitations                    | (1,242   | ) (1,204 | ) (549   |
| Balance as of December 31                          | \$31,903 | \$35,429 | \$26,745 |

As of December 31, 2015, 2014 and 2013, the Company had \$31.9 million, \$35.4 million and \$26.7 million, respectively, of uncertain tax positions excluding interest and penalties, which, if recognized in the future, would affect the annual effective income tax rate. Reductions to uncertain tax positions from the lapse of the applicable statutes of limitations during the next twelve months are estimated to be approximately \$12.1 million, not including any potential new additions.

Estimated interest costs and penalties are classified as part of the provision for income taxes in the Company's consolidated statements of income and were \$2.5 million, \$2.1 million and \$1.8 million for the periods ended December 31, 2015, 2014 and 2013, respectively. Accrued interest and penalties were \$7.7 million, \$5.3 million and \$3.2 million as of December 31, 2015, 2014 and 2013, respectively.

The Company is subject to U.S. federal tax, California, Illinois, New Jersey, and New York state taxes and Washington, D.C. taxes, as well as taxes in other local jurisdictions. The Company has open tax years from 2007 on for New York, 2008 on for Federal, 2010 on for New Jersey, 2011 on for Washington, D.C and 2013 on for Illinois. The Internal Revenue Service is currently auditing 2010 and is looking at specific line items from 2008 to 2013 due to the filing by the Company of amended returns containing the recognition of certain credits and deductions. The Illinois Department of Revenue has informed the Company it will be auditing the 2013 and 2014 tax years, the New York State Department of Taxation and Finance is currently auditing the 2007 through 2012 tax years and the New Jersey Division of Taxation is currently auditing the 2010 through 2012 tax years.





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## CBOE HOLDINGS, INC. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

For the years ended December 31, 2015, 2014 and 2013

## 11. FAIR VALUE MEASUREMENTS

Fair value is the price that would be received upon the sale of an asset or paid upon the transfer of a liability in an orderly transaction between market participants at the measurement date and in the principal or most advantageous market for that asset or liability. The fair value should be calculated based on assumptions that market participants would use in pricing the asset or liability, not on assumptions specific to the entity. In addition, the fair value of liabilities should include consideration of non-performance risk, including the Company's own credit risk.

The Company applied Financial Accounting Standards Board ("FASB") ASC 820, Fair Value Measurement and Disclosure, which provides guidance for using fair value to measure assets and liabilities by defining fair value and establishing the framework for measuring fair value. ASC 820 applies to financial and nonfinancial instruments that are measured and reported on a fair value basis. The three-level hierarchy of fair value measurements is based on whether the inputs to those measurements are observable or unobservable. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect the Company's market assumptions. The fair-value hierarchy requires the use of observable market data when available and consists of the following levels:

Level 1—Unadjusted inputs based on quoted markets for identical assets or liabilities.

- Level 2—Observable inputs, either direct or indirect, not including Level 1, corroborated by market data or based upon quoted prices in non-active markets.

Level 3—Unobservable inputs that reflect management's best assumptions of what market participants would use in valuing the asset or liability.

The Company has included a tabular disclosure for financial assets that are measured at fair value on a recurring basis in the consolidated balance sheet as of December 31, 2015 and 2014. The Company holds no financial liabilities that are measured at fair value on a recurring basis.

| (amounts in thousands)                          | Level 1  | Level 2 | Level 3 | Total    |
|---|----------|---------|---------|----------|
| Assets at fair value:                           |          |         |         |          |
| Money market funds                              | \$84,000 | —       | —       | \$84,000 |
| Total assets at fair value at December 31, 2015 | \$84,000 | \$—     | \$—     | \$84,000 |

| (amounts in thousands)                          | Level 1   | Level 2 | Level 3 | Total     |
|---|-----------|---------|---------|-----------|
| Assets at fair value:                           |           |         |         |           |
| Money market funds                              | \$135,000 | —       | —       | \$135,000 |
| Total assets at fair value at December 31, 2014 | \$135,000 | \$—     | \$—     | \$135,000 |

In September 2015, CBOE Holdings, through its subsidiary Loan Markets, LLC, acquired a minority interest in AFX. The investment, measured at fair value on a non-recurring basis, is classified as level 3 as the fair value was based on both observable and unobservable inputs.

The Company has recorded contingent consideration of \$3.3 million, categorized as level 3, which is based on management's estimate of the achievement by Livevol of certain performance targets at nine and eighteen months. If Livevol were to exceed management's estimates, it could result in an additional payment in excess of the recorded contingent consideration.



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CBOE HOLDINGS, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

For the years ended December 31, 2015, 2014 and 2013

12. COMMITMENTS AND CONTINGENCIES

As of December 31, 2015, the end of the period covered by this report, the Company was subject to the various legal proceedings and claims discussed below, as well as certain other legal proceedings and claims that have not been fully resolved and that have arisen in the ordinary course of business.

The Company reviews its legal proceedings and claims, regulatory reviews and inspections and other legal proceedings on an ongoing basis and follows appropriate accounting guidance when making accrual and disclosure decisions. The Company establishes accruals for those contingencies where the incurrence of a loss is probable and can be reasonably estimated, and we disclose the amount accrued and the amount of a reasonably possible loss in excess of the amount accrued, if such disclosure is necessary for our financial statements to not be misleading. The Company does not record liabilities when the likelihood that the liability has been incurred is probable, but the amount cannot be reasonably estimated, or when the liability is believed to be only reasonably possible or remote. The Company's assessment of whether a loss is reasonably possible or probable is based on its assessment of the ultimate outcome of the matter following all appeals.

As of December 31, 2015, the Company does not believe that there is a reasonable possibility that any material loss exceeding the amounts already recognized for these reviews, inspections or other legal proceedings, if any, has been incurred. While the consequences of certain unresolved proceedings are not presently determinable, the outcome of any litigation is inherently uncertain and an adverse outcome from certain matters could have a material effect on our earnings in any given reporting period. However, in the opinion of management, the ultimate liability is not expected to have a material effect on our financial position, liquidity or capital resources.

Patent Litigation

ISE -- QRM

On November 12, 2012, CBOE brought suit against International Securities Exchange, LLC ("ISE") in the United States District Court for the Northern District of Illinois alleging that ISE infringes three of its patents (United States Patent Nos. 7,356,498; 7,980,457; and 8,266,044 (the "QRM patents")) related to quote risk monitor ("QRM") technology. CBOE has requested injunctive relief and monetary damages. On February 20, 2013, the court ruled that the case be transferred to the United States District Court for the Southern District of New York. On October 31, 2013, the court stayed the litigation pending resolution of Covered Business Method ("CBM") Patent Reviews at the United States Patent and Trademark Office ("USPTO") that ISE had petitioned for. On March 4, 2014, the USPTO instituted CBM Patent Reviews on CBOE's three QRM patents. On May 22, 2014, the USPTO instituted Inter Parties Review ("IPR") Proceedings, which ISE had petitioned for, on some but not all claims of two of CBOE's QRM patents (United States Patent Nos. 7,356,498 and 7,980,457). On March 2, 2015, the USPTO ruled in the CBM proceedings, finding that the subject matter of the patents is not eligible for patent protection, and in the IPR proceedings, finding for CBOE that the claims were not invalidated by the asserted prior art. On April 30, 2015, ISE filed notice of its appeal of the IPR decisions, and on May 1, 2015, CBOE filed notice of its appeal of the CBM decisions. The appeals are being handled by the United States Court of Appeals for the Federal Circuit. Opening, response and reply briefs were filed September 18, 2015, November 2, 2015 and November 25, 2015, respectively, and briefing on the appeals has concluded. The United States Court of Appeals has set oral argument on the appeals for March 10, 2016.

Lanier Litigation

On May 23, 2014, Harold R. Lanier sued 14 securities exchanges, including CBOE, in the United States District Court for the Southern District of New York on behalf of himself and a putative class consisting of all persons in the United States who entered into contracts to receive market data through certain data plans at any time since May 19, 2008 to the present. The complaint alleged that the market data provided under the CQ Plan and CTA Plans was inferior to the data that the exchanges provided to those that directly receive other data from the exchanges, which the plaintiffs

alleged is a breach of their “subscriber contracts” and a violation of the exchanges’ obligations under the CQ and CTA Plans. The plaintiffs sought monetary and injunctive relief. On May 30, 2014, Mr. Lanier filed two additional suits in the same Court, alleging substantially the same claims and requesting the same types of relief against the exchanges who participate in the UTP and the OPRA data plans. CBOE was a defendant in each of these suits, while C2 was only a defendant in the suit regarding the OPRA Plan. On April 28, 2015, the Court dismissed Lanier’s complaint with prejudice because it was preempted by the federal regulatory scheme and because the claims were precluded by the terms of the applicable subscriber agreements. Mr. Lanier appealed the orders dismissing each of his three cases and, on September 2, 2015, he filed his opening appellate briefs in those cases. The

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## CBOE HOLDINGS, INC. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

For the years ended December 31, 2015, 2014 and 2013

defendants' response briefs were filed November 24, 2015 and briefing on the appeals has concluded. The appeals have been set for oral argument on March 3, 2016.

**Other**

As a self-regulatory organization under the jurisdiction of the SEC, with respect to CBOE and C2, and as a designated contract market under the jurisdiction of the CFTC, with respect to CFE, we are subject to routine reviews and inspections by the SEC and the CFTC.

We are also currently a party to various other legal proceedings in addition to those already mentioned. Management does not believe that the outcome of any of these other reviews, inspections or other legal proceedings will have a material impact on our consolidated financial position, results of operations or cash flows.

**Leases and Other Obligations**

The Company currently leases additional office space, a data center and remote network operations center, with lease terms remaining from 7 months to 115 months as of December 31, 2015. Total rent expense related to these lease obligations, reflected in technology support services and facilities costs line items on the Consolidated Statements of Income, for the years ended December 31, 2015, 2014 and 2013 were \$4.1 million, \$3.8 million and \$3.0 million, respectively. Future minimum payments for our operating leases, contractual obligations and other liabilities are as follows at December 31, 2015 (in thousands):

| Year  | Operating Leases | Contractual Obligations | Other Liabilities Total |           |
|-------|------------------|-------------------------|-------------------------|-----------|
| 2016  | \$3,210          | \$32,111                | \$2,000                 | \$37,321  |
| 2017  | 1,166            | 34,219                  | 1,379                   | 36,764    |
| 2018  | 541              | 31,070                  | —                       | 31,611    |
| 2019  | 208              | 31,084                  | —                       | 31,292    |
| 2020  | 201              | 22,848                  | —                       | 23,049    |
| Total | \$5,326          | \$151,332               | \$3,379                 | \$160,037 |

**13. STOCK-BASED COMPENSATION**

Stock-based compensation is based on the fair value of the award on the date of grant, which is recognized over the related service period, net of estimated forfeitures. The service period is the period over which the related service is performed, which is generally the same as the vesting period.

The board amended and restated the CBOE Holdings, Inc. Long Term Incentive Plan (the "LTIP"), effective upon receiving stockholder approval, which was received at the May 17, 2011 annual meeting of stockholders. The LTIP provides that an aggregate of 4,248,497 shares of the Company's common stock are reserved for issuance to participants under the LTIP.

The Compensation Committee of the Company's board of directors administers the LTIP and may designate any of the following as a participant under the LTIP: any officer or other employee of the Company or its affiliates or individuals engaged to become an officer or employee and non-employee directors of the Company. The LTIP permits the granting of non-qualified stock options, restricted stock, restricted stock units, incentive compensation awards or any combination of the foregoing. The Compensation Committee has the authority and complete discretion to prescribe, amend and rescind rules and regulations relating to the LTIP, select participants and to determine the form and terms of any awards.

On February 19, 2015, the Company granted 158,661 restricted stock units ("RSUs"), each of which entitles the holders to one share of common stock upon vesting, to certain officers and employees at a fair value of \$61.96 per share. The RSUs vest ratably over three years, with one-third vesting on each anniversary of the grant date, and vesting accelerates upon the occurrence of a change in control. Unvested RSUs will be forfeited if the officer or employee leaves the Company prior to the applicable vesting date, except in limited circumstances. The RSUs have no voting rights but entitle the holder to receive dividend equivalents.

In addition, on February 19, 2015, the Company granted 45,932 RSUs that are contingent on the achievement of performance conditions including 22,966 at a fair value of \$61.96 per RSU related to earnings per share during the performance

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## CBOE HOLDINGS, INC. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

For the years ended December 31, 2015, 2014 and 2013

period and 22,966 RSUs at a fair value of \$74.00 per RSU, related to total shareholder return during the performance period. The Company used the Monte Carlo valuation model method to estimate the fair value of the total shareholder return RSUs which incorporated the following assumptions: risk free interest rate (1.02%), three-year volatility (19.9%) and three-year correlation with S&P 500 Index (0.44). Each of these performance shares has a performance condition under which the number of units ultimately awarded will vary from 0% to 200% of the original grant, with each unit representing the contingent right to receive one share of our common stock. The vesting period for the RSUs contingent on the achievement of performance is three years. For each of the performance awards, the RSUs will be settled in shares of our common stock following vesting of the RSU assuming that the participant has been continuously employed during the vesting period, subject to acceleration in the event of a change in control of the Company or in the event of a participant's earlier death or disability. Participants shall have no voting rights with respect to RSUs until the issuance of the shares of stock. Dividends are accrued by the Company and will be paid once the RSUs contingent on the achievement of performance conditions vest.

On May 21, 2015, the Company granted 15,504 shares of restricted stock, at a fair value of \$58.06 per share, to the non-employee members of the board of directors. The shares have a one-year vesting period and vesting accelerates upon the occurrence of a change in control of the Company. Unvested portions of the restricted stock will be forfeited if the director leaves the company prior to the applicable vesting date.

For the years ended December 31, 2015, 2014 and 2013, the Company recognized \$12.2 million, \$15.6 million and \$20.8 million, respectively, of stock-based compensation expense related to restricted stock. For the twelve months ended December 31, 2014 and 2013, the Company recorded \$2.5 million and \$4.0 million, respectively, to recognize accelerated stock-based compensation. The accelerated stock-based compensation expense, in 2014, is primarily for certain executives due to provisions contained in their employment arrangements and, in 2013, departures from the board of directors.

The activity in the Company's restricted stock and restricted stock units for the year ended December 31, 2015 was as follows:

|  | Number of Shares<br>of Restricted<br>Stock | Weighted Average<br>Grant-Date Fair<br>Value |
|--|--|--|
| Unvested restricted stock at January 1, 2015   | 414,749                                    | \$46.44                                      |
| Granted  | 220,097                                    | 62.94  |
| Vested   | (170,099                                   | ) 42.41                                      |
| Forfeited                                      | (8,177                                     | ) 48.42                                      |
| Unvested restricted stock at December 31, 2015 | 456,570                                    | \$55.70                                      |

As of December 31, 2015, the Company had unrecognized stock-based compensation expense of \$13.7 million related to outstanding restricted stock and restricted stock units. The remaining unrecognized stock-based compensation is expected to be recognized over a weighted average period of 1.6 years. The Company is projecting a forfeiture rate of 2%. The total fair value of shares vested during the year ended December 31, 2015 was \$7.2 million.

**14. NET INCOME PER COMMON SHARE**

The computation of basic net income allocated to common stockholders is calculated by reducing net income for the period by dividends paid or declared and undistributed net income for the period that are allocated to participating securities to arrive at net income allocated to common stockholders. Net income allocated to common stockholders is divided by the weighted average number of common shares outstanding during the period to determine net income per share allocated to common stockholders.

The computation of diluted earnings per share is calculated by dividing net income allocated to common stockholders by the sum of the weighted average number of common shares outstanding plus all additional common shares that would have been outstanding if the potentially dilutive common shares had been issued. The dilutive effect is calculated using the more dilutive of the two-class or treasury stock method.





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## CBOE HOLDINGS, INC. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

For the years ended December 31, 2015, 2014 and 2013

The following table reconciles net income allocated to common stockholders and the number of shares used to calculate the basic and diluted net income per common share for the years ended December 31, 2015, 2014 and 2013: (in thousands, except per share amounts)

|  | 2015      | 2014      | 2013      |
|--|-----------|-----------|-----------|
| Basic EPS Numerator:   |           |           |           |
| Net Income   | \$205,023 | \$189,714 | \$175,999 |
| Less: Earnings allocated to participating securities         | (898)     | ) (1,322  | ) (2,136  |
| Net Income allocated to common stockholders                  | \$204,125 | \$188,392 | \$173,863 |
| Basic EPS Denominator:                                       |           |           |           |
| Weighted average shares outstanding                          | 83,081    | 85,406    | 87,331    |
| Basic net income per common share                            | \$2.46    | \$2.21    | \$1.99    |
| Diluted EPS Numerator:                                       |           |           |           |
| Net Income   | \$205,023 | \$189,714 | \$175,999 |
| Less: Earnings allocated to participating securities         | (898)     | ) (1,322  | ) (2,136  |
| Net Income allocated to common stockholders                  | \$204,125 | \$188,392 | \$173,863 |
| Diluted EPS Denominator:                                     |           |           |           |
| Weighted average shares outstanding                          | 83,081    | 85,406    | 87,331    |
| Dilutive common shares issued under restricted stock program | —         | —         | —         |
| Diluted net income per common share                          | \$2.46    | \$2.21    | \$1.99    |

For the periods presented, the Company did not have shares of restricted stock or restricted stock units that would have an anti-dilutive effect on the computation of diluted net income per common share.

## 15. QUARTERLY DATA (unaudited)

| Year ended December 31, 2015 (in thousands)         | First Quarter | Second Quarter | Third Quarter | Fourth Quarter | Year      |
|---|---------------|----------------|---------------|----------------|-----------|
| Operating revenues                                  | \$142,839     | \$148,725      | \$187,035     | \$155,946      | \$634,545 |
| Operating expenses                                  | 73,286        | 75,355         | 85,925        | 80,051         | 314,617   |
| Operating income                                    | 69,553        | 73,370         | 101,110       | 75,895         | 319,928   |
| Net income  | \$42,259      | \$44,845       | \$67,516      | \$50,403       | \$205,023 |
| Net income allocated to common stockholders         | \$42,079      | \$44,646       | \$67,219      | \$50,181       | \$204,125 |
| Diluted—net income per share to common stockholders | \$0.50        | \$0.54         | \$0.81        | \$0.61         | \$2.46    |
| Year ended December 31, 2014 (in thousands)         | First Quarter | Second Quarter | Third Quarter | Fourth Quarter | Year      |
| Operating revenues                                  | \$157,885     | \$143,942      | \$148,910     | \$166,488      | \$617,225 |
| Operating expenses                                  | 75,847        | 74,226         | 73,826        | 79,525         | 303,424   |
| Operating income                                    | 82,038        | 69,716         | 75,084        | 86,963         | 313,801   |
| Net income  | \$49,024      | \$42,981       | \$48,366      | \$49,342       | \$189,714 |
| Net income allocated to common stockholders         | \$48,528      | \$42,598       | \$48,146      | \$49,119       | \$188,392 |
| Diluted—net income per share to common stockholders | \$0.56        | \$0.50         | \$0.57        | \$0.58         | \$2.21    |

In the fourth quarter of 2015, the Company recognized \$2.0 million of revenue to adjust for incorrect coding of transactions by an exchange participant related to prior periods.



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CBOE HOLDINGS, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

For the years ended December 31, 2015, 2014 and 2013

- In the third quarter of 2015, the Company recorded a \$4.3 million tax benefit from the release of an uncertain tax provision related to research and development credits, which were effectively settled.

• In the fourth quarter of 2014, the Company recorded \$1.9 million in severance resulting from the outsourcing of certain regulatory services to FINRA.

• In the fourth quarter of 2014, the Company recorded a \$3.0 million impairment of the investment in IXPI.

• In the first quarter of 2014, the Company recorded accelerated stock-based compensation expense of \$2.5 million for certain executives due to provisions contained in their employment arrangements.

16. SUBSEQUENT EVENTS

On January 25, 2016, the Company announced it made a majority equity investment in Vest Financial Group Inc. ("Vest"), an investment advisor that provides options-centric products. As a result of the investment, Vest became a majority-owned subsidiary of CBOE.

On February 17, 2016, the Company's board of directors declared a quarterly cash dividend of \$0.23 per share. The dividend is payable on March 18, 2016 to stockholders of record at the close of business on March 4, 2016.

Additionally, our board of directors increased the share repurchase authorization by \$100 million.

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Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

Not applicable.

Item 9A. Controls and Procedures

(a) Evaluation of Disclosure Controls and Procedures

The Company's management, with the participation of its Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of the Company's disclosure controls and procedures (as defined in Rule 13a-15(e) and Rule 15d-15(e) under the Securities Exchange Act of 1934 (the "Exchange Act")) as of the end of the period covered by this report. Based upon that evaluation, the Company's Chief Executive Officer and Chief Financial Officer have concluded that, as of the end of such period, the Company's disclosure controls and procedures are effective.

b) Management's Annual Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control system has been designed to provide reasonable assurance to management and the board of directors regarding the preparation and fair presentation of published financial statements.

Management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2015. Management based its assessment on criteria for effective internal control over financial reporting described in Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Management's assessment included evaluating the design of our internal control over financial reporting and testing the operational effectiveness of our internal control over financial reporting. The results of its assessment were reviewed with the audit committee of the board of directors.

Based on this assessment, management believes that, as of December 31, 2015, our internal control over financial reporting is effective.

The effectiveness of our internal control over financial reporting as of December 31, 2015 has been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report on page 56. There were no changes in the Company's internal control over financial reporting that occurred during the three months ended December 31, 2015 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

Not applicable

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PART III

Item 10. Directors, Executive Officers and Corporate Governance

Information relating to our executive officers is included on pages 18 of this Annual Report on Form 10-K.

Information relating to our directors, including our audit committee and audit committee financial experts and the procedures by which stockholders can recommend director nominees, and our executive officers will be in our definitive Proxy Statement for our 2016 Annual Meeting of Stockholders planned to be held on May 19, 2016, which will be filed within 120 days of the end of our fiscal year ended December 31, 2015 ("2016 Proxy Statement") and is incorporated herein by reference.

Code of Ethics

We have adopted a Code of Business Conduct and Ethics that applies to our Chief Executive Officer, Chief Financial Officer and Chief Accounting Officer, as well as all other employees and directors. Our Code of Business Conduct and Ethics is available on our website at <http://ir.cboe.com/governance.cfm>. We will also provide a copy of the Code of Business Conduct and Ethics to stockholders at no charge upon written request.

Item 11. Executive Compensation

Information relating to our executive officer and director compensation and the compensation committee of our board of directors will be in the 2016 Proxy Statement and is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Information relating to security ownership of certain beneficial owners of our common stock and information relating to the security ownership of our management will be in the 2016 Proxy Statement and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence

Information regarding certain relationships and related transactions and director independence will be in the 2016 Proxy Statement and is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services

Information regarding principal accountant fees and services will be in the 2016 Proxy Statement and is incorporated herein by reference.

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PART IV

Item 15. Exhibits, Financial Statement Schedules

(a) Documents filed as part of this report

(1) Financial Statements

Our consolidated financial statements and the related reports of management and our independent registered public accounting firm which are required to be filed as part of this report are included in this Annual Report on Form 10-K beginning at page 54. These consolidated financial statements are as follows:

Consolidated Balance Sheets as of December 31, 2015 and 2014

Consolidated Statements of Income for the years ended December 31, 2015, 2014 and 2013

Consolidated Statements of Comprehensive Income for the years ended December 31, 2015, 2014 and 2013

Consolidated Statements of Cash Flows for the years ended December 31, 2015, 2014 and 2013

Consolidated Statements of Stockholders' Equity for the years ended December 31, 2015, 2014 and 2013

Notes to Consolidated Financial Statements

(2) Financial Statement Schedules

The Company has not included any financial statement schedules because they are not applicable or the required information is included in the consolidated financial statements or notes thereto.

(3) List of Exhibits

See (b) Exhibits below

(b) Exhibits

Exhibit

| No.  | Description of Exhibit  |
|------|---|
| 3.1  | Second Amended and Restated Certificate of Incorporation of CBOE Holdings, Inc. (filed herewith).   |
| 3.2  | Third Amended and Restated Bylaws of CBOE Holdings, Inc., incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K (File No. 001-34774) filed on November 25, 2015.   |
| 10.1 | Restated License Agreement, dated November 1, 1994, by and between Standard & Poor's Financial Services LLC (as successor-in-interest to Standard & Poor's, a division of McGraw-Hill, Inc.) and the Chicago Board Options Exchange, Incorporated (the "S&P License Agreement"), incorporated by reference to Exhibit 10.1 to Amendment No. 6 to the Company's Registration Statement on Form S-4 (File No. 333-140574) filed on April 12, 2010.+<br>Amendment No. 1 to the S&P License Agreement, dated January 15, 1995, incorporated by reference to Exhibit 10.2 to Amendment No. 6 to the Company's Registration Statement on Form S-4 (File No. 333-140574) filed on April 12, 2010.+ |
| 10.2 | Amendment No. 2 to the S&P License Agreement, dated April 1, 1998, incorporated by reference to Exhibit 10.3 to Amendment No. 6 to the Company's Registration Statement on Form S-4 (File No. 333-140574) filed on April 12, 2010.+   |
| 10.3 | Amendment No. 3 to the S&P License Agreement, dated July 28, 2000, incorporated by reference to Exhibit 10.4 to Amendment No. 6 to the Company's Registration Statement on Form S-4 (File No. 333-140574) filed on April 12, 2010.+   |
| 10.4 | Amendment No. 4 to the S&P License Agreement, dated October 27, 2000, incorporated by reference to Exhibit 10.5 to Amendment No. 6 to the Company's Registration Statement on Form S-4 (File No. 333-140574) filed on April 12, 2010.+  |
| 10.5 |   |

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| Exhibit No. | Description of Exhibit  |
|-------------|---|
| 10.6        | Amendment No. 5 to the S&P License Agreement, dated March 1, 2003, incorporated by reference to Exhibit 10.6 to Amendment No. 6 to the Company's Registration Statement on Form S-4 (File No. 333-140574) filed on April 12, 2010.+   |
| 10.7        | Amended and Restated Amendment No. 6 to the S&P License Agreement, dated February 24, 2009, incorporated by reference to Exhibit 10.7 to Amendment No. 6 to the Company's Registration Statement on Form S-4 (File No. 333-140574) filed on April 12, 2010.+  |
| 10.8        | Amended and Restated Amendment No. 7 to the S&P License Agreement, dated February 24, 2009, incorporated by reference to Exhibit 10.8 to Amendment No. 6 to the Company's Registration Statement on Form S-4 (File No. 333-140574) filed on April 12, 2010.+  |
| 10.9        | Amendment No. 8 to the S&P License Agreement, dated January 9, 2005, incorporated by reference to Exhibit 10.9 to Amendment No. 6 to the Company's Registration Statement on Form S-4 (File No. 333-140574) filed on April 12, 2010.+   |
| 10.10       | Amendment No. 10 to the S&P License Agreement, dated June 19, 2009, incorporated by reference to Exhibit 10.10 to Amendment No. 6 to the Company's Registration Statement on Form S-4 (File No. 333-140574) filed on April 12, 2010.+   |
| 10.11       | Amendment No. 11 to the S&P License Agreement, dated as of April 29, 2010, incorporated by reference to Exhibit 10 to the Company's Current Report on Form 8-K (File No. 001-34774) filed on May 11, 2010.+   |
| 10.12       | Chicago Board Options Exchange, Incorporated Executive Retirement Plan, incorporated by reference to Exhibit 10.13 to Amendment No. 4 to the Company's Registration Statement on Form S-4 (File No. 333-140574) filed on August 14, 2009.*  |
| 10.13       | Chicago Board Options Exchange, Incorporated Supplemental Retirement Plan, incorporated by reference to Exhibit 10.14 to Amendment No. 4 to the Company's Registration Statement on Form S-4 (File No. 333-140574) filed on August 14, 2009.*   |
| 10.14       | Chicago Board Options Exchange, Incorporated Deferred Compensation Plan for Officers, incorporated by reference to Exhibit 10.15 to Amendment No. 4 to the Company's Registration Statement on Form S-4 (File No. 333-140574) filed on August 14, 2009.*  |
| 10.15       | Amendment No. 1 to the Chicago Board Options Exchange, Incorporated Supplemental Retirement Plan, incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2010 (File No. 001-34774) filed on November 12, 2010.*   |
| 10.16       | Amended and Restated Employment Agreement, effective December 31, 2009, by and between the Chicago Board Options Exchange, Incorporated and William J. Brodsky, incorporated by reference to Exhibit 10.16 to Amendment No. 5 to the Company's Registration Statement on Form S-4 (File No. 333-140574) filed on March 11, 2010.* |
| 10.17       | Amended and Restated CBOE Holdings, Inc. Long-Term Incentive Plan, incorporated by reference to Exhibit 10.20 to Amendment No. 4 to the Company's Registration Statement on Form S-1 (File No. 333-165393) filed on June 11, 2010.*   |
| 10.18       | Form of Restricted Stock Award Agreement (for Executive Officers), incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2010 (File No. 001-34774) filed on June 11, 2010.*  |
| 10.19       | Form of Restricted Stock Award Agreement (for Non-employee Directors), incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2010 (File No. 001-34774) filed on June 11, 2010.*  |
| 10.20       | Amended and Restated CBOE Holdings, Inc. Executive Severance Plan, incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2015 (File No. 001-34774) filed on May 6, 2015.*  |
| 10.21       | Form of Director Indemnification Agreement, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-34774) filed on December 20, 2010.  |

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- 10.22 Amended and Restated CBOE Holdings, Inc. Long-Term Incentive Plan, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-34774), filed on May 18, 2011. \*  
Amendment No. 1, dated August 22, 2011, to the Amended and Restated License Agreement, dated  
10.23 September 29, 2006, by and between CME Group Index Services LLC (as successor-in-interest to Dow  
Jones & Company, Inc.) and the Chicago Board Options Exchange, Incorporated, incorporated by reference  
to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2011  
(File No. 001-34774) filed on November 9, 2011.+



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| Exhibit No. | Description of Exhibit   |
|-------------|--|
| 10.24       | Transition Agreement, by and among CBOE Holdings, Inc., Chicago Board Options Exchange, Incorporated and William J. Brodsky, dated December 11, 2012, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-34774) filed on December 12, 2012.*  |
| 10.25       | Amended and Restated Employment Agreement, by and among CBOE Holdings, Inc., Chicago Board Options Exchange, Incorporated and Edward T. Tilly, dated December 11, 2012, incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K (File No. 001-34774) filed on December 12, 2012.*                              |
| 10.26       | Amendment No. 12, to the S&P License Agreement, dated March 9, 2013, incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q (File no. 001-34774) filed on May 7, 2013.   |
|             | +  |
| 10.27       | Form of Restricted Stock Unit Award Agreement (for Executive Officers) under the Amended and Restated CBOE Holdings, Inc. Long-term Incentive Plan, incorporated by reference to Exhibit 10.27 to the Company's Annual Report on Form 10-K for the year ended December 31, 2013 (File No. 001-34774) filed on February 21, 2014.*            |
| 10.28       | Form of Restricted Stock Unit Award Agreement (relative total shareholder return) under the Amended and Restated CBOE Holdings, Inc. Long-term Incentive Plan, incorporated by reference to Exhibit 10.28 to the Company's Annual Report on Form 10-K for the year ended December 31, 2013 (File No. 001-34774) filed on February 21, 2014.* |
| 10.29       | Form of Restricted Stock Unit Award Agreement (earnings per share) under the Amended and Restated CBOE Holdings, Inc. Long-term Incentive Plan, incorporated by reference to Exhibit 10.29 to the Company's Annual Report on Form 10-K for the year ended December 31, 2013 (File No. 001-34774) filed on February 21, 2014.*                |
| 10.30       | Form of 2016 Restricted Stock Unit Award Agreement (for Executive Officers) under the Amended and Restated CBOE Holdings, Inc. Long-term Incentive Plan (filed herewith).*   |
| 10.31       | Form of 2016 Restricted Stock Unit Award Agreement (relative total shareholder return) under the Amended and Restated CBOE Holdings, Inc. Long-term Incentive Plan (filed herewith).*  |
| 10.32       | Form of 2016 Restricted Stock Unit Award Agreement (earnings per share) under the Amended and Restated CBOE Holdings, Inc. Long-term Incentive Plan (filed herewith).*   |
| 21.1        | Subsidiaries of CBOE Holdings, Inc. (filed herewith).  |
| 23.1        | Consent of Independent Registered Public Accounting Firm (filed herewith).   |
| 24.1        | Powers of Attorney (incorporated by reference to the signature page of this Annual Report on Form 10-K).   |
| 31.1        | Certification of Chief Executive Officer pursuant to Rule 13a-14 (filed herewith).   |
| 31.2        | Certification of Chief Financial Officer pursuant to Rule 13a-14 (filed herewith).   |
| 32.1        | Certificate of Chief Executive Officer pursuant to Rule 13a-14(b) and Section 1350 of Chapter 63 of Title 18 of the United States Code (filed herewith).   |
| 32.2        | Certificate of Chief Financial Officer pursuant to Rule 13a-14(b) and Section 1350 of Chapter 63 of Title 18 of the United States Code (filed herewith).   |
| 101.INS     | XBRL Instance Document (filed herewith).   |
| 101.SCH     | XBRL Taxonomy Extension Schema Document (filed herewith).  |
| 101.CAL     | XBRL Taxonomy Extension Calculation Linkbase Document (filed herewith).  |
| 101.DEF     | XBRL Taxonomy Extension Definition Linkbase (filed herewith).  |
| 101.LAB     | XBRL Taxonomy Extension Label Linkbase Document (filed herewith).  |

101.PRE XBRL Taxonomy Extension Presentation Linkbase Document (filed herewith).

\*Indicates Management Compensatory Plan, Contract or Arrangement.

+Confidential treatment has been previously requested or granted to portions of these exhibits by the SEC.

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## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this Annual Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized.

CBOE HOLDINGS, INC.

(Registrant)

By: /s/ EDWARD T. TILLY  
Edward T. Tilly  
Chief Executive Officer

Date: February 19, 2016

## POWERS OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Edward T. Tilly, as attorney-in-fact and agent, with full power of substitution and re-substitution, to sign on his or her behalf, individually and in any and all capacities, including the capacities stated below, any and all amendments to this Annual Report on Form 10-K for the year ended December 31, 2015 and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting to said attorney-in-fact and agent, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities on the dates indicated.

| SIGNATURE  | TITLE   | DATE              |
|--|---|-------------------|
| /s/ EDWARD T. TILLY<br>Edward T. Tilly             | Chief Executive Officer and Director<br>(Principal Executive Officer)                               | February 19, 2016 |
| /s/ ALAN J. DEAN<br>Alan J. Dean                   | Executive Vice President, Chief Financial Officer and<br>Treasurer<br>(Principal Financial Officer) | February 19, 2016 |
| /s/ DAVID S. REYNOLDS<br>David S. Reynolds         | Vice President and Chief Accounting Officer<br>(Principal Accounting Officer)                       | February 19, 2016 |
| /s/ WILLIAM J. BRODSKY<br>William J. Brodsky       | Chairman  | February 19, 2016 |
| /s/ JAMES R. BORIS<br>James R. Boris               | Director  | February 19, 2016 |
| /s/ FRANK E. ENGLISH, JR.<br>Frank E. English, Jr. | Director  | February 19, 2016 |
| /s/ EDWARD J. FITZPATRICK<br>Edward J. Fitzpatrick | Director  | February 19, 2016 |

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| SIGNATURE                                      | TITLE    | DATE              |
|--|----------|-------------------|
| /s/ JANET P. FROETSCHER<br>Janet P. Froetscher | Director | February 19, 2016 |
| /s/ JILL R. GOODMAN<br>Jill R. Goodman         | Director | February 19, 2016 |
| /s/ R. EDEN MARTIN<br>R. Eden Martin           | Director | February 19, 2016 |
| /s/ RODERICK A. PALMORE<br>Roderick A. Palmore | Director | February 19, 2016 |
| /s/ SUSAN M. PHILLIPS<br>Susan M. Phillips     | Director | February 19, 2016 |
| /s/ SAMUEL K. SKINNER<br>Samuel K. Skinner     | Director | February 19, 2016 |
| /s/ CAROLE E. STONE<br>Carole E. Stone         | Director | February 19, 2016 |
| /s/ EUGENE S. SUNSHINE<br>Eugene S. Sunshine   | Director | February 19, 2016 |