Intercontinental Exchange, Inc.
Form 10-K
February 07, 2017

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-K

(Mark One)

þ	ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 For the fiscal year ended December 31, 2016

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 Number 001-36198

Intercontinental Exchange, Inc.
(Exact name of registrant as specified in its charter)

Delaware	46-2286804
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification Number)
5660 New Northside Drive, Atlanta, Georgia	30328 (Zip Code)
(Address of principal executive offices)	
(770) 857-4700	
Registrant's telephone number, including area code	

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

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, $0.01 par value per share	New York Stock Exchange

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 þ No ¨
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes ¨ No þ
Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Exchange Act during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes þ No ¨
Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during

the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes þ 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 the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Annual Report on 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 definitions of "large accelerated filer", "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer þ Accelerated filer ¨ Non-accelerated filer ¨ Smaller reporting company ¨

(Do not check if a smaller company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ¨ No þ

The aggregate market value of the registrant's voting and non-voting common equity held by non-affiliates computed by reference to the price at which the common equity was last sold as of the last business day of the registrant's most recently completed second fiscal quarter was $30,181,720,745. As of February 3, 2017, the number of shares of the registrant's Common Stock outstanding was 595,341,344 shares.

DOCUMENTS INCORPORATED BY REFERENCE

Certain information contained in the registrant's Proxy Statement for the 2017 Annual Meeting of Stockholders is incorporated herein by reference in Part III of this Annual Report on Form 10-K. The Proxy Statement will be filed with the Securities and Exchange Commission within 120 days after the end of the registrant's fiscal year to which this report relates.

Intercontinental Exchange, Inc.
ANNUAL REPORT ON FORM 10-K
For the Fiscal Year Ended December 31, 2016
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PART I

In this Annual Report on Form 10-K, or Annual Report, and unless otherwise indicated, the terms “Intercontinental Exchange”, “ICE”, “we”, “us”, “our”, “our company”, and “our business” refer to Intercontinental Exchange, Inc. together witl consolidated subsidiaries. References to ICE products mean products listed on one or more of our markets.

The following discussion should be read in conjunction with our consolidated financial statements and related notes included elsewhere in this Annual Report. Due to rounding, figures in tables may not sum exactly. All references to “options” or “options contracts” in the context of our futures products refer to options on futures contracts.

Forward-Looking Statements

This Annual Report, including the sections entitled “Business”, “Legal Proceedings,” “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations”, contains forward-looking statements that are based on our beliefs and assumptions and information currently available to us. You can identify these statements by terminology such as “may,” “will,” “should,” “could,” “would,” “targets,” “goal,” “expect,” “intend,” “plan,” “anticipate,” “ “estimate,” “predict,” “potential,” “continue,” or the antonyms of these terms or other comparable terminology.

Forward-looking statements relate to future events or our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our results, levels of activity, performance, cash flows, financial position or achievements to differ materially from those expressed or implied by these statements. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. Accordingly, we caution you not to place undue reliance on any forward-looking statements we may make.

Factors that may affect our performance and the accuracy of any forward-looking statements include, but are not limited to, those listed below:

- conditions in global financial markets and domestic and international economic, political and social conditions;
- the impact of the introduction of or any changes in laws, regulations, rules or government policy with respect to financial markets, increased regulatory scrutiny or enforcement actions and our ability to comply with these requirements;
- volatility in commodity prices, equity prices, and price volatility of financial benchmarks and instruments such as interest rates, credit spreads, equity indices and foreign exchange rates;
- the business environment in which we operate and trends in our industry, including trading volumes, clearing, data services, fees, changing regulations, competition and consolidation;
- the success of our clearing houses and our ability to minimize the risks associated with operating clearing houses in multiple jurisdictions;
- the success of our equity exchanges and the exchanges' compliance with their regulatory and over-sight responsibilities;
- the resilience of our electronic platforms and soundness of our business continuity and disaster recovery plans;
- continued high renewal rates of subscription-based data revenues;
- our ability to identify and effectively pursue, implement and integrate acquisitions and strategic alliances;
- our ability to complete and realize the synergies and benefits of our acquisitions within the expected time frame, and to integrate acquired operations with our business;
- our ability to effectively maintain our growth;
- the performance and reliability of our other technologies and those of third party service providers, including our ability to keep pace with technological developments and ensure that the technology we utilize is not vulnerable to security risks or other disruptive events;
- our ability to identify trends and adjust our business to benefit from such trends;
- the accuracy of our cost and other financial estimates and our belief that cash flows from operations will be sufficient to service our debt and fund our operational and capital expenditure needs;
- our ability to maintain existing market participants and data customers, and attract new ones, and to offer additional products and services, leverage our risk management capabilities and enhance our technology in a timely and cost-effective fashion;

- our ability to attract and retain key talent;
- our ability to protect our intellectual property rights and to operate our business without violating the intellectual property rights of others; and
- potential adverse results of threatened or pending litigation and regulatory actions and proceedings.

These risks and other factors include, among others, those set forth in Item 1(A) under the caption “Risk Factors” and elsewhere in this Annual Report, as well as in other filings we make with the Securities and Exchange Commission, or SEC. Due to the uncertain nature of these factors, management cannot assess the impact of each factor on the 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.

Any forward-looking statement speaks only as of the date on which such statement is made, and we undertake no obligation to update any of these statements to reflect events or circumstances occurring after the date of this Annual Report. New factors may emerge and it is not possible to predict all factors that may affect our business and prospects.

ITEM 1. BUSINESS

Our Business

We are a leading global operator of regulated exchanges, clearing houses and listings venues, and a provider of data services for commodity and financial markets. We operate regulated marketplaces for listing, trading and clearing a broad array of derivatives and securities contracts across major asset classes, including energy and agricultural commodities, interest rates, equities, equity derivatives, exchange traded funds, credit derivatives, bonds and currencies. We offer end-to-end market data services to support the trading, investment, risk management and connectivity needs of customers across virtually all asset classes. Below is a list of the global markets and related products that we currently serve.

Our exchanges include futures exchanges in the United States, or U.S., United Kingdom, or U.K., Continental Europe, Canada and Singapore, and cash equities, equity options and bond exchanges in the U.S. We also operate over-the-counter, or OTC, markets for physical energy and credit default swaps, or CDS, trade execution. To serve global derivatives markets, we operate central counterparty clearing houses in the U.S., U.K., Continental Europe, Canada and Singapore. We offer a range of data services for global financial and commodity markets, including pricing and reference data, exchange data, analytics, feeds, desktops and connectivity solutions. Through our markets, clearing houses, listings and data services, we provide end-to-end solutions for our customers through liquid markets, benchmark products, access to capital markets, and related services to support their ability to manage risk and raise capital.

Our business is currently conducted as two reportable business segments, our Trading and Clearing segment and our Data and Listings segment, and the majority of our identifiable assets are located in the U.S. and U.K. For a summary of our revenues, net assets and net property and equipment by geographic region, see note 18 to our consolidated financial statements included in this Annual Report.

Derivatives Exchanges

Our derivatives markets provide a means for trading and managing risks associated with price volatility, securing physical delivery of certain commodities, as well as enabling investment, asset allocation and diversification. The majority of our commodity contract volume is settled based upon the difference between the contract price and the value of the underlying

commodity at contract expiry rather than through physical delivery of the commodity or financial instrument itself (commonly referred to as cash or financially-settled). Our futures and option contracts on futures contracts are cleared through one of our central clearing houses. Our options markets are operated via a dual market structure through a single technology platform. Our options markets encourage deep liquidity and encourage market makers to provide the best possible prices.

We conduct our derivatives markets through the following regulated exchanges:

- ICE Futures Europe is a leading exchange for futures and options contracts based on energy and agricultural commodities, interest rates, equity derivatives and emissions. ICE Clear Europe clears contracts traded on ICE Futures Europe.
- ICE Futures U.S. is a leading exchange that lists futures and options for agricultural and energy commodities, equity indices, currencies, credit and precious metals. ICE Clear Europe clears the energy contracts traded on ICE Futures U.S. and ICE Clear U.S. clears all other contracts traded on ICE Futures U.S.
- ICE Futures Canada is Canada's leading agricultural futures and options exchange. It offers futures and options contracts on canola, milling wheat, durum wheat and barley. ICE Clear Canada clears contracts traded on ICE Futures Canada.
- ICE Endex is a leading continental European energy exchange providing regulated markets for natural gas and power derivatives, gas balancing markets and gas storage services and is based in Amsterdam, the Netherlands. We own a majority stake of ICE Endex, with NV Netherlands Gasunie, or Gasunie, holding a minority stake. ICE Clear Europe provides clearing for ICE Endex.
- ICE Futures Singapore lists futures contracts for energy, gold and foreign exchange commodities. ICE Clear Singapore provides clearing for ICE Futures Singapore.
- NYSE Amex Options is a U.S. equity options exchange that offers order execution through a hybrid model (both electronic and via open outcry on our trading floor adjoining the New York Stock Exchange) in approximately 2,500 options issues.
- NYSE Arca Options is also a U.S. equity options exchange that offers order execution through a hybrid model, with both electronic trading and trading via our trading floor in San Francisco. NYSE Arca Options offers trading in approximately 2,200 options issues.

OTC Markets

Our OTC markets include both regulated and unregulated platforms for the execution of cleared and bilateral, or non-cleared, CDS instruments and bilateral energy contracts. ICE Swap Trade, Creditex Group and its subsidiaries (collectively, "Creditex") and Creditex Brokerage provide trade execution in our CDS business and are authorized and regulated by the Commodity Futures Trading Commission, or CFTC. We list financially settled bilateral energy contracts on ICE Swap Trade and offer electronic trading on our physically settled North American natural gas, power, and global crude and refined oil products. We offer electronic trading of contracts based on physically settled natural gas, power and refined oil products through ICE U.S. OTC Commodity Markets.

Clearing Houses

We operate clearing houses, each of which acts as a central counterparty that becomes the buyer to every seller and the seller to every buyer. Through this central counterparty function, the clearing houses provide financial security for each transaction for the duration of the position by limiting counterparty credit risk. Our clearing houses are responsible for providing clearing services to each of our futures exchanges and certain of our clearing houses clear contracts traded outside of our execution venues. Our clearing houses are:

- ICE Clear Europe clears ICE Futures Europe and ICE Endex futures contracts for interest rates, equity indices, energy and agriculture products, as well as ICE Futures U.S. futures contracts for energy and OTC European CDS instruments;
- ICE Clear U.S. clears ICE Futures U.S. soft commodity, currency, metals, credit and domestic and equity index futures contracts;
- ICE Clear Credit clears North American, European, Asian-Pacific and Emerging Market CDS instruments;
- ICE Clear Canada clears ICE Futures Canada agricultural futures contracts;

- ICE Clear Netherlands clears Dutch equity options (which are traded on The Order Machine, an unrelated trading platform); and
- ICE Clear Singapore clears ICE Futures Singapore commodity contracts and foreign exchange, or FX.

Securities Trading and Listings

We operate three securities exchanges for the trading of cash equities, including exchange traded funds, or ETFs, fixed income securities and securities options. One of the primary functions of these markets is to ensure that orders to purchase and sell securities are executed in a fair, orderly and efficient manner. In addition, through our listings operations, we offer corporate and ETF issuers access to the U.S. capital markets. We conduct our securities trading and listings business through the following exchanges and marketplaces:

- The New York Stock Exchange is a leading global cash equity exchange. It is the leading equity exchange for initial public offerings, or IPOs, globally, and enables companies seeking to raise capital to become publicly listed through the IPO process upon meeting exchange listing standards. In addition to common stocks, preferred stocks and warrants, the New York Stock Exchange, or NYSE, lists structured products, such as capital securities and mandatory convertible securities. In addition, NYSE operates NYSE Bonds, an electronic trading platform with transparent pricing for trading debt securities, including corporate bonds.
- NYSE MKT, formerly NYSE Amex and prior to that the American Stock Exchange, became part of NYSE Group, Inc., or NYSE Group, in 2008. It is our U.S. listing venue for emerging growth companies. NYSE MKT supports growth companies that benefit from a fully integrated trading platform model similar to the New York Stock Exchange. NYSE MKT provides a listing venue for a broad range of companies that may not qualify for listing on the New York Stock Exchange. NYSE MKT also lists and trades securities options.
- NYSE Arca offers trading of more than 8,000 listed securities, including listings on the NYSE, Nasdaq, Inc. and BATS Global Markets, Inc., or BATS. NYSE Arca is the leading listing and trading platform for ETFs and exchange traded notes. NYSE Arca also lists and trades securities options.

Data Services

Our data business, ICE Data Services, or IDS, initially distributed data created from our exchanges and clearing houses, which currently spans nine asset classes at eleven exchanges and six clearing houses. We have completed acquisitions of data services companies, including Interactive Data, SuperDerivatives, Trayport and certain assets from S&P Global, which enables IDS to provide services across the full spectrum of financial and commodity markets to meet the needs of asset managers, financial institutions, commercial hedgers and corporations, among others. The diversity and quality of the market data we distribute, together with technology and connectivity solutions, support liquidity, price discovery, trading and investing, risk management, compliance, reporting and other operational activities in global financial markets.

We have defined our data business in three main categories of services: Pricing and Analytics; Exchange Data; and Desktops, and Connectivity. These encompass a broad range of services, such as the distribution of real-time information provided by our markets and others' markets relating to prices, transactions and orders, and the comprehensive network of infrastructure services provided by the Secure Financial Transaction Infrastructure, or SFTI, which connects our markets with other market centers as well as our global aggregated consolidated feeds. We also provide valuation, reference, instrument data and analytical services, as well as pricing and valuation services, for benchmarks, ETFs and a range of financial derivatives and clearing house positions, including ICE indices for fixed income markets. In addition, through ICE Benchmark Administration, or IBA, we administer regulated benchmarks including LIBOR, Gold Price and ICE Swap Rate (formerly known as ISDAFIX).

On October 3, 2016, we completed our acquisition of Standard & Poor's Securities Evaluations, Inc., or SPSE, a provider of fixed income evaluated pricing, and Credit Market Analysis, a provider of independent data for the OTC markets, including credit derivatives and bonds. These solutions will further our depth of products in the fixed income valuation space, especially in U.S. municipal instruments, as well as expand our data sets within the CDS market. SPSE, which we renamed Securities Evaluations upon completion of the acquisition, is currently being managed separately from the IDS valuation services and is expected to be integrated in 2017.

We intend to continue to invest to expand our data distribution offerings across asset classes, data types and services to serve the evolving needs of our global customer base. For additional information about our current data service offerings, see "Our Products and Services" below.

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Our History

Our Competitive Strengths and Competition

Competitive Strengths

We operate global markets in the asset classes in which we compete, including futures, cash equities, equity options and OTC markets. We believe our key strengths include our:

- global data services including pricing and analytics, desktop and connectivity services across multiple asset classes for futures and OTC markets;
- diverse liquid, global derivatives and equities markets across 11 regulated exchanges as well as OTC venues;
- secure central counterparty clearing houses and risk management for global derivatives markets through 6 clearing houses;
- leading global cash equities, options and ETF trading venues together with leading equities and ETF listings venues; and
- widely-distributed, leading edge technology for trading, clearing, data and trade processing.

We are a leading global data provider and offer a range of data services based on data from our exchanges, markets and clearing houses, as well as analytics, valuation, reference data, desktop, benchmark services and connectivity services. Our acquisitions of SuperDerivatives, Interactive Data, Securities Evaluations and Credit Market Analysis have served to expand our data services based on rising demand for independent, real-time information, which is being driven by regulation, market fragmentation, passive investing and indexation, and increased automation. We provide data to global financial institutions and asset managers, commercial hedgers, corporates, traders and consumers across virtually all asset classes. We believe our data services are relevant to our clients' business operations regardless of market volatility and price levels due to the need for continuous information and analysis. Our data connectivity services are operated out of data centers in the U.S. and Europe.

Our regulated exchanges and trading and clearing platforms offer qualified market participants access to our markets and risk management services, covering a range of asset classes, including interest rates, equities, energy, agricultural, metals, equity index, environmental, currencies, CDS and equity options. By operating several markets and offering thousands of products we provide our participants with flexibility to implement their trading and risk management strategies with common technology, integrated clearing and data solutions. We operate in multiple geographies and serve customers in dozens of countries as a result of products that are globally relevant.

Many of our futures contracts serve as global benchmarks for managing risk relating to exposure to price movements in the underlying products, including financial, energy and agricultural commodities. For example, we operate the leading market for trading in ICE Brent crude oil futures, as measured by the volume of contracts traded in 2016 according to the Futures Industry Association. The ICE Brent Crude futures contract is the benchmark for pricing light, sweet crude oil produced and consumed outside of the U.S. It is part of the Brent complex, which forms the price reference for approximately two-thirds of the world's internationally-traded physical oil. Based on 2016 contract volume, nearly half of the world's crude and refined oil futures contracts were traded through ICE Futures Europe. In 2015, open interest in Brent surpassed open interest in Nymex WTI. In addition, we operate a leading market for short-term European interest rates contracts, with our principal contracts based on implied forward rates on European Money Markets Institute Euribor rates and a short-term Sterling contract based on the ICE Libor rate. We also offer markets in soft commodity benchmark contracts, including sugar, cocoa, cotton, coffee and canola, which serve as global price benchmarks.

We offer a range of central clearing and related risk management services to promote the liquidity and security of our markets in jurisdictions around the world to meet local regulatory and operational needs in key financial market centers. The credit and performance assurance provided by our clearing houses to clearing members is designed to substantially reduce counterparty risk and is a critical component of our exchanges' identities as reliable and secure marketplaces for global transactions. We believe the range of products cleared and the risk management services offered by our clearing houses are a competitive advantage and attract market participants. Our clearing houses are designed to protect the financial integrity of our markets by maintaining strong governance and rules, managing collateral, facilitating payments and collections, enhancing capital efficiency and limiting counterparty credit risk.

We operate the leading global listings and trading exchanges for equities and ETFs, and offer our customers access to the U.S. capital markets. Our listing venues allow companies to list domestic and international equity securities, corporate structured products, convertible bonds, trackers and debt securities. In 2016, the NYSE was the global leader in capital raising for the sixth consecutive year, with $120 billion raised in total IPO proceeds and follow-on offerings, including the largest U.S. IPO of the year.

Competition

The execution markets in which we operate are global and highly competitive. We face competition in all aspects of our business from a number of different enterprises, both domestic and international, including traditional exchanges, electronic trading platforms, data vendors and voice brokers. We believe we compete on the basis of a number of factors, including:

- depth and liquidity of markets;
- price transparency;
- reliability and speed of trade execution and processing;
- technological capabilities and innovation;
- breadth of products and services;
- rate and quality of new product developments;
- quality of service;
- stability of services;
- distribution and ease of connectivity;
- mid- and back-office service offerings, including differentiated and value-added services;
- transaction costs; and
- reputation.

We believe that we compete favorably with respect to these factors, and that our deep, liquid markets, breadth of product offerings, new product development, customer relationships and efficient, secure settlement, clearing and

support services distinguish

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us from our competitors. We believe that in order to maintain our competitive position, we must continue to develop new and innovative products and services, enhance our technology infrastructure, maintain liquidity and offer competitive costs.

In our derivatives markets, certain exchanges replicate our futures contracts. For example, CME Group lists our futures on agricultural and energy commodities, currency and equity index contracts. Nasdaq Futures, Inc., or NFX, an energy platform operated by Nasdaq has also listed certain of our energy contracts. We compete in European interest rates and equity derivatives with Eurex, which is the derivatives exchange operated by Deutsche Börse, NLX, a U.K. based multi-lateral trading facility operated by Nasdaq, and Curve Global, a consortium of banks and exchanges that lists interest rate futures. In the European utilities markets, we compete with EEX.

In addition to venues that offer futures products, we also face competition from electronic trading systems, third-party clearing houses and technology firms. Additional ventures could form, or have been formed, to provide services that could potentially compete with certain services that we provide.

We compete with voice brokers active in the credit derivatives markets, other electronic trading platforms for derivatives, clearing houses and market data vendors. ICE Swap Trade and Creditex compete with other swap execution facilities and large inter-dealer brokers in the credit derivatives market.

We face significant competition with respect to equities trading, and this competition is expected to remain intense. Our current and prospective competitors include regulated markets, dark pools and other alternative trading systems, market makers and other execution venues. We also face competition from large brokers and customers that may assume the role of principal and act as counterparty to orders originating from retail customers, or by matching their respective order flows through bilateral trading arrangements, including through internalization of order flow.

Our principal competitor for listings in the U.S. is Nasdaq OMX Group, Inc., or Nasdaq OMX. For ETF listings, we compete with Nasdaq OMX and BATS. We also face competition for foreign issuer listings from a number of stock exchanges outside the U.S., including the London Stock Exchange, Deutsche Börse, Euronext and stock exchanges in Hong Kong and Toronto. As other liquidity venues seek exchange status, we may face more competition for listings.

NYSE Arca and NYSE Amex Options face considerable competition in the equity options markets. Their principal U.S. competitors are the Chicago Board Options Exchange, Inc., or CBOE, BATS and Nasdaq OMX.

ICE Data Services operates in a competitive environment for all its constituent parts. Our Exchange Data products compete with similar offerings by other exchange groups. That competition and the competition for order flow among the exchange groups creates a competitive pricing environment for our proprietary data products. Pricing and Analytics competes with information obtained from informal industry relationships and sources, such as broker quotes. It, along with the Desktop and Connectivity business, compete with purchased third-party information and services from large global suppliers of financial market data, such as Bloomberg L.P., Thomson Reuters Corporation, IHSMarkit and SIX Financial. Our Connectivity business, SFTI, competes with other extranet providers such as CenturyLink and Transaction Network Services, known as TNS.

Our Growth Strategy

Throughout our history, we have expanded our core exchange, clearing and data businesses both organically and through acquisitions, developed innovative new products for global markets, and provided services to a larger and more diverse participant base. In addition, we have completed a number of strategic alliances to leverage our core strengths and grow our business. We seek to advance our leadership position in our markets by focusing our efforts on the following key strategies for growth:

- expand our data offerings to address the rising demand for information;
- expand on our extensive trading, clearing and risk management capabilities;
- maintain leadership in our listing businesses;
- enhance our technology infrastructure and increase distribution; and
- pursue select acquisitions and strategic relationships that maximize customer and shareholder benefits.

The record consolidated revenues and trading volume we achieved in 2016 reflect our focus on the implementation and execution of our long-term growth strategy.

Expand our Data Offerings to Address the Rising Demand for Information

With the growth of our ICE derivatives markets and NYSE equity markets, we have strengthened and enhanced our data services due to demand for more data solutions. This has been driven by many factors, and accelerated following

the financial crisis due to increased automation, regulation and demand for independent real-time information. To build on our exchange data and connectivity business, in December 2015, we acquired Interactive Data, which is now part of ICE Data Services, which supports our

growth strategy by expanding the markets we serve and adding new data, connectivity and valuation services. As a result, we currently produce daily evaluated prices for more than 2.7 million fixed income securities and other illiquid instruments, with an array of additional analytics and related services. By bringing together a wide range of data products, we offer customers efficiencies in accessing data while serving the growing demand for data, analysis, valuation and connectivity globally by innovating new solutions to address the need for more transparency, efficiency and information.

Also in December 2015, we acquired Trayport. Trayport is a software company that licenses its technology to serve brokers, exchanges and traders to facilitate electronic and hybrid trade execution primarily in the energy markets. This acquisition enables us to provide new technology and software-related services to our energy customers. The U.K. Competition and Markets Authority, or the CMA, undertook a review of our acquisition of Trayport under the merger control laws of the U.K. During the pendency of the review, we did not integrate Trayport into our existing business operations. For additional information regarding the Trayport acquisition, refer to Item 7 “Management’s Discussion and Analysis of Financial Condition and Results of Operations - Recent Developments”, which is included in this Annual Report.

In October 2016, we acquired from S&P Global, Securities Evaluations and Credit Market Analysis, which are now part of the suite of pricing and analytics products and services that comprise ICE Data Services. We will continue to look for strategic opportunities to grow our data offerings and will also continue to pursue opportunities in markets we do not currently serve but where it expands the ways in which we can serve our customers.

Expand on Our Extensive Trading, Clearing and Risk Management Capabilities

Our derivatives customer base has grown and diversified as a result of several drivers, including adding new markets and products, the move toward increased risk management and counterparty credit management, mark-to-market and margining services, and regulatory requirements. We continue to add new participants to our markets, which bring additional demand for new products and services. Our markets support price transparency and risk management, particularly in times of volatility and in many markets for products where there is less liquidity. In addition, the use of hedging, trading and risk management programs by commercial enterprises continues to rise based on the availability of technology to deliver more products, as well as the security and the capital efficiencies offered by clearing. We develop new products, but have also increased our capabilities through licenses and acquisitions of companies and intellectual property. Further, by acquiring, building and maintaining our own geographically diverse clearing operations, we are able to respond to market demand for central clearing and related risk management services across diverse geographic and regulatory jurisdictions. As new markets evolve, we intend to leverage our domain knowledge to meet additional demand for cleared products and related risk management solutions.

As requirements for regulatory compliance and capital efficiencies grow, the use of clearing, data and related post-trade services such as independent data providers and benchmark services also continues to grow. We intend to continue to expand our customer base by leveraging our existing relationships and our global sales and marketing team to promote participation in our markets, and by expanding our range of products and services.

Maintain Leadership in our Listing Businesses

The following chart depicts 2016 global capital proceeds raised on various listings venues:

In our NYSE listings business, we will continue to focus on enhancing our product offerings and services to retain and attract companies of all sizes and industries to our listing venues. In 2016, demand for our listing services continued to be strong in terms of new listings and secondary offerings. A total of 534 new issuers listed on NYSE markets in 2016 and there are over 2,400 total companies listed on the New York Stock Exchange and NYSE MKT. NYSE was the leader in capital raising in 2016 with $120 billion raised in 398 transactions. The New York Stock Exchange listed 38 IPOs in 2016 raising total IPO proceeds of $13 billion, including

the largest U.S. IPO of 2016. The NYSE has listed all 25 of the last 25 IPOs greater than $700 million in proceeds, and in the last three years, the NYSE has listed 27 of the 30 largest IPOs.

In ETFs, as of December 31, 2016, NYSE Arca's listed ETFs had nearly $2.4 trillion in assets under management, or AUM, representing nearly 92% of all U.S. listed ETFs. We strive to maintain our leadership position by offering ETF issuers:

- guidance through the complete listings process, including expert consultations around regulatory and legal items;
- a decade of experience in listing more than 2,500 ETFs across a wide range of asset classes and investment strategies;
- a focus on customer service from experienced ETF professionals;
- the highest liquidity of any exchange and some of the narrowest quoted bid / ask spreads; and
- Lead Market Maker, or LMM, and incentive programs.

Enhance Our Technology Infrastructure and Increase Distribution

We develop and maintain our own network infrastructure, electronic trading platform and clearing systems to ensure scalability and the delivery of technology that meets our expanding base's demands for price transparency, reliability, risk management and transaction efficiency. We intend to continue to increase ease of access and connectivity with our existing and prospective market participants. We develop and maintain our trading and clearing systems, as well as our data solutions and many post-trade systems such as ICE Link and ICE Trade Vault, among others. We are developing a new integrated trading platform and matching engine known as NYSE Pillar that will eventually serve each of our U.S. cash equities and equity options markets to improve performance and reduce the cost and complexity of operating multiple trading systems. We also own and operate two data centers and offer connectivity solutions to global exchanges and content service providers via dedicated data circuits.

Pursue Select Acquisitions and Strategic Relationships that Maximize Customer and Shareholder Benefits

As an early consolidator in global markets to build out our markets and services for customers, we intend to continue to explore and pursue acquisitions and other strategic opportunities to strengthen our competitive position globally, broaden our product offerings and service, and support the growth of our company while maximizing shareholder value as measured by return on invested capital, earnings and cash flow growth. We may enter into business combinations, make acquisitions or enter into strategic partnerships, joint ventures or alliances, any of which may be material. In addition to growing our business, we may enter into these transactions for a variety of additional reasons, including leveraging our existing strengths to enter new markets, expanding our products and services, addressing underserved markets, advancing our technology, anticipating or responding to regulatory change or potential changes in our industry.

Our Products and Services

The primary services we provide are price discovery and trade execution, listings, trade processing and data repositories, clearing and related post-trade activities, data services and benchmark administration. As a result of the growth of our exchange business and our acquisitions of Interactive Data, Securities Evaluations and Credit Market Analysis, our data services have become a more prominent part of our business, however Securities Evaluations is currently operated separately until fully integrated. Trading in our regulated markets is available to our members and market participants. Once trades are executed on our derivatives platforms, they are matched and forwarded to a trade registration system that routes them to the applicable clearing house. In our clearing houses, derivatives trades are maintained by our risk management systems until the positions are settled and closed. Our exchanges are regulated and are responsible for carrying out self-regulatory functions and have governance, compliance, surveillance and market supervision functions. In our data businesses, we produce, package and distribute proprietary data, as well as provide market connectivity, hosting and other applications to meet the informational needs of market participants. The following provides a summary of our products and services:

Energy Futures Contracts

We operate regulated markets for energy futures contracts and options on those contracts through our subsidiaries ICE Futures Europe, ICE Futures U.S. and ICE Futures Singapore. Our core products include contracts based on crude and refined oil, natural gas, power, emissions, coal, freight, iron ore and natural gas liquids. In aggregate, we make available for trading over 1,300 energy futures contracts. Our largest energy contract is the ICE Brent crude futures contract. The contract is a derivative of the ICE Brent Index, which is based on trades in the forward physical market for blends of light, sweet crude oil that originate from oil fields in the North Sea that comprise the Brent, Forties, Oseberg, Ekofisk, or BFOE, complex as well as other oil fields that have been added in recent years. The Brent complex, which includes ICE Brent crude futures, is a group of related benchmarks used to price a range of traded oil products, including approximately two-thirds of the world’s internationally-traded crude oil. The ICE Low Sulphur Gasoil futures contract is a European diesel oil contract that offers physical delivery and serves as a middle distillate pricing benchmark for refined oil products, particularly in Europe and Asia. We also operate the world’s second largest market for trading in WTI crude oil futures, as measured by the volume of contracts traded in 2016 according to the Futures Industry Association. The WTI Crude futures contract is the benchmark for pricing U.S. crude. Nearly half of the global crude oil futures market traded at ICE during 2016. ICE also operates markets for North American natural gas and power futures contracts, and European and U.K. natural gas futures contracts.

Agricultural Futures Contracts

ICE Futures U.S. and ICE Futures Europe are our regulated, leading commodity futures exchanges for the trading of agricultural commodities. The prices for our agricultural contracts serve as global benchmarks for the physical commodity markets, including

Sugar No. 11® (world raw sugar), white sugar, Coffee "C"® (Arabica coffee), robusta coffee, Cotton No. 2® (cotton), U.S. and London cocoa and frozen concentrated orange juice.

ICE Futures Canada is the only regulated commodity futures exchange in Canada and it facilitates the trading of futures and options on futures contracts for canola, milling wheat, durum wheat and barley. ICE Futures Canada contracts are designed to provide effective pricing, trading and hedging tools to market participants worldwide. ICE Futures Canada's canola futures contract is the worldwide price benchmark for canola.

Financial Futures Contracts

ICE Futures Europe makes available for trading a range of financial futures products, including interest rate, equity index, and currency derivative products. Core products are short-term interest rate, or STIR, contracts, with its principal STIR contracts based on implied forward rates denominated in euro and sterling, such as Euribor, short-term Sterling and Gilt contracts, as well as U.S. rates including Eurodollar and GCF repo futures.

ICE Futures U.S. offers financial products in currency, equity index and credit index markets, including contracts on certain MSCI indices. We entered into an agreement with MSCI, Inc. under which we license the right to list futures and options contracts on a broad range of MSCI equity indices, most notably the Emerging Markets and EAFE indices.

ICE Futures U.S. lists futures and options contracts for approximately 60 currency pair contracts including euro-based, U.S. dollar-based, yen-based, sterling-based and other cross-rates, as well as the benchmark U.S. Dollar Index (USDX®) futures contract.

Securities Products and Listings

We offer securities trading products and listings through our securities exchanges: the NYSE, NYSE MKT and NYSE Arca. We provide multiple marketplaces for investors, broker-dealers and other market participants to meet directly to buy and sell equities, fixed income securities and ETFs. One of the primary functions of our markets is to ensure that orders to purchase and sell securities are executed in a reliable, orderly, liquid and efficient manner.

Through our listing venues, we offer our customers access to the capital markets in the U.S. We allow companies to list domestic and international equity securities, corporate structured products, convertible bonds, ETFs and bonds. Through our equity options exchanges, we offer multi-listed options on U.S. equities.

Credit Derivatives Instruments

We offer electronic trade execution for CDS instruments through Creditex Brokerage, which is authorized and regulated by the Financial Conduct Authority, or FCA, and the CFTC, and Creditex, our U.S. based interdealer broker, which is regulated by the CFTC. ICE Swap Trade provides electronic execution for the OTC credit markets. We offer clearing services for the CDS markets through ICE Clear Europe and ICE Clear Credit. Both CDS clearing houses are open-access and therefore accept qualifying trades for clearing that are executed on other venues.

CDS are derivative instruments that involve a credit risk transfer between counterparties with respect to fixed income instruments such as corporate and sovereign debt securities. CDS are mainly used to hedge against credit risk exposure related to a particular reference entity for a specified debt obligation or debt instrument.

We also operate ICE Link, which is an automated trade workflow and electronic connectivity platform for affirming credit derivatives transactions. It also provides connectivity between participants, facilitating straight-through processing to the Depository Trust & Clearing Corporation's Trade Information Warehouse for non-cleared CDS transactions or to a clearing house for CDS transactions that are clearing eligible.

OTC Energy Products

Our OTC energy markets comprise the trading of bilateral energy contracts. We operate our financially settled bilateral energy markets through ICE Swap Trade and we offer electronic trading of contracts based on physically settled natural gas, power and refined oil products through ICE U.S. OTC Commodity Markets.

As of December 31, 2016, approximately 550 OTC energy contracts were listed on our electronic trading platform for bilateral trading. A substantial portion of our OTC volume relates to approximately 70 contracts in North American natural gas and power, and global oil.

ICE Data Services (IDS)

Pricing and Analytics

IDS' Pricing and Analytics service provides global security evaluations, reference data, risk analytics, derivative pricing and other information designed to support financial institutions' and investment funds' trading, pricing activities, research, portfolio management, reporting and regulatory compliance.

We provide bond valuations to approximately 5,000 clients worldwide, including independent evaluated pricing services on over 2.7 million fixed income securities and other hard-to-value financial instruments. Our evaluated pricing spans approximately 135 countries and covers a wide range of financial instruments including sovereign, corporate and municipal bonds, structured products, leveraged loans and derivatives, and our Fair Value Information Services for international equities, options and futures. In addition, we collect, edit and normalize end-of-day pricing data, obtained from a variety of sources, including approximately 200 financial markets and exchanges globally. Clients need to value these financial instruments to meet regulatory requirements and to enable a range of mission-critical processes within their back, middle and front office.

IDS has innovated to address the need for more intraday bond market transparency and pricing information. For example, Continuous Evaluated Pricing service extends the reach of fixed income end-of-day evaluations into intraday applications. Evaluations are updated throughout the trading day as market information, including dealer quotes and trades, is received and processed. Our Best Execution service leverages our Continuous Evaluated Pricing to help traders, portfolio managers and compliance officers more closely monitor trading activities and measure trading effectiveness and quality across a growing number of venues and protocols.

Our liquidity indicators service provides an independent view of near-term relative liquidity to support clients' liquidity risk management needs. The service provides estimates of trade volume capacity, future price volatility, days to liquidate, and market price impact at both the instrument and portfolio level.

Our recently acquired Securities Evaluations business also provides fixed income evaluated pricing services, especially within the U.S. municipal bond space, to a wide range of financial companies. Until this business is integrated into IDS, it is being managed separately from Interactive Data Pricing and Reference Data LLC. In addition, Credit Market Analysis is a provider of independent data for the OTC markets, including credit derivatives and bonds. Securities Evaluations and Credit Market Analysis are part of our suite of pricing and analytics products and services.

SuperDerivatives, now part of IDS, provides valuation calculation services for OTC derivatives and structured products, specializing in complex instruments while offering multi-asset front office solutions. The offering includes a dedicated, in-house quantitative analysis team, secure and scalable grid computing, and broad coverage of implied volatility surfaces, correlations, and curves.

Our reference data complements our evaluated pricing services by offering our clients a broad range of descriptive information, covering over 10 million global financial instruments. This data is used by clients to enhance risk management, support compliance with regulatory mandates and improve operational efficiency across their organizations. We compile information from an extensive range of sources, including exchanges, underwriters, government agencies, issuers and other authoritative sources.

IDS also offers a range of regulatory solutions services designed to help clients meet the ever increasing demands placed upon the financial industry by global regulations. These services support the data and analytics requirements of our clients' compliance workflow, enabling them to more efficiently meet their commitments. Our products are developed to assist clients across sectors such as banking, insurance, asset management, and other financial organizations.

Our BondEdge® fixed income and equity portfolio analytics offerings provide financial institutions with data as well as proprietary fixed income and equity portfolio analytics to help analyze risk and return. These offerings are used by investment professionals to simulate various market environments to help forecast performance, construct portfolios, validate investment strategies, conduct stress testing, generate dynamic risk measures, analyze asset cash flows and support regulatory compliance requirements.

IDS designs and distributes many of today's leading indices and benchmarks across equities, fixed income and derivatives markets. ICE Bond Index Series is a broad representation of the U.S. investment grade, high-yield and treasury markets published in local currency terms, and include numerous metric and analytic values. Our energy benchmarks cover popular trading areas of the market, such as ICE Brent Crude futures, more than 100 North

American natural gas and power hubs, and a variety of other energy markets. Our ETF Valuations and Index Construction offering provides clients with independent and objective operational outsourcing, including design, support, maintenance, calculation and distribution of indices across fixed income instruments, currencies, equities, and commodities.

Exchange Data

We publish a broad range of historical prices and other transaction data and related content from our electronic futures trading platform and clearing houses. The data is disseminated through data vendors and directly to end users via real time feeds in a number of formats. The real-time packages are accessed on a per-user subscription basis.

We distribute real-time market data from our securities exchanges. This data includes price, transaction and order book data on all of the instruments traded on NYSE's markets. The data is disseminated through data vendors and directly to market participants. NYSE provides two types of market data products and services: data products required by the regulations governing the National Market Systems, or NMS, plans and proprietary data products.

The NMS consolidated data products meet the SEC requirement for securities markets to work together in consolidating their bids, offers and last sale prices for each security, and to provide this information to the public on a consolidated basis. Last sale prices and quotes in the New York Stock Exchange-listed, NYSE MKT-listed and NYSE Arca-listed securities are disseminated through Tape A and Tape B, which constitute the majority of our NYSE market data revenues. We also receive a share of the revenues from Tape C, which represents data related to trading of certain securities (including ETFs) that are listed on Nasdaq.

In addition, we make certain equity market data available, which is known as proprietary data. We package this type of market data as real-time products and as historical products used for analysis by traders, researchers and academics. These products are proprietary to ICE, and we do not share the revenues that they generate with other markets. Proprietary data that provides real-time quoting or trading information regarding our markets is subject to review by the SEC. In addition, the pricing for these market data products is subject to review by the SEC on the basis of whether prices are fair, reasonable and not unfairly discriminatory.

Desktops and Connectivity

Our Desktop service offers a range of products and services supporting an array of trading, wealth management, and other investment applications. These applications deliver real-time financial market information and decision support tools to help clients analyze financial markets and make investment decisions. Similarly, our web-based financial information solutions consist of market data, decision-support tools and hosting services. Our robust instant messaging, or IM, system protects the privacy of clients' business information while allowing collaboration with other market participants in the industry through a secure, compliant channel.

We offer connectivity solutions to access markets and data through highly secure, resilient and low latency network options, as well as global co-location services, and the Direct Market Access network of over 150 venues and 600 market data and news feeds. Our consolidated feeds solution provides cost-effective access to a range of real-time data sources. Clients who have agreements with any of over 460 global exchanges, trading venues and data sources covering listed and OTC securities can receive consolidated real-time and/or delayed feeds of such financial data. Our Consolidated Feed service is complemented by our Tick History service, which provides access to tick and trade data for global securities to assist clients with "best execution" requirements, transaction cost analysis and advanced charting applications. Our networks are secure, purpose-built, private multi-participant networks that provide customers connectivity to global exchanges and content service providers via dedicated data circuits with a design that ensures no single point of failure exists across the networks.

We operate purpose-built data centers in the U.K. and Mahwah, New Jersey and we manage systems in a third-party data center in Illinois to meet the needs of a largely electronic customer base. We offer server colocation space at our data centers for market participants to house their servers and applications on equivalent terms.

Trayport

Trayport licenses its technology to serve brokers, exchanges and traders to facilitate electronic and hybrid trade execution primarily in the energy markets. Although our acquisition of Trayport is currently under regulatory review, Trayport expected to enable us to provide new technology and software-related services to our energy customers. For additional information regarding the Trayport acquisition, refer to Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations - Recent Developments", which is included in this Annual Report.

ICE Benchmark Administration (IBA)

IBA is the regulated administrator of a range of benchmarks. IBA has implemented processes, governance, systems and technology that enhance the transparency and security of benchmarks and services relied upon globally.

In February 2014, IBA was authorized by the FCA to commence administration of LIBOR as an independent and regulated benchmark administrator. Since authorization, IBA has been working with global industry associations, stakeholders and regulators to transition LIBOR and improve the integrity and transparency of the benchmark. IBA has established a robust oversight and governance framework, in addition to developing surveillance technology and

analytical tools to operate the benchmark setting process.

In August 2014, IBA became the ICE Swap Rate, formerly ISDAFIX, administrator following appointment by the International Swaps and Derivatives Association, or ISDA. The ICE Swap Rate benchmark represents the average mid-market swap rate for major currencies at selected maturities on a daily basis. Market participants use the rate to price and settle swap contracts and as a reference rate for floating rate bonds.

In March 2015, IBA became the administrator of the gold price. The London Bullion Market Association, or LBMA, Gold Price replaced the Gold Fixing Price that had been in existence since September 1919. The price is set in London twice a day and provides a published benchmark price that is widely used as an international pricing medium by producers, consumers, investors and central banks.

In September 2016, IBA became the operator of the ISDA SIMM Crowdsourcing Utility, which is a utility for establishing risk buckets for credit and equity assets. Market participants use these risk buckets in the calculation of initial margin for uncleared derivatives trades.

In December 2016, IBA was named by ISDA to be the Secretary to the ISDA Credit Derivatives Determinations Committees (DCs). Following a transition period of approximately six months, as DC Secretary IBA will become responsible for maintaining and operating all infrastructure required to administer the DC process and ensuring that the process is robust, transparent and meets regulatory and governance standards. The terms for administering the DC process are still being negotiated.

Clearing Services

We currently operate six clearing houses. Our clearing strategy is designed to provide financial stability to the markets served by us while providing capital efficiency and meeting the risk management, capital and regulatory requirements of a global marketplace. Our clearing houses clear, settle and guarantee the financial performance of futures contracts and options on futures contracts. ICE Clear Europe also clears European CDS instruments, and ICE Clear Credit clears North American, European, Asian-Pacific and Emerging Market CDS instruments. Through each of our clearing houses, we maintain a system for the performance of obligations for the products we clear. This system is supported by several mechanisms, including:

- rigorous clearing membership requirements;
- daily mark-to-market of positions and settlement of variation margin;
- intraday monitoring of open positions and market conditions;
- the calculation and posting of original/initial margin deposits;
- limited contribution of the clearing house's capital;
- process for conducting regular stress testing;
- maintenance of guaranty funds in which clearing members maintain deposits to mutualize losses; and
- broad assessment powers, all of which cover financial losses beyond the pre-funded guaranty funds.

The amount of margin and guaranty fund deposits fluctuates over time as a result of, among other things, the extent of open positions held at any point in time by market participants and the volatility of the market as reflected in the applicable margin rates for such contracts.

Clearing House Risk Management Practices

Our clearing houses have an excellent track record of risk management, and have never experienced an incident of a clearing member default which has required the use of the guaranty funds of non-defaulting clearing members or the assets of the clearing house. We have extensive risk management procedures in place to ensure we protect the interests of our clearing members and clearing houses. Each of our clearing houses has instituted a multi-layered risk management system of rules, policies and procedures to protect itself in the event of a clearing member default, starting with membership criteria and continuing to powers of assessment in the event of a clearing member default, generally as follows:

To ensure performance, our clearing houses maintain extensive technology and quantitative risk management systems, as well as financial and operational requirements for clearing members and minimum margin requirements for our cleared products. Our clearing houses use software based on industry standard margining conventions and on our proprietary models uniquely customized to our products to determine the appropriate margin requirements for each clearing member by simulating the possible gains and losses of complex portfolios based on price movements. Our clearing houses' margin methodologies are independently validated on an annual basis.

In the event of a payment default by a member, the default procedures specified in the rules of that clearing house would apply. In general, the clearing houses would first apply assets of the defaulting member to cover the obligation. These include original/initial margin, variation margin, positions held at the clearing house and guaranty fund deposits of the clearing member. In addition, the clearing houses could make a demand for payment pursuant to any available guarantee provided by the parent or affiliate of the defaulting clearing member. If that is not sufficient, the clearing houses would use any designated contributions held by the clearing house itself, as applicable, the guaranty fund contributions of other members and funds collected through an assessment against all other non-defaulting members, to satisfy the remaining deficit, if any. As part of the powers and procedures designed to backstop financial obligations in the event of a default, each of our clearing houses may levy assessments on all of its clearing members if there are insufficient funds available to cover a deficit following the depletion of all assets in the guaranty fund.

Our risk management framework that applies to the clearing services for the CDS markets through ICE Clear Credit and ICE Clear Europe is separate from that of our futures and options or non-CDS clearing operations. We also offer clearing services for CDS markets through ICE Clear Credit. We have established separate CDS risk pools for ICE Clear Credit and ICE Clear Europe, including separate guaranty funds and margin accounts, meaning that the CDS positions are not combined with positions in our futures and options clearing houses. The CDS clearing houses have risk management systems that are designed specifically for CDS instruments and have independent governance structures. Our CDS clearing houses are open-access pursuant to regulatory requirements and therefore accept qualifying trades for clearing that are executed on other venues. As of December 31, 2016, our CDS clearing houses clear 455 single name instruments and 136 CDS indexes.

Our clearing houses require that each clearing member make deposits to the guaranty fund. The amounts in the guaranty fund serve to secure the obligations of a clearing member to our clearing houses and may be used to cover losses in excess of the margin and clearing firm accounts sustained by our clearing houses in the event of a default of a clearing member. As of December 31, 2016, we have made combined contributions to our clearing houses guaranty funds of $253 million. ICE Clear Europe has contributed $100 million of its own cash as part of its futures and options guaranty fund as of December 31, 2016 and has also contributed $50 million of its own cash as part of its CDS guaranty fund as of December 31, 2016. ICE Clear Credit has contributed $50 million of its own cash as part of its CDS guaranty fund as of December 31, 2016 and ICE Clear U.S. has contributed $50 million of its own cash as part of its futures and options guaranty fund as of December 31, 2016. ICE Clear Canada, ICE Clear Netherlands and ICE Clear Singapore have each also contributed a combined $3 million in cash to their respective guaranty funds. Each of these amounts are reflected as long-term restricted cash in the consolidated balance sheet.

To provide a tool to address the liquidity needs of our clearing houses and manage the liquidation of margin and guaranty fund deposits held in the form of cash and high quality sovereign debt, ICE Clear Europe, ICE Clear Credit and ICE Clear U.S. have entered into Committed Repurchase Agreement Facilities, or Committed Repo. Additionally, ICE Clear Credit has entered into Committed F/X Facilities to support these liquidity needs. As of December 31, 2016, the following facilities were in place:

ICE Clear Europe:	$1.05 billion in Committed Repo to finance U.S. dollar, euro and pound sterling sovereign debt deposits.
ICE Clear Credit:	$300 million in Committed Repo to finance U.S. dollar and euro sovereign debt deposits, €800 million in Committed Repo to finance euro sovereign debt deposits, and €1.0 billion in Committed F/X Facilities to finance euro payment obligations with U.S. dollar deposits.
ICE Clear U.S.:	$250 million in Committed Repo to finance U.S. dollar sovereign debt deposits.

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Our Customer Base

Derivatives Markets

Customers in our derivatives markets include market participants seeking to trade and manage risk. They include those served by our energy, financial, and agricultural markets, including, commodity producers and consumers, financial institutions, money managers, trading firms, and other business entities.

Securities Trading and Listings

Securities trading and listings customers include various market participants in the equities markets, from financial institutions, institutional investors, wholesalers, hedge funds, quantitative funds, algorithmic traders and individual investors to companies looking to raise capital and list their securities on one of our equity exchanges. Our customers are also our members, which are entities registered as broker-dealers with the SEC that have obtained trading permits or licenses in accordance with, and subject to the rules of, the exchange in which they are members.

Our global listings businesses offer capital raising to and trading of over 2,400 companies globally, representing over $25 trillion in market capitalization as of December 31, 2016. NYSE's listed companies represent a diverse range of sectors, including technology, financial services, consumer brands, industrial, transportation, media, energy and mining. These companies meet minimum initial and ongoing listings requirements, including governance and financial standards, as established by the exchange.

Data Services

ICE Data Services distributes data globally to every aspect of today's financial services industry. Within the multitude of the trading environments (for example: commodity trading companies, proprietary trading firms, futures commission merchants), ICE services are used to execute trades more effectively. Buy side clients utilize our products in every aspect of their organizations, from security selection, risk management, and compliance of mission critical operations, such as fund valuation. In addition, our services are also used by hundreds of value added resellers, such as custodians, wealth managers, software providers, and other outsourcing organizations who use our products and services across their front, middle and back offices.

Product Development

We leverage our customer relationships, global distribution, technology infrastructure and software development capabilities to diversify our products and services. New product development is an ongoing process, and we are continually developing, evaluating and testing new products for introduction into our markets to better serve our client base. The majority of our product development

relates to evaluating new contracts or new markets based on customer demand. New contracts often must be reviewed and approved by relevant regulators. Outside of third-party licensing costs, we typically do not incur separate, material costs for the development of new products - such costs are embedded in our normal costs of operation.

While we have historically developed our products and services internally, we also periodically evaluate and enter into strategic partnerships and licensing arrangements to develop meaningful new products and services.

Technology

Technology is a key component of our business strategy, and we regard effective execution of our technology initiatives as crucial to our success. Where feasible, we design and build our software systems and believe that having control over our technology allows us to be more responsive to the needs of our customers, better support the dynamic nature of our business and deliver the highest quality markets and data. Our proprietary systems are built using state-of-the-art technology. A significant number of our employees work in technology, including product management, project management, system architecture, software development, network engineering, information security, performance, systems analysis, quality assurance, database administration and customer technical support.

ICE Trading Platforms and Technology

The ICE trading platform supports trading in our cleared futures and options markets as well as our bilateral OTC markets. We also offer voice brokers a facility for submitting block trades for products that are eligible for clearing. Speed, reliability, scalability and capacity are critical performance criteria for electronic trading platforms. Connectivity to our trading platform for our markets is available through our web-based front-end, as well as multiple independent software vendors, or ISVs, and application programming interfaces, or APIs.

NYSE Trading Platforms and Related Technology

The NYSE electronic trading platform features an open system architecture that allows users to access our system via one of the many front-end trading applications developed by ISVs. For equity options, we offer a hybrid model of electronic and open outcry trading through NYSE Amex Options and NYSE Arca Options. We have developed a new integrated trading platform and matching engine known as NYSE Pillar and have migrated Arca Equities to this platform. In the future, we will complete the migration for the remaining four U.S. cash equities and equity options markets which currently operate on distinct platforms. The single specification will improve performance and reduce the cost and complexity of operating multiple equity and options trading systems.

ICE Data Services Technology

ICE Data Services technology supports solutions for mission-critical information, analytics and connectivity. Our technology centers around an integrated platform for the capture, maintenance and synthesis of information. This platform includes a single configurable data capture mechanism, a common data model, and a flexible multi-format delivery capability. The platform enables real-time processing and delivery of information, accelerates new product development, improves production reliability, and yields operating and cost efficiencies as the pre-existing heterogeneous environment is retired. Our information is delivered via real-time messaging protocols, files, web services and other on-demand facilities, and state-of-the-art front-ends.

Clearing Technology

A broad range of trade management and clearing services are offered through the integrated technology infrastructure that serves our clearing houses. ICE Clearing Systems encompass a number of integrated systems, including post-trade position management, risk management, settlement, treasury and reporting functions.

A core component of our derivatives clearing houses is the risk management of clearing firm members. Our extensive technology and rules-based risk system provides analytical tools to determine margin, to determine credit risk, and monitor risk of the clearing members. The risk system also monitors trading activities of the clearing members.

Cybersecurity

Cybersecurity is critical to our operations. We employ a defense-in-depth strategy, employing leading-edge security technology and processes including encryption, firewalls, virus prevention, intrusion prevention and detection systems and secured servers. Where our services are accessible via the Internet, we have implemented additional restrictions to limit access to specific approved networks. We also maintain insurance coverage that may, subject to the terms and conditions of the policy and payment of significant deductibles, cover certain aspects of cybersecurity issues. We monitor physical threats in addition to cyber threats and continuously review and update physical security and environmental controls to secure our office and data center locations.

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Business Continuity Planning and Disaster Recovery

We maintain comprehensive business continuity and disaster recovery plans and facilities to provide nearly continuous availability of our markets in the event of a business disruption or disaster. We maintain incident and crisis management plans that address responses to disruptive events at any of our locations worldwide.

Intellectual Property

We rely on a wide range of intellectual property, both owned and licensed, for our electronic platforms. We own the rights to a large number of trademarks, service marks, domain names and trade names in the U.S., Europe and in other parts of the world. We have registered many of our trademarks in the U.S. and in certain other countries. We hold the rights to a number of patents and have made a number of patent applications in the U.S. and other countries. We also own the copyright to a variety of material. Those copyrights, some of which are registered, include software code, printed and online publications, websites, advertisements, educational material, graphic presentations and other literature, both textual and electronic. We attempt to protect our intellectual property rights by relying on trademarks, patents, copyrights, database rights, trade secrets, restrictions on disclosure and other methods.

This Annual Report also includes references to third party trademarks, trade names and service marks. Our use or display of any such trademarks, trade names or service marks is not an endorsement or sponsorship and does not indicate any relationship between us and the parties who own such marks and names.

Employees

As of December 31, 2016, we had a total of 5,631 employees, with 834 employees in Atlanta, 1,790 employees in New York, 967 employees in the U.K. and a total of 2,040 employees across our other offices around the world. Of our total employee base, less than 1% is subject to collective bargaining arrangements, and such relations are considered to be good.

Executive Officers of the Registrant

Information relating to our executive officers is included under “Executive Officers” in Part III, Item 10, “Directors, Executive Officers and Corporate Governance” of this Annual Report.

Regulation

Our markets are primarily subject to the jurisdiction of regulatory agencies in the U.S., U.K., the European Union, or EU, Canada and Singapore. Failure to satisfy regulatory requirements can or may give rise to sanctions by the applicable regulator.

Regulation of our Derivatives Business

Our regulated derivatives markets and clearing houses are based primarily in the U.S., U.K., EU, Canada and Singapore. Our U.S. futures exchange is subject to extensive regulation by the CFTC under the Commodity Exchange Act, or CEA. The CEA generally requires that futures trading in the U.S. be conducted on a commodity exchange registered as a Designated Contract Market, or DCM. As a registered DCM, ICE Futures U.S. is a self-regulatory organization, or SRO, that has instituted rules and procedures to comply with the core principles applicable to it under the CEA. In the U.K., ICE Futures Europe is a Recognized Investment Exchange, or RIE, in accordance with the Financial Services and Markets Act 2000, or FSMA. Like U.S. regulated derivatives markets, RIEs are SROs with surveillance and compliance responsibilities. ICE Clear Credit and ICE Clear U.S. are regulated by the CFTC as Derivatives Clearing Organizations, or DCOs. DCOs are subject to extensive regulation by the CFTC under the CEA. ICE Clear Europe, which is primarily regulated in the U.K. by the Bank of England as a Recognized Clearing House, or RCH, is also subject to regulation by the CFTC as a DCO. Both ICE Clear Credit and ICE Clear Europe are also regulated by the SEC as clearing agencies because they clear security-based swaps.

The Financial Stability Oversight Council, or FSOC, has designated ICE Clear Credit as a systemically important financial market utility under Title VIII of the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act. As such, ICE Clear Credit has access to the Federal Reserve System and holds deposits of $7.3 billion of its U.S. dollar cash in its cash accounts at the Federal Reserve as of December 31, 2016.

Regulation of our Securities Business

In our cash equities and options markets, the New York Stock Exchange, NYSE Arca and NYSE MKT are national securities exchanges and, as such, are SROs and subject to oversight by the SEC. Accordingly, our U.S. securities exchanges are regulated by the SEC and, in turn, are the regulators of their members. As national securities exchanges, the New York Stock Exchange, NYSE Arca and NYSE MKT must comply with, and enforce compliance by their

members with, the Securities Exchange Act.

Regulation of our Data Business

As a result of our evaluated pricing operations, we have subsidiaries that are registered with the SEC under the Investment Advisers Act for their evaluated pricing services. The Investment Advisers Act imposes numerous obligations on registered investment advisers, including record-keeping, operational and marketing requirements, disclosure obligations and prohibitions on fraudulent activities. Investment advisers also are subject to certain state securities laws and regulations.

Regulatory Reform

Domestic and foreign policy makers have undertaken ongoing reviews of their legal frameworks governing financial markets following the 2009 financial crisis, and have either passed new laws and regulations, or are in the process of debating and/or enacting new laws and regulations that apply to our business and to our customers' businesses. Our key areas of focus on these evolving efforts are:

- The synchronization of regulations globally. Global regulations have not been fully harmonized and several of the Markets in Financial Instruments Directive II's, or MIFID II, regulations are counter to U.S. rules. In addition, as a result of the U.S. elections, there is potential for further divergence between MIFID II and U.S. rules if the new administration makes changes to financial regulations while the EU continues with MIFID implementation.
- The harmonization of regulations relating to margin in the U.S. and EU. In March 2016, the European Commission adopted a decision relating to U.S. CFTC regulatory equivalence and margin treatment for clearing houses. The equivalence decision allows European clearing houses to margin customers at a one day gross margin period of risk (equivalent to the U.S. rules for clearing houses) and, with respect to CFTC regulated products, requires U.S. clearing houses to margin proprietary positions at a two day net margin period of risk (equivalent to the European rules for clearing houses). U.S. clearing houses are also required to demonstrate implementation of specific anti-procyclicality measures, equivalent to European regulatory standards. The equivalence decision exempts U.S. agricultural products (including ICE Futures U.S.'s coffee, cocoa, cotton and sugar contracts) from these changes. Pursuant to the recognition afforded under the equivalence decision, European customers will be able to continue to access our CFTC regulated U.S. clearing houses with respect to CFTC regulated products. Similarly, ICE Clear Europe will be able to margin customers in a manner similar to U.S. clearing houses.
- We continue to gain recognition of our businesses in foreign jurisdictions. In September 2016, the Bank of England authorized ICE Clear Europe as a central counterparty clearing house, or CCP, in accordance with European Market Infrastructure Regulation, or EMIR. Additionally, in September 2016, ESMA granted recognition to ICE Clear Credit as a third-country CCP for products regulated by the CFTC. The European Securities and Markets Authority, or ESMA, also issued ICE Clear Credit further relief for security-based swaps, which are regulated by the SEC, while the European Commission works toward an equivalence determination with respect to the recently finalized SEC regulations. In December 2016, ESMA granted recognition to ICE Clear US as a third-country CCP for products regulated by the CFTC.
- The non-discriminatory access provisions of MiFID II as currently drafted, would require our European exchanges and CCPs to offer access to third parties on commercially reasonable terms. In addition, MiFID II could require our European exchanges to allow participants to trade and/or clear at other venues, which may encourage competing venues to offer our products. In June 2016, the European Union approved a twelve-month postponement of MiFID II implementation and compliance to January 1, 2018.
- The implementation of capital charges in Basel III, particularly the Supplemental Leverage Ratio with respect to certain clearing members of central counterparties. These new standards may impose burdensome capital requirements on our clearing members and customers that may disincentivize clearing.
- The adoption and implementation of position limit rules in the U.S. and Europe, which could have an impact on our commodities business if comparable trading venues in foreign jurisdictions are not subject to equivalent rules. In December 2016, the CFTC re-proposed the position limit rules as opposed to finalizing the rule. Conversely, position limits will be implemented in Europe beginning January 2018 under MiFID II.
- The proposed European financial transaction taxes are uncertain. In September 2015, 11 European nations, including France, Germany and the Netherlands, met to discuss implementing a financial transaction tax on equities and derivatives trading. While certain of the participants reached a broad political agreement on instituting the tax, many details are left to be concluded, including how to assess the tax at a member state level. Implementation of a financial

transaction tax could have a distortive effect on our European operations if adopted.

- The EU Benchmark Regulation, or BMR, was adopted in June 2016, and requires any entity using a benchmark provided by a third country benchmark administrator to register with ESMA. ICE Data Services plans to apply to ESMA for recognition. As the recognition process is new, the timeframe for registration is currently unknown.

- Brexit timing and implications have not yet been determined. We are monitoring the impact to our business of the U.K. leaving the EU. The impact to our business and corresponding regulatory changes are uncertain at this time, and may not be known in the near future.

Please see the discussion below and Item 1(A) "- Risk Factors" in this Annual Report for additional description of regulatory and legislative risks and uncertainties.

Corporate Citizenship

We strive to create long-term value for our shareholders and maintain high ethical and business standards. We are active in the communities where we operate and support charitable organizations through a combination of financial resources and through employee participation. We also operate the ICE NYSE Foundation that has a commitment to supporting our communities, financial literacy and veterans' programs. We also host programs for our issuers on governance topics to provide a forum for advancing their efforts on environmental, social and governance matters. We provide additional information in our Sustainability Report, which can be located in the Corporate Citizenship section of our website.

With regard to environmental markets, we own Climate Exchange PLC and are today the leading operator of global emissions and environmental products markets, which enabled us to expand and support the development of emissions markets. We have invested further to develop new environmental products on our exchanges, including carbon emissions, aviation allowances, renewable energy certificate contracts, California carbon allowance contracts and biofuel products related to renewable identification numbers.

Available Information

Our principal executive offices are located at 5660 New Northside Drive, 3rd Floor, Atlanta, Georgia 30328. Our main telephone number is 1-770-857-4700, and our website is www.intercontinentalexchange.com.

We are required to file reports and other information with the SEC. A copy of this Annual Report on Form 10-K, as well as any future Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and any amendments to such reports are available free of charge, on our website (www.theice.com) as soon as reasonably practicable after we file such reports with, or furnish such reports to, the SEC. A copy of these filings is also available at the SEC's website (www.sec.gov). The reference to our website address and to the SEC's website address do not constitute incorporation by reference of the information contained on the website and should not be considered part of this report. You may read and copy any documents filed by us at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the Public Reference Room.

In addition, we have posted on our website the charters for our (i) Audit Committee, (ii) Compensation Committee, (iii) Nominating and Corporate Governance Committee and (iv) Risk Committee, as well as our Code of Business Conduct and Ethics, which includes information regarding our whistleblower hotline information, Board of Directors Governance Principles and Board Communication Policy. We will provide a copy of these documents without charge to stockholders upon request.

ITEM 1(A). RISK FACTORS

The risks and uncertainties described below are those that we currently believe may materially affect us. Other risks and uncertainties that we do not presently consider to be material or of which we are not presently aware may become important factors that affect us in the future. If any of the risks discussed below actually occur, our business, financial condition, operating results or cash flows could be materially adversely affected. Accordingly, you should carefully consider the following risk factors, as well as other information contained in or incorporated by reference in this Annual Report.

Global economic, political, financial market and social events or conditions may impact volatility that may negatively impact our business.

Global economic conditions will impact our business. Adverse macroeconomic conditions, including recessions, inflation, high unemployment, currency fluctuations, actual or anticipated large-scale defaults or failures, or slowdown of global trade could decrease consumer and corporate confidence and reduce consumer, government and corporate spending. If our customers reduce spending, workforce, trading activity or demand for financial data as a result of challenges in the prevailing economic markets, our revenues will decline. Further, NYSE's revenue increases when

more companies are willing to go public and stagnation or a decline in the initial public offering market would have an adverse effect on our revenues. A prolonged decrease in the number of initial public offerings could also negatively impact the growth of our transaction revenues since initial public offerings are typically actively traded following the offering date.

A significant portion of our revenues are derived from fees for transactions executed and cleared in our markets. We derived 43%, 56% and 61% of our consolidated revenues, less transaction-based expenses, from our transaction-based business in 2016, 2015 and 2014, respectively. In particular, we derive a significant percentage of the consolidated revenues from our transaction-based business from trading in ICE Brent Crude futures and options contracts, North American natural gas futures and options contracts, sugar futures and options contracts, equity transactions and short term interest rates contracts, including the Euribor and Short Sterling futures and options contracts. The trading volumes in our markets could decline substantially if our market participants reduce their level of trading activity for any reason, including the factors referenced above that impact volatility, and:

- a reduction in the number of market participants that use our platform;
- a reduction in trading demand by customers or a decision to curtail or cease hedging or speculative trading;
- regulatory or legislative changes impacting our customers and financial markets;
- heightened capital requirements or mandated reductions in leverage resulting from new regulation;
- defaults by clearing or exchange members or the inability of participants to pay out contractual obligations;
- changes to our contract specifications that are not viewed favorably by our market participants; or
- reduced access to or availability of capital required to fund trading activities.

A reduction in our overall trading volume could render our markets less attractive to market participants as a source of liquidity, which could result in further loss of trading volume and associated transaction-based revenues. A reduction in trading volumes could also result in a corresponding decrease in the demand for our market data, which would further reduce our overall revenue.

In addition, recent economic weakness and uncertainty in various markets throughout the world have resulted or may result in decreased revenues or growth rates. For example, the U.K.'s June 2016 vote to leave the European Union (commonly known as "Brexit") and the uncertainty surrounding the U.K.'s exit from the European Union could negatively impact markets and cause weaker macroeconomic conditions that could continue for the foreseeable future. Such economic weakness and uncertainty may adversely affect demand for our products and services.

Our businesses and those of many of our clients have been and continue to be subject to increased legislation and regulatory scrutiny, and we face the risk of changes to this regulatory environment and business in the future.

We are and will continue to be subject to extensive regulation in many jurisdictions around the world, and in particular in the U.S. and the U.K. where the largest portions of our operations are conducted. We face the risk of significant actions by regulatory and taxing authorities in all jurisdictions in which we conduct our businesses and hold investments that may affect our business, the activity of our market participants, and as a consequence, our results. Among other things, as a result of regulators and tax authorities enforcing existing laws and regulations, we could be censured, fined, prohibited from engaging in some of our business activities, subjected to limitations or conditions on our business activities, including fair, reasonable and nondiscriminatory pricing restrictions (known as FRAND), or subjected to new or substantially higher taxes or other governmental charges in connection with the conduct of our business or with respect to our employees, including settlement payments, interest payments and penalty payments. In many cases, our activities may be subject to overlapping and divergent regulation in different jurisdictions.

There is also the risk that new laws or regulations or changes in enforcement practices applicable to our businesses or those of our clients could be imposed. This could adversely affect our ability to compete effectively with other institutions that are not affected in the same way or impact our clients' overall trading volume through our exchanges and demand for our market data and other services. In addition, regulation imposed on financial institutions or market participants generally, such as enhanced regulatory capital requirements, could adversely impact levels of market activity and price volatility more broadly, and thus impact our businesses. Notwithstanding the recent U.S. Presidential election, it is unknown at this time to what extent new legislation will be passed into law or pending or new regulatory proposals will be adopted or modified, or the effect that such passage, adoption or modification will have, positively or negatively, on our industry or on us.

These developments could impact our profitability in the affected jurisdictions, or even make it uneconomical for us to continue to conduct all or certain of our businesses in such jurisdictions, or could cause us to incur significant costs associated with changing our business practices, restructuring our businesses, or moving all or certain of our

businesses and our employees to other jurisdictions, including liquidating assets or raising capital in a manner that adversely increases our funding costs or otherwise adversely affects our stockholders and creditors. In addition, certain developments could increase our liability for performing our oversight requirements.

U.S. and European legal and regulatory developments in response to the global financial crisis, in particular the Dodd-Frank Act, EMIR, MiFID II and the benchmark regulation, have significantly altered and propose to further alter the regulatory framework within which we operate and may adversely affect our competitive position and profitability. Among the aspects of these enacted and proposed legal and regulatory changes most likely to affect our businesses are: position limit rules in the U.S. and Europe, non-discriminatory access provisions of MiFID II, interoperability and margin rules in EMIR, enhanced regulatory capital liquidity and leverage rules in Basel III and Capital Requirements Directive IV, access rules under the benchmark regulation, the non-harmonization of margin requirements, implementation of a financial transaction tax, access to our benchmarks and maintaining our exchanges' abilities to operate as SROs with related immunity for the discharge of their regulatory functions. As the operator of global businesses, the lack of harmonization in international financial reform efforts could impact our business as our clearing houses and exchanges are subject to regulation in multiple jurisdictions.

The Dodd-Frank Act established enhanced regulatory requirements for non-bank financial institutions designated as "systemically important" by the FSOC. ICE Clear Credit has been designated as a systemically important financial market utility by the FSOC and as a result, is subject to additional oversight by the CFTC.

Other enacted and proposed legal and regulatory changes not discussed above may also adversely affect our competitive position and profitability. See Item 1 "- Business - Regulation" above for additional information regarding the current and proposed laws and regulations that impact our business, including risks to our business associated with these laws and regulations.

Systems failures in the derivatives and securities trading industry could negatively impact us.

High-profile system failures in the derivatives and securities trading industry, like the one we suffered at NYSE on July 8, 2015, could negatively impact our business and result in regulatory investigations, fines and penalties. Further, regulators have imposed new requirements for trading platforms that have been costly for us to implement, or that could result in a decrease in demand for some of our services. In particular, the SEC's Regulation Systems Compliance and Integrity, or Regulation SCI, and the CFTC's system safeguards regulations subject portions of our securities and derivatives trading platforms and other technological systems related to our clearing houses, trade repositories and the U.S. Swap Execution Facility, or SEF, to more extensive regulation and oversight. Ensuring our compliance with the requirements of Regulation SCI and the CFTC's system safeguards regulations requires significant implementation costs as well as increased ongoing administrative expenses and burdens. If system failures in the industry continue to occur, it is also possible that investor confidence in the trading industry could diminish, leading to decreased trading volume and revenue. Whether or not any of our own systems experience material failures, any of these developments could adversely affect our business, financial condition and operating results.

Our business is subject to the impact of financial markets volatility, including the prices and interest rates underlying our derivative products, due to conditions that are beyond our control.

Trading volume in our markets and products is largely driven by the degree of volatility - the magnitude and frequency of fluctuations - in prices and levels of the underlying commodities, securities, indices, financial benchmarks or other instruments. Volatility increases the need to hedge price risk and creates opportunities for investment and speculative or arbitrage trading. Were there to be a sustained period of stability in the prices or levels of the underlying commodities, securities, indices, benchmarks or other instruments of our products, we could experience lower trading volumes, slower growth or declines in revenues.

Factors that are particularly likely to affect price and interest rate levels and volatility, and thus trading volumes, include:

- global and domestic economic, political and market conditions;
- concerns over inflation, deflation, legislative and regulatory changes, government fiscal and monetary policy - including actions by the Federal Reserve, other foreign monetary units governing bodies, and investor and consumer confidence levels;
- weather conditions including hurricanes and other significant events, natural and other unnatural disasters like large oil spills that impact the production of commodities, and, in the case of energy commodities, production, refining and distribution facilities for oil and natural gas;
- war, acts of terrorism and any unforeseen market closures or disruptions in trading;
-

real and perceived changes in the supply and demand of commodities underlying our products, particularly energy and agricultural products, including changes as a result of technological improvements or the development of alternative energy sources; and

- credit quality of market participants, the availability of capital and the levels of assets under management.

Any one or more of these factors, which are beyond our control, may reduce trading activity, which could make our markets less attractive as a source of liquidity, and in turn could further discourage existing and potential market participants and thus accelerate a decline in the level of trading activity and potentially related services such as data or clearing. If any of these unfavorable conditions were to persist over a lengthy period of time and trading volumes were to decline substantially and for a long enough period, the critical mass of transaction volume necessary to support viable markets could be jeopardized. Because our cost structure is largely fixed, if demand for our current products and services decline for any reason, we may not be able to adjust our cost structure to counteract the associated decline in revenues, which would cause our net income to decline.

Owning clearing houses exposes us to risks, including risk related to defaults by clearing members, risks related to investing margin and guaranty funds, and the cost of operating the clearing houses.

There are risks inherent in operating a clearing house, including exposure to the market and counterparty risk of clearing members, market liquidity risks, defaults by clearing members and risks associated with investing margin or guaranty fund assets provided by clearing members to our clearing houses, which could subject our business to substantial losses. For example, clearing members have transferred an aggregate amount of cash in ICE Clear Europe relating to margin and guaranty funds of $29.5 billion as of December 31, 2016 and a total of $55.2 billion for all of our clearing houses as of December 31, 2016. ICE Clear Europe and ICE Clear U.S. use third party investment managers for investment of cash assets and may add or change the investment managers from time to time. To the extent available, ICE Clear Credit holds the U.S. dollar cash that clearing members transfer to satisfy their original margin and guaranty fund requirements at its account at the Federal Reserve. With respect to other clearing member cash posted, ICE Clear Credit currently self-manages the majority of such cash and ICE Clear Credit uses external investment managers to invest the remainder of such cash margin and guaranty fund deposits.

We have an obligation to return margin payments and guaranty fund contributions to clearing members to the extent that the relevant member's risk based on its open contracts to the clearing house is reduced. If a number of clearing members substantially reduce their open interest or default, the concentration of risks within our clearing houses will be spread among a smaller pool of clearing members, which would make it more difficult to absorb and manage risk in the event of a further clearing member's default.

Although our clearing houses have policies and procedures to help ensure that clearing members can satisfy their obligations, such policies and procedures may not succeed in preventing losses after a member or a counterparty's default. In addition, although we believe that we have carefully analyzed the process for setting margins and our financial safeguards, it is a complex process and there is no guarantee that our procedures will adequately protect us from the risks of clearing these products. We cannot assure you that these measures and safeguards will be sufficient to protect us from a default or that we will not be materially and adversely affected in the event of a significant default. We have contributed a limited amount of our own capital to the guaranty fund of the clearing houses that could be used in the event of a default. Furthermore, the default of any one of the clearing members could subject our business to substantial losses and cause our customers to lose confidence in the guarantee of our clearing houses.

A decline in the value of securities held as margin or guaranty fund contributions by our clearing houses or default by a sovereign government issuer could pose additional risks of default by clearing members.

Our clearing houses hold a substantial amount of assets as margin or guaranty fund contributions, which comprise U.S. and other sovereign treasury securities. As of December 31, 2016, our clearing houses held $40.1 billion of non-cash margin or guaranty fund contributions in U.S. and other sovereign treasury securities: $29.0 billion of this amount was comprised of U.S. Treasury securities, $2.0 billion of French Treasury securities, $1.7 billion of German Treasury securities, $1.1 billion of U.K. Treasury securities, $933 million of Italian Treasury securities, and $5.4 billion of other European, Japanese and Tri-Party Treasury securities. Sovereign treasury securities have historically been viewed as one of the safest and most liquid securities for clearing houses to hold due to the perceived credit worthiness of major governments, although the markets for such securities have experienced significant volatility during the past decade and as of late due to on-going financial challenges in some of the major European countries and leading up to the U.S. government's negotiations regarding taxation, spending cuts and raising the debt ceiling, which is the maximum amount of debt that the U.S. government can legally incur. In addition, if there is a collapse of the euro, our clearing houses would face significant expenses in changing their systems and such an event could cause a credit contraction and major swings in asset prices and exchange rates. To mitigate this risk, our clearing houses

currently apply a discount or “haircut” to the market values for all sovereign securities held as margin or guaranty fund contributions; however, market conditions could change more quickly than we adjust the amount of the haircuts and the haircuts could be insufficient in the event of a sudden market event.

Notwithstanding the current intraday margin and valuation checks conducted by our clearing houses and our policies and practices to limit exposures, our clearing houses will need to continue to monitor the volatility and value of sovereign treasury securities. If the value of these securities declines significantly, our clearing houses will need to collect additional margin or

guaranty fund contributions from their clearing members, which may be difficult for the members to supply in a time of financial stress affected by an actual or threatened default by a sovereign government. In addition, our clearing houses may be required to impose a more significant discount on the value of sovereign treasury securities posted as margin or guaranty fund contributions if there is uncertainty regarding the future value of these securities, which would trigger the need for additional margin or guaranty fund contributions by the clearing members. If a clearing member cannot supply the additional margin or guaranty fund contributions, which may include cash in a currency acceptable to the clearing house, the clearing house would deem the clearing member in default. If any clearing members default as a result of the reduction in our valuation of margin or guaranty fund contributions, our clearing houses and trading business could suffer substantial losses as a result of the loss of any capital that has been contributed to the clearing house's guaranty funds and a loss of confidence by clearing members in the clearing house, resulting in a reduction in volumes of future cleared transactions.

Further, our clearing houses invest large sums through reverse repo transactions in connection with their clearing operations and may hold sovereign securities as security in connection with such investment transactions. Our clearing houses may also make time deposits with banks that are secured only to the value of FDIC insurance or other national deposit guarantee schemes, which is small, and therefore, our deposits may in significant part be lost in the event one of these banks becomes insolvent.

Owning and operating equity exchanges exposes us to additional risks, including the regulatory responsibilities to which these businesses are subject.

Owning and operating equity exchanges for which the revenues are primarily derived from market data, listing fees and trading activity, exposes us to additional risks. Adverse economic conditions and regulatory changes similar to those discussed above could result in decreased trading volume, discourage market participants from listing on our equity exchanges or cause them to forgo new offerings. Any of these could reduce our revenues, including market data revenue.

Our exchanges are operated as for-profit businesses but have certain regulatory responsibilities that must be fulfilled. Specifically, our exchanges are responsible for enforcing listed company compliance with applicable listing standards, overseeing regulatory policy determinations, rule interpretation and regulation-related rule development, and conducting trading reviews. Any failure by one of our exchanges with self-regulatory responsibility to comply with, and enforce compliance by their members, with exchange rules and securities laws could significantly harm our reputation, prompt regulatory scrutiny, result in the payment of fines or penalties and adversely affect our business, financial condition and operating results.

We must allocate significant resources to fulfill our self-regulatory responsibilities. The for-profit exchanges' goal of maximizing stockholder value might contradict the exchanges' self-regulatory responsibilities. The listing of our common stock on the NYSE could potentially create a conflict between the exchange's regulatory responsibilities to vigorously oversee the listing and trading of securities, on the one hand, and our commercial and economic interest, on the other hand. While we have structural protections to minimize these potential conflicts, we cannot be sure that such measures will be successful.

Further, changes in the rules and operations of our securities markets must be reviewed and approved by the SEC. Approval of such changes by the SEC cannot be guaranteed and the SEC could delay either the approval process or the initiation of the public comment process. Any denial or delay in approving changes could have an adverse effect on our business, financial condition and operating results.

Our compliance and risk management methods, as well as our fulfillment of our regulatory obligations, might not be effective, which could lead to enforcement actions by our regulators.

Our ability to comply with complex and changing laws and rules is largely dependent on our establishment and maintenance of compliance, audit and reporting systems that can quickly adapt and respond, as well as our ability to attract and retain qualified compliance and other risk management personnel. While we have policies and procedures to identify, monitor and manage our risks and regulatory obligations, we cannot assure you that our policies and procedures will always be effective or that we will always be successful in monitoring or evaluating the risks to which we are or may be exposed. Regulators periodically review our exchanges' ability to self-regulate and our compliance with a variety of laws and regulations including self-regulatory standards. In particular, certain of our businesses acquired in the NYSE acquisition are subject to public notice procedures prior to making changes in operations,

policies and procedures. If we fail to comply with any of these obligations, regulators could take a variety of actions that could impair our ability to conduct our business.

Our acquisitions expose us to new regulatory requirements. For example, as a result of our acquisitions of Interactive Data and Securities Evaluations, we now operate two SEC registered investment advisers, called Interactive Data Pricing and Reference Data LLC, or PRD LLC, and Securities Evaluations with respect to their provision of evaluated pricing services. Investment advisers are subject to significant regulatory obligations under the Investment Advisers Act of 1940, or Investment Advisers Act.

Prior to these acquisitions, none of our businesses were registered under the Investment Advisers Act. Compliance with the Investment Advisers Act and other regulatory requirements gives rise to costs and expenses that may be material.

Our regulators have broad enforcement powers to censure, fine, issue cease-and-desist orders or prohibit us from engaging in some of our businesses. For example, we paid a $5 million penalty to the SEC in 2014 and a $3 million penalty to the CFTC in 2015 as a result of enforcement actions brought by these regulators. In December 2015, NYSE received an inquiry from the enforcement staff of the SEC regarding a July 8, 2015 outage on the NYSE markets, during which trading was suspended for approximately 3.5 hours in all symbols. The investigation proceeded throughout 2016 and on December 29, 2016, NYSE received a Wells Notice stating that the staff have made a preliminary determination to recommend that the SEC file an enforcement action in connection with how NYSE responded on July 8, 2015 to the circumstances leading into the suspension of trading that day. The results of the Wells Notice and any enforcement action related to the July 8, 2015 outage are unknown at this time.

In addition, we have several other on-going investigations and inquiries from the SEC and other regulators that could lead to additional Wells Notices or enforcement actions. We will continue to face the risk of significant intervention by regulatory authorities, including extensive examination and surveillance activity. Any such matters may result in material adverse consequences to our results of operations, financial condition or ability to conduct our business, including adverse judgments, settlements, fines, penalties, injunctions, restrictions on our business activities or other relief. Our involvement in any such matters, even if the matters are ultimately determined in our favor, could also cause significant harm to our reputation and divert management attention from the operation of our business. Further, any settlement, consent order or adverse judgment in connection with any formal or informal proceeding or investigation by government or regulatory agencies may result in additional litigation, investigations or proceedings as other litigants and government or regulatory agencies begin independent reviews of the same businesses or activities. Finally, the implementation of new legislation or regulations, or changes in or unfavorable interpretations of existing regulations by courts or regulatory bodies, could require us to incur significant compliance costs and impede our ability to remain competitive and grow our business.

We face intense competition.

We face intense competition in all aspects of our business and our competitors, both domestic and international, are numerous. We currently compete with:

- regulated, diversified futures exchanges globally that offer trading in a variety of asset classes similar to those offered by us, such as energy, agriculture, equity and equity index, credit, and interest rate derivatives markets and foreign exchange;
- exchanges offering listing and trading of cash equities, exchange-traded funds, closed-end funds and other structured products similar to those offered by us;
- market data and information vendors;
- interdealer brokers active in the global credit derivatives markets;
- existing and newly formed electronic trading platforms, service providers and other exchanges;
- other clearing houses; and
- consortiums of our customers, members or market participants that may pool their trading activity to establish new exchanges, trading platforms or clearing facilities.

Trends towards the globalization of capital markets have resulted in greater mobility of capital, greater international participation in markets and increased competition among markets in different geographical areas. Competition in the market for derivatives trading and clearing and in the market for cash equity listings, trading and execution have intensified as a result of consolidation, as the markets become more global in connection with the increase in electronic trading platforms and the desire by existing exchanges to diversify their product offerings. Finally, many of our competitors are our largest customers or are owned by our customers and may prioritize their internalization and alternative trading system businesses ahead of their exchange-based market making business.

We also face pricing competition in many areas of our business. A decline in our fees due to competitive pressure, the inability to successfully launch new products or the loss of customers due to competition could lower our revenues, which would adversely affect our profitability. For example, Interactive Data’s business has benefited from a high renewal rate in its subscription based business but we cannot assure you that this will continue. We also cannot assure

you that we will be able to continue to expand our product offerings, or that we will be able to retain our current customers or attract new customers. If we are not able to compete successfully our business could be materially impacted, including our ability to sustain as an operating entity.

In our listings business, the legal and regulatory environment in the U.S., and the market perceptions about that environment, may make it difficult for our U.S. equity exchanges to compete with non-U.S. equity exchanges for listings. For example, negative perceptions regarding compliance costs associated with adherence to corporate governance requirements have and may continue to discourage listings on U.S. equity exchanges by both U.S. and foreign private issuers. Any failure by our exchanges to successfully compete for any reason could adversely impact our revenue derived from listing fees and the associated trading, execution and market data fees.

We may have difficulty maintaining our growth effectively.

We have achieved a tremendous amount of growth since becoming a public company in 2005. Our growth is highly dependent on customer demand for our core products and services, favorable economic conditions and our ability to invest in our personnel, facilities, infrastructure and financial and management systems and controls. Adverse economic conditions could reduce customer demand for our products and services, which may place a significant strain on our management and resources and could force us to defer existing or future planned opportunities. In addition, we may not be successful in executing on our strategies to support our growth organically or, as described above, through acquisitions, other investments or strategic alliances.

We may not be successful in offering new products or technologies or in identifying opportunities.

We intend to launch new products and continue to explore and pursue other opportunities to strengthen our business and grow our company. We may spend substantial time and money developing new product offerings or improving current product offerings. If these offerings are not successful, we may miss a potential market opportunity and not be able to recover the costs of such initiatives. Obtaining any required regulatory approval associated with these offerings may also result in delays or restrictions on our ability to fully benefit from these offerings. Further, we may enter into or increase our presence in markets that already possess established competitors who may enjoy the protection of high barriers to entry. Attracting customers in certain countries may also be subject to a number of risks, including currency exchange rate risk, difficulties in enforcing agreements or collecting receivables, longer payment cycles, compliance with the laws or regulations of these countries, and political and regulatory uncertainties.

In addition, in light of consolidation in the exchange, data services and clearing sectors and competition for opportunities, we may be unable to identify strategic opportunities or we may be unable to negotiate or finance any future acquisition successfully. Our competitors could merge, making it more difficult for us to find appropriate entities to acquire or merge with and making it more difficult to compete in our industry due to the increased resources of our merged competitors. Also, offering new products and pursuing acquisitions requires substantial time and attention of our management team, which could prevent them from successfully overseeing other initiatives that are necessary for our success.

We have made substantial progress toward developing and deploying new technology platforms to improve our equity exchange business and data services business. We may experience disruptions or encounter unexpected challenges in deploying these new systems. Further, the costs to complete the remaining work may exceed our current expectations. Any significant cost increases or disruptions to product quality, sales effectiveness or client service or to our other business operations could have an adverse effect on our operations and results of operations.

We may fail to complete or realize the anticipated cost savings, growth opportunities and synergies and other benefits anticipated from our recent acquisitions and future acquisitions, which could adversely affect the value of our common stock.

We have completed many acquisitions and plan to continue to pursue acquisitions and joint ventures when we deem it appropriate. The success of our acquisitions will depend, in part, on our ability to integrate these businesses into our existing operations and realize anticipated cost savings, revenue synergies and growth opportunities. We generally set aggressive timelines for realizing savings, which assumes we successfully undertake a variety of actions (including, but not limited to, integrating technology, eliminating redundancies and effecting organizational restructurings) that are themselves subject to a variety of risks and may be subject to regulatory approvals that we do not control. The process of integrating acquired companies is time consuming and could disrupt each company’s ongoing businesses, produce unforeseen regulatory and operating difficulties (including inconsistencies in standards, controls, procedures and policies that adversely affect relationships with market participants, regulators and others), require substantial resources and expenditures, and divert the attention of management from the ongoing operation of the business.

There is a risk, however, that we may not integrate these acquired companies in a manner that permits our expected cost savings and revenue synergies to be fully realized in the time periods expected, or at all. In addition, a variety of factors, including but not limited to regulatory conditions, governmental competition approvals, currency fluctuations, and difficulty integrating

technology platforms, may adversely affect our ability to complete our acquisitions or realize our anticipated cost savings and synergies. For example, the CMA in the U.K. has ordered a divestment of Trayport and we are currently in the process of appealing their decision. If our appeal is successful, the matter will be sent back to the CMA for additional review and if we are not successful, we will be forced to sell Trayport. If a sale is required, there is no certainty of the price we could receive and we may also suffer a loss due to currency fluctuations between the U.S. dollar and the pound sterling. As of December 31, 2016, the accumulated other comprehensive loss from foreign currency translation for Trayport was $117 million, due to the decrease in the pound sterling, which is Trayport's functional currency, compared to the U.S. dollar since the acquisition date. If we are required to sell Trayport, we would include the accumulated translation adjustment when computing the gain or loss from the sale.

We may also not realize anticipated growth opportunities and other benefits from strategic investments or strategic joint ventures or alliances that we have entered into or may enter into for a number of reasons, including regulatory or government approvals or changes, global market changes, contractual obligations, competing products and, in some instances, our lack of or limited control over the management of the business. Further, strategic initiatives that have historically been successful may not continue to be successful due to competitive threats, changing market conditions or the inability for the parties to extend the relationship into the future.

We continue to look for strategic growth opportunities in line with our business strategy and will pursue acquisitions when we believe that they are in our best interests. We may be very acquisitive. As a result of any future acquisition, we may issue additional shares of our common stock that dilute our stockholders' ownership interest, expend cash, incur debt, assume actual and contingent liabilities, inherit existing or pending litigation or create additional expenses related to amortizing intangible assets. Further, we cannot assure you that any such financing or equity investments will be available with terms that will be favorable to us, or available at all.

If we are unable to keep up with rapid changes in technology and client preferences, we may not be able to compete effectively.

To remain competitive, we must continue to enhance and improve the responsiveness, functionality, accessibility and reliability of our electronic platforms and our proprietary and acquired technology. The financial services industry is characterized by rapid technological change, change in use patterns, change in client preferences, frequent product and service introductions and the emergence of new industry standards and practices. These changes could render our existing proprietary technology uncompetitive or obsolete.

Further, we use some open-source software in our technology, most often as small components within a larger product or service, to augment algorithms, functionalities or libraries we create, and we may use more open-source software in the future. Open-source code is also contained in some third-party software we rely on. We could be subject to suits by parties claiming breach of the terms of the license for such open-source software. The terms of many open-source licenses are ambiguous and have not been interpreted by U.S. or other courts, and these licenses could be construed in a manner that imposes unanticipated conditions or restrictions on our ability to commercialize our products and services.

We cannot assure you that we will successfully implement new technologies or adapt our proprietary technology to our clients' requirements or emerging industry standards in a timely and cost-effective manner. Any failure to remain abreast of industry standards in technology and to be responsive to client preferences could cause our market share to decline and negatively impact our revenues.

Our business may be harmed by computer and communications systems failures and delays.

Our business depends on the integrity, reliability and security of our computer and communication systems. We support and maintain many of the systems that comprise our electronic platforms and our failure to monitor or maintain these systems, or to find replacements for defective components within a system in a timely and cost-effective manner when necessary, could have a material adverse effect on our ability to conduct our business. Our customers rely on us for the delivery of time-sensitive, up-to-date and high-quality financial market data, analytics, and related solutions. Our timely, reliable delivery of high-quality products and services is subject to an array of technical production processes that enable our delivery platforms to leverage an extensive range of content databases. Our redundant systems or disaster recovery plans may prove to be inadequate in the event of a systems failure or cyber-security breach. Our systems, or those of our third party providers, may fail or be shut down or, due to capacity constraints, may operate slowly, causing one or more of the following:

- unanticipated disruption in service to our participants;
- slower response time and delays in our participants' trade execution and processing;

- failed settlement by participants to whom we provide trade confirmation or clearing services;
- incomplete or inaccurate accounting, recording or processing of trades;
- failure to complete the clearing house margin settlement process resulting in significant financial risk;
- distribution of inaccurate or untimely market data to participants who rely on this data in their trading activity; and
- financial loss.

We could experience system failures due to power or telecommunications failures, human error on our part or on the part of our vendors or participants, natural disasters, fire, sabotage, hardware or software malfunctions or defects, computer viruses, cyber-attacks, intentional acts of vandalism or terrorism and similar events. If any one or more of these situations were to arise, they could result in damage to our business reputation and participant dissatisfaction with our electronic platform, which could prompt participants to trade elsewhere or expose us to litigation or regulatory sanctions. As a consequence, our business, financial condition and results of operations could suffer materially.

Our regulated business operations generally require that our trade execution and communications systems be able to handle anticipated present and future peak trading volume. Heavy use of computer systems during peak trading times or at times of unusual market volatility could cause those systems to operate slowly or even to fail for periods of time. 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.

Although many of our systems are designed to accommodate additional volume and products and services without redesign or replacement, we will need to continue to make significant investments in additional hardware and software and telecommunications infrastructure to accommodate the increases in volume of order and trading transaction traffic and to provide processing and clearing services to third parties. 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.

Our systems and those of our third party service providers may be vulnerable to security risks, hacking and cyber-attacks, especially in light of our role in the global financial marketplace, which could result in wrongful use of our information, or which could make our participants reluctant to use our electronic platform.

The secure transmission of confidential information and the ability to reliably transact on our electronic platforms and provide financial data services are critical elements of our operations. Some of our products and services involve the storage and transmission of proprietary information and sensitive or confidential client data, including client portfolio information. If anyone gains improper access to our electronic platforms, networks or databases, they may be able to steal, publish, delete or modify our confidential information or that of a third party. Our networks and those of our participants, third party service providers and external market infrastructures may be vulnerable to compromise, security technology failure, social engineering, denial of service attacks, or other security failures resulting in loss of data integrity, information disclosure, unavailability, or fraud. Recently, the financial services industry has been targeted for purposes of political protest, activism and fraud. Further, former employees of certain companies in the financial sector have misappropriated trade secrets or stolen source code in the past, and we could be a target for such illegal acts in the future. There also may be system or network disruptions if new or upgraded systems are defective or not tested and installed properly.

Although we have not been the victim of cyber-attacks or other cyber incidents that have had a material impact on our operations or financial condition, we have from time to time experienced cyber security events including distributed denial of service attacks, malware infections, phishing, web attacks and other information technology incidents that are typical for a financial services company of our size. For example, we experienced a distributed denial of service attack against our website in November 2016 that activated automated mitigation response and was reportable to regulatory authorities. We operate an Information Security program that is designed to prevent, detect, track, and mitigate cyber incidents and that has detected and mitigated such incidents in the past. Although we intend to continually implement new industry standard security measures as they develop in the future to maintain the effectiveness of our Information Security program, we cannot assure you that these measures will be sufficient to protect our business against attacks, losses or reduced trading volume in our markets as a result of any security breach, hacking or cyber-attack. Any such attacks could result in reputational damage, cause system failures or delays that

could cause us to lose customers, cause us to experience lower current and future trading volumes or incur significant liabilities, or have a negative impact on our competitive position. Additionally, current and future security measures may involve significant costs to purchase and maintain, which could adversely impact our net income.

We currently have a substantial amount of outstanding indebtedness which could restrict our ability to engage in additional transactions or incur additional indebtedness.

Following our acquisition of NYSE and Interactive Data, we have a significant amount of indebtedness outstanding on a consolidated basis. As of December 31, 2016, we had $6.4 billion of outstanding debt. This level of indebtedness could have important consequences to our business, including making it more difficult to satisfy our debt obligations, increasing our vulnerability to general adverse economic and industry conditions, limiting our flexibility in planning for, or reacting to, changes in our business and the industry in which we operate and restricting us from pursuing certain business opportunities. As we use our available resources to reduce and refinance our consolidated debt, our flexibility in planning for, or reacting to, changes in our business and the industry in which we operate and our ability to pursue future business opportunities may be further restrained. In addition, the terms of our debt facilities contain affirmative and negative covenants, including a leverage ratio test and certain limitations on the incurrence of additional debt or the creation of liens and other matters.

Our long-term debt is currently rated by Moody's Investor Services and Standard & Poor's. These ratings agencies regularly evaluate us and our credit ratings based on a number of quantitative and qualitative factors, including our financial strength and conditions affecting the financial services industry generally. Our credit ratings remain subject to change at any time, and it is possible that a ratings agency may take action to downgrade our credit ratings in the future. In particular, our inability to sustain reduced debt on a consolidated basis may result in a downgrade of our credit ratings. A significant downgrade of our credit rating could impact the regulatory status of our clearing houses, make parties less willing to do business with us, and could negatively impact our ability to access the capital markets and increase the cost of any future debt funding we may obtain.

Damage to our reputation resulting from our administration of LIBOR or other benchmarks could adversely affect our business.

Our subsidiary IBA is the administrator for various benchmarks, including LIBOR. IBA's administration of LIBOR is the result of the LIBOR scandal, which was a series of fraudulent actions taken by banks that were submitting false LIBOR rates to profit from trades, or to give the impression that the banks were more creditworthy than they were. Any failures or negative publicity resulting from our administration of LIBOR or other benchmarks could result in a loss of confidence in the administration of these benchmarks and could harm our reputation.

Fluctuations in foreign currency exchange rates may adversely affect our financial results.

Since we conduct operations in several different countries, including the U.S., U.K., Continental Europe and Canada, substantial portions of our revenues, expenses, assets and liabilities are denominated in U.S. dollars, pounds sterling, euros and Canadian dollars. Because our consolidated financial statements are presented in U.S. dollars, we must translate non-U.S. dollar denominated revenues, income and expenses, as well as assets and liabilities, into U.S. dollars at exchange rates in effect during or at the end of each reporting period. Therefore, increases or decreases in the value of the U.S. dollar against the other currencies may affect our net operating revenues, operating income and the value of balance sheet items denominated in foreign currencies.

The European debt crisis and related European financial restructuring efforts have contributed to instability in global credit markets and resulted in a decline in the value of the pounds sterling and euro relative to the U.S. dollar. In addition, Brexit and the outcome of the U.S. presidential election each have caused, and may continue to cause, significant volatility in currency exchange rates, especially among the U.S. dollar, the British pound sterling and the euro. If global economic and market conditions, or economic conditions in the U.K., Continental Europe, the U.S. or other key markets remain uncertain or deteriorate further, the value of the pound sterling and euro and the global credit markets may further weaken. General financial instability in countries in the European Union, including Greece, could have a contagion effect on the region and contribute to the general instability and uncertainty in the European Union. Events that adversely affect our U.K. and Continental European clients and suppliers could in turn have a materially adverse effect on our international business results and our results of operations.

For additional information on our foreign currency exchange rate risk, refer to "- Foreign Currency Exchange Rate Risk" in Item 7A - Quantitative and Qualitative Disclosures About Market Risk, which are included in this Annual Report.

We may be required to recognize impairments of our goodwill, other intangible assets or investments.

The determination of the value of goodwill and other intangible assets requires the use of estimates and assumptions that affect our consolidated financial statements. As of December 31, 2016, we had goodwill of $12.3 billion and net

other intangible assets of $10.4 billion relating to our acquisitions and our purchase of trademarks and Internet domain names from various third parties. We recorded a $33 million impairment loss on our Creditex customer relationship intangible asset during 2016, primarily due to the sale of our Creditex U.S. voice broker operations and the discontinuance of our Creditex U.K. voice brokerage

operations in 2016. As of December 31, 2016, we have $432 million in long-term investments relating to our equity security investment in Cetip, S.A., or Cetip. We recorded a $190 million impairment loss on our investment in Cetip during 2013 primarily due to the devaluation of the Brazilian real. As of December 31, 2016, our investment in Cetip included an accumulated unrealized gain of $108 million.

We cannot assure you that we will not experience future events that may result in asset impairments. An impairment of the value of our existing goodwill, other intangible assets and other investments and assets could have a significant negative impact on our future operating results.

For additional information on our goodwill, other intangible assets and investments including impairment, refer to notes 5 and 7 to our consolidated financial statements and "- Critical Accounting Policies - Goodwill and Other Identifiable Intangible Assets" in Item 7 "- Management's Discussion and Analysis of Financial Condition and Results of Operations", which are included in this Annual Report.

We may face liability for content contained in our data products and services.

We may be subject to claims for breach of contract, defamation, libel, copyright or trademark infringement, fraud or negligence, or based on other theories of liability, in each case relating to the data, articles, commentary, ratings, information or other content we distribute in our financial data services. If such data or other content or information that we distribute has errors, is delayed or has design defects, we could be subject to liability or our reputation could suffer. We could also be subject to claims based upon the content that is accessible from our corporate website or those websites that we own and operate through links to other websites. Use of our products and services as part of the investment process creates the risk that clients, or the parties whose assets are managed by our clients, may pursue claims against us for significant amounts. Any such claim, even if the outcome were ultimately favorable to us, could involve a significant commitment of our management, personnel, financial and other resources. Such claims and lawsuits could have a material adverse effect on our business, financial condition or results of operations and a negative impact on our reputation. In addition, we license and redistribute data and content from various third parties and the terms of these licenses change frequently. Our data and content suppliers may audit our use and our clients' use and payment for data and content and may assert that we or our clients owe additional amounts under the terms of the license agreements, that we inappropriately distributed the third party's data or that we or our clients used the data or content in a manner that exceeded the scope of the license agreement. We may incur costs to investigate any such allegations and may be required to make unexpected payments to these data and content suppliers and these costs and payments could be material.

A failure to protect our intellectual property rights, or allegations that we have infringed the intellectual property rights of others, could adversely affect our business.

Our business is dependent on proprietary technology and other intellectual property that we own or license from third parties, including trademarks, service marks, trade names, trade secrets, copyrights and patents. We cannot assure you that the steps that we have taken or will take in the future will prevent misappropriation of our proprietary technology or intellectual property. Additionally, we may be unable to detect the misappropriation or unauthorized use of our proprietary technology and intellectual property. Our failure to adequately protect our proprietary technology and intellectual property could harm our reputation and affect our ability to compete effectively. Further, we may need to resort to litigation to enforce our intellectual property rights, which may require significant financial and managerial resources. As a result, we may choose not to enforce our infringed intellectual property rights, depending on our strategic evaluation and judgment regarding the best use of our resources, the relative strength of our intellectual property portfolio and the recourse available to us.

In addition, our competitors, as well as other companies and individuals, may have obtained, and may be expected to obtain in the future, patent rights related to the types of products and services we offer or plan to offer. We cannot assure you that we are or will be aware of all patents that may pose a risk of infringement by our products and services. As a result, we may face allegations that we have infringed the intellectual property rights of third parties which may be costly for us to defend against. If one or more of our products or services is found to infringe patents held by others, we may be required to stop developing or marketing the products or services, obtain licenses to develop and market the products or services from the holders of the patents or redesign the products or services in such a way as to avoid infringing the patents. We also could be required to pay damages if we were found to infringe patents held by others, which could materially adversely affect our business, financial condition and operating results.

We cannot assess the extent to which we may be required in the future to obtain licenses with respect to patents held by others, whether such licenses would be available or, if available, whether we would be able to obtain such licenses on commercially reasonable terms. If we were unable to obtain such licenses, we may not be able to redesign our products or services at a reasonable cost to avoid infringement, which could materially adversely affect our business, financial condition and operating results.

We rely on third party providers and other suppliers for a number of services that are important to our business. An interruption or cessation of an important service, data or content supplied by any third party, or the loss of an exclusive license, could have a material adverse effect on our business.

We depend on a number of suppliers, such as online service providers, hosting service and software providers, data processors, software and hardware vendors, banks, local and regional utility providers, and telecommunications companies, for elements of our trading, clearing, data services and other systems. We rely on access to certain data used in our business through licenses with third parties, and we rely on a large international telecommunications company for the provision of hosting services. We also depend on third-party suppliers for data and content, including data received from certain competitors, clients, various government and public record services and financial institutions, used in our products and services. Some of this data is exclusive to particular suppliers and may not be obtained from other suppliers. In addition, our data suppliers could enter into exclusive contracts with our competitors without our knowledge. The general trend toward industry consolidation may increase the risk that these services may not be available to us in the future. If these companies were to discontinue providing services to us for any reason or fail to provide the type of service agreed to, we would likely experience significant disruption to our business and may be subject to litigation by our clients or increased regulatory scrutiny or regulatory fines. Our third party data suppliers perform audits on us from time to time in the ordinary course of business to determine if data we license for redistribution has been properly accounted for in accordance with the terms of the applicable license agreement. As a result of these audits, we may incur additional expenses.

Many of our clients also rely on third parties to provide them with systems necessary to access our trading platform. If these companies were to discontinue providing services to our clients for any reason, we may experience a loss of revenue associated with our clients' inability to transact with our businesses. We hold exclusive licenses to list various index futures and contracts. In the future, litigation or regulatory action may limit the right of owners to grant exclusive licenses for index futures and contracts trading to a single exchange, and our competitors may succeed in providing economically similar products in a manner or jurisdiction not otherwise covered by our exclusive license. MiFID II introduced a harmonized approach to the licensing of services relating to commodity derivatives across Europe and the legislation requires open access to any benchmarks (a benchmark is an index or other measure used to determine the value of a financial instrument, for example, LIBOR or the S&P 500) used in Europe. If unlicensed trading of any index product where we hold an exclusive license were permitted, we could lose trading volume for these products which would adversely affect our revenues associated with the license and the related index products.

We are subject to significant litigation and liability risks.

Many aspects of our business, and the businesses of our participants, involve substantial risks of liability. These risks include, among others, potential liability from disputes over terms of a trade and the claim that a system failure or delay caused monetary loss to a participant or that an unauthorized trade occurred. For example, dissatisfied market participants that have traded on our electronic platform or those on whose behalf such participants have traded, may make claims regarding the quality of trade execution, or allege improperly confirmed or settled trades, abusive trading practices, security and confidentiality breaches, mismanagement or even fraud against us or our participants. In addition, because of the ease and speed with which sizable trades can be executed on our electronic platform, participants can lose substantial amounts by inadvertently entering trade orders or by entering them inaccurately. A large number of significant error trades could result in participant dissatisfaction and a decline in participant willingness to trade in our electronic markets. In addition, we are subject to various legal disputes, some of which we are involved in due to acquisition activity. We could incur significant expenses defending claims, even those without merit, which could adversely affect our financing condition and operating results. An adverse resolution of any lawsuit or claim against us may require us to pay substantial damages or impose restrictions on how we conduct business, either of which could adversely affect our business, financial condition and operating results. See note 13 to our consolidated financial statements and related notes, which are included elsewhere in this Annual Report, for a summary of our legal proceedings and claims.

We may be at greater risk from terrorism than other companies.

Given our prominence in the global securities industry and the location of many of our properties and personnel in U.S. and European financial centers, including lower Manhattan, we may be more likely than other companies to be a direct target of, or an indirect casualty of, attacks by terrorists or terrorist organizations, or other extremist

organizations that employ threatening or harassing means to achieve their social or political objectives.

It is impossible to predict the likelihood or impact of any terrorist attack on the securities industry generally or on our business. In the event of an attack or a threat of an attack, our security measures and contingency plans may be inadequate to prevent significant disruptions in our business, technology or access to the infrastructure necessary to maintain our business. Damage to our facilities due to terrorist attacks may be significantly in excess of insurance coverage, and we may not be able to insure against some damage at a reasonable price or at all. The threat of terrorist attacks may also negatively affect our ability to

attract and retain employees. In addition, terrorist attacks may cause instability or decreased trading in the securities markets, including trading on exchanges. Any of these events could adversely affect our business, financial condition and operating results.

Owning and operating voice broker businesses exposes us to additional risk, and these businesses are largely dependent on their broker-dealer clients.

Our voice broker business is primarily transaction-based, and it provides brokerage services to clients primarily in the form of agency transactions, although it also engages in a limited number of matched principal transactions. In agency transactions, customers pay transaction fees for trade execution services in which we connect buyers and sellers who settle their transactions directly. In matched principal transactions (also known as “risk-less principal” transactions), we agree to buy instruments from one customer and sell them to another customer. The amount of the fee generally depends on the spread between the buy and sell price of the security that is brokered. With respect to matched principal transactions, a counterparty to a matched principal transaction may fail to fulfill its obligations, or we may face liability for an unmatched trade. We also face the risk of not being able to collect transaction or processing fees charged to customers for brokerage services and processing services we provide.

We are a holding company and depend on our subsidiaries for dividends, distributions and other payments.

We are a legal entity separate and distinct from our operating subsidiaries. Our principal source of cash flow, including cash flow to pay dividends to our stockholders and principal and interest on our outstanding debt, is dividends from our subsidiaries. There are statutory and regulatory limitations on the payment of dividends by certain of our subsidiaries to us. If our subsidiaries are unable to make dividend payments to us and sufficient cash or liquidity is not otherwise available, we may not be able to make dividend payments to our stockholders, principal and interest payments on our outstanding debt or repurchase shares of our common stock, which could have a material adverse effect on our business, financial condition and operating results. Further, we have guaranteed the payment of certain obligations by our subsidiary, NYSE Holdings, LLC. This guarantee may require us to provide substantial funds or assets to creditors of our subsidiaries at a time when we are in need of liquidity to fund our own obligations and may affect our ability to make dividend payments to our stockholders, principal and interest payments on our outstanding debt or repurchase shares of our common stock.

Provisions of our organizational documents and Delaware law may delay or deter a change of control of ICE.

Our organizational documents contain provisions that may have the effect of discouraging, delaying or preventing a change of control of, or unsolicited acquisition proposals for, ICE. These provisions make a change of control less likely, which may be contrary to the desires of certain of our stockholders. Many of these provisions are required by relevant regulators in connection with our ownership and operation of U.S. and European equity exchanges. For example, our organizational documents include provisions that generally restrict any person (either alone or together with its related persons) from (i) voting or causing the voting of shares of stock representing more than 10% of our outstanding voting capital stock (including as a result of any agreement by any other persons not to vote shares of stock) or (ii) beneficially owning shares of stock representing more than 20% of the outstanding shares of any class or series of our capital stock. Further, our organizational documents generally limit the ability of stockholders to call special stockholders’ meetings or act by written consent, and generally authorize our board of directors, without stockholder approval, to issue and fix the rights and preferences of one or more series of preferred stock. In addition, provisions of Delaware law may have a similar effect, such as provisions limiting the ability of certain interested stockholders, as defined under Delaware law, from causing the merger or acquisition of a corporation against the wishes of the board of directors.

ITEM 1 (B). UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

The net book value of our property was $1.1 billion as of December 31, 2016. Our intellectual property is described under the heading in Item 1 “- Business -Technology”. In addition to our intellectual property, our other primary assets include buildings, computer equipment, corporate aircraft, software, and internally developed software. We own an array of computers and related equipment.

Our headquarters and principal executive offices are located in Atlanta, Georgia and New York, New York. We currently occupy 270,000 square feet of office space in Atlanta in a building that we own that serves as our Atlanta headquarters. Our New York headquarters are located at 11 Wall Street, where we occupy 370,000 square feet of office space in a building we own. In total, we maintain 2.6 million square feet in offices primarily throughout the U.S., U.K., continental Europe, Asia, Israel and Canada. Our principal offices consist of the properties described below.

Location	Owned/Leased	Lease Expiration	Approximate Size
5660 New Northside Drive Atlanta, Georgia	Owned	N/A	270,000 sq. ft.
11 Wall Street New York, New York	Owned	N/A	370,000 sq. ft.
Basildon, U.K.	Owned	N/A	315,000 sq. ft.
Mahwah, New Jersey	Leased	2029	395,000 sq. ft.
60 Codman Hill Road Boxborough, Massachusetts	Leased	2018	100,000 sq. ft.
55 East 52nd Street New York, New York	Leased	2028	93,000 sq. ft.
32 Crosby Drive Bedford, Massachusetts	Leased	2026	82,000 sq. ft.
Milton Gate London, U.K.	Leased	2024	70,000 sq. ft.
Fitzroy House London, U.K.	Leased	2025	65,000 sq. ft.
100 Church Street New York,	Leased	2024	65,000 sq. ft.

New York	Leased	2019	60,000 sq. ft.
Sandweg 94 Frankfurt, Germany	Leased	2027	57,000 sq. ft.
353 North Clark Street Chicago, Illinois			

In addition to the above, we currently lease an aggregate of 687,000 square feet of administrative, sales and disaster preparedness facilities in various cities around the word. We believe that our facilities are adequate for our current operations and that we will be able to obtain additional space as and when it is needed.

ITEM 3. LEGAL PROCEEDINGS

We are subject to legal proceedings and claims that arise in the ordinary course of business. Typically, we do not believe that the resolution of these ordinary course matters will have a material adverse effect on our consolidated financial condition, results of operations, or liquidity. It is possible, however, that future results of operations for any particular quarterly or annual period could be materially and adversely affected by any developments relating to the legal proceedings and claims. See note 13 to the consolidated financial statements in Part II, Item 8 of this Annual Report for a summary of our legal proceedings and claims.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Stock Split

On November 3, 2016, a 5-for-1 split of our common stock was effected in the form of a four share stock dividend per share of common stock to shareholders of record as of the close of market on October 27, 2016. The new shares began trading on a split-adjusted basis on November 4, 2016. All share and earnings per share information has been retroactively adjusted to reflect the stock split.

Approximate Number of Holders of Common Stock

As of February 3, 2017, there were approximately 583 holders of record of our common stock.

Dividends

The declaration of dividends is subject to the discretion of our board of directors, and may be affected by various factors, including our future earnings, financial condition, capital requirements, share repurchase activity, levels of indebtedness, credit ratings and other considerations our board of directors deem relevant. Our board of directors has adopted a quarterly dividend declaration policy providing that the declaration of any dividends will be determined quarterly by the board or audit committee of the board of directors taking into account such factors as our evolving business model, prevailing business conditions and our financial results and capital requirements, without a predetermined annual net income payout ratio. During the year ended December 31, 2016, on a post-split basis, we paid dividends of $0.68 per share of our common stock in the aggregate, including quarterly dividend for each quarter in 2016 of $0.17 per share, for an aggregate payout of $409 million in 2016, which includes the payment of dividend equivalents. Refer to note 10 to our consolidated financial statements and related notes, which are included elsewhere in this Annual Report, for details on the amounts of our quarterly dividend payouts for the last two years.

As a holding company, we have no operations and rely upon dividends from our subsidiaries in order to provide liquidity necessary to service our debt obligations and make dividend payments to our shareholders. We and our subsidiaries are all required to comply with legal and regulatory restrictions, including restrictions contained in applicable general corporate laws, regarding the declaration and payment of dividends. These laws may limit our or our subsidiaries' ability to declare and pay dividends from time to time.

None of the indentures governing our and our subsidiaries' outstanding indebtedness contain specific covenants restricting our ability, or the ability of our subsidiaries, to pay dividends absent a default on such indebtedness. Our senior unsecured revolving credit facility in the aggregate amount of $3.4 billion, however, limits our ability to declare and make dividend payments, and other distributions of our cash, property or assets, if a default under the applicable facility has occurred and is continuing, or would occur as a result of our declaration and payment of any dividend or other distribution. Our senior unsecured revolving credit facility contains customary financial and operating covenants that place restrictions on our operations, including our maintenance of specified total leverage and interest coverage ratios, which could indirectly affect our ability to pay dividends. Refer to note 9 to our consolidated financial statements and related notes, which are included elsewhere in this Annual Report, for more information on our debt facilities.

Price Range of Common Stock

Our common stock trades on the New York Stock Exchange under the ticker symbol "ICE". On February 3, 2017, our common stock traded at a high of $59.00 per share and a low of $58.45 per share. The following table sets forth the quarterly high and low sale prices for the periods indicated for our common stock on the New York Stock Exchange, on a post-split basis.

	Common Stock Market Price	
	High	Low
Year Ended December 31, 2015		
First Quarter	$ 48.01	$ 40.45
Second Quarter	$ 48.59	$ 44.23
Third Quarter	$ 49.28	$ 44.06
Fourth Quarter	$ 53.35	$ 44.93
Year Ended December 31, 2016		
First Quarter	$ 53.78	$ 45.79
Second Quarter	$ 54.39	$ 45.88
Third Quarter	$ 57.40	$ 50.18
Fourth Quarter	$ 59.86	$ 52.27

Equity Compensation Plan Information

The following table provides information about our common stock that has been or may be issued under our equity compensation plans as of December 31, 2016:

•Intercontinental Exchange Holdings, Inc. 2013 Omnibus Employee Incentive Plan
•Intercontinental Exchange Holdings, Inc. 2013 Omnibus Non-Employee Director Incentive Plan
•Intercontinental Exchange Holdings, Inc. 2009 Omnibus Incentive Plan
•Intercontinental Exchange Holdings, Inc. 2003 Restricted Stock Deferral Plan for Outside Directors
•Intercontinental Exchange Holdings, Inc. 2000 Stock Option Plan
•Creditex Amended and Restated 1999 Stock Option/Stock Issuance Plan
•NYSE Amended and Restated Omnibus Incentive Plan

•NYSE 2006 Stock Incentive Plan

The 2000 Stock Option Plan and the Creditex Amended and Restated 1999 Stock Option/Stock Issuance Plan were retired on May 14, 2009 when our shareholders approved the 2009 Omnibus Incentive Plan. The 2009 Omnibus Incentive Plan was retired on May 17, 2013 when our shareholders approved the Intercontinental Exchange Holdings, Inc. 2013 Omnibus Employee Incentive Plan. No future grants will be made from the retired ICE or Creditex plans. Certain grants continue to be made to legacy NYSE employees under the NYSE Amended and Restated Omnibus Incentive Plan. Other than the grants to legacy NYSE employees under the NYSE Amended and Restated Omnibus Incentive Plan, all future grants to employees will be made under the Intercontinental Exchange Holdings, Inc. 2013 Omnibus Employee Incentive Plan and all future grants to directors will be made under the Intercontinental Exchange Holdings, Inc. 2013 Omnibus Non-Employee Director Incentive Plan.

Plan Category	Number of securities to be issued upon exercise of outstanding options and rights (a) (3)		Weighted average exercise price of outstanding options (b) (3)		Number of securities available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c) (3)
Equity compensation plans approved by security holders[1]	10,303,567	(1)	$ 36.12	(1)	14,344,458
Equity compensation plans not approved by security holders[2]	122,220	(2)	$ 14.05	(2)	—
TOTAL	10,425,787		$ 36.05		14,344,458

(1) The 2000 Stock Option Plan was approved by our stockholders in June 2000. The 2009 Omnibus Incentive Plan was approved by our stockholders on May 14, 2009. The Intercontinental Exchange Holdings, Inc. 2013 Omnibus Employee Incentive Plan and the Intercontinental Exchange Holdings, Inc. 2013 Omnibus Non-Employee Director Incentive Plan were approved by our stockholders in May 2013. The shareholders of NYSE approved the NYSE Amended and Restated Omnibus Incentive Plan on April 25, 2013. Of the 10,303,567 securities to be issued upon exercise of outstanding options and rights, 3,866,750 are options with a weighted average exercise price of $36.12 and the remaining 6,436,817 securities are restricted stock shares that do not have an exercise price. Of the 6,436,817 restricted stock shares to be issued, 353,560 shares were originally granted under the NYSE Amended and Restated Omnibus Incentive Plan.

(2) This category includes the 2003 Restricted Stock Deferral Plan for Outside Directors and the Creditex Amended and Restated 1999 Stock Options/Stock Issuance Plan. It also includes the NYSE 2006 Stock Incentive Plan, subsequent to our acquisition of NYSE. Of the 122,220 securities to be issued upon exercise of outstanding options and rights, 11,955 are options with a weighted average exercise price of $14.05 and the remaining 110,265 securities are restricted stock shares that do not have an exercise price. None of the 11,955 options to be issued were originally granted under the 2006 NYSE Stock Incentive Plan. For more information concerning these plans, see note 10 to our consolidated financial statements and related notes, which are included elsewhere in this Annual Report.

(3) The share and per share amounts in the table above reflect the 5-for-1 stock split that was effected in the fourth quarter of 2016.

Stock Repurchases

The table below sets forth the information with respect to purchases made by or on behalf of ICE or any “affiliated purchaser” (as defined in Rule 10b-18(a)(3) under the Exchange Act) of our common stock during the three months ended December 31, 2016, on a post-split basis.

Period (2016)	Total number of shares purchased	Average price paid per share	Total number of shares purchased as part of publicly	Approximate dollar value of shares that may yet be

			announced plans or programs(1)	purchased under the plans or programs (in millions)(1)
October 1 - October 31	292,255	$53.47	292,255	$984
November 1 - November 30	322,056	$54.77	614,311	$967
December 1 - December 31	288,609	$57.83	902,920	$950
Total	902,920	$55.42	902,920	$950

(1) Refer to note 10 to our consolidated financial statements and related notes, which are included elsewhere in this Annual Report, for details on our stock repurchase plans.

ITEM 6. SELECTED FINANCIAL DATA

The following tables present our selected consolidated financial data as of and for the dates and periods indicated. We derived the selected consolidated financial data set forth below for the years ended December 31, 2016, 2015 and 2014 and as of December 31, 2016 and 2015 from our audited consolidated financial statements, which are included elsewhere in this Annual Report. We derived the selected consolidated financial data set forth below for the years ended December 31, 2013 and 2012 and as of December 31, 2014, 2013 and 2012 from our audited consolidated financial statements, which are not included in this Annual Report. The selected consolidated financial data presented below is not indicative of our future results for any period. The selected consolidated financial data set forth below should be read in conjunction with our consolidated financial statements and related notes and Item 7, "- Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere in this Annual Report.

	Year Ended December 31,				
	2016	2015	2014	2013	2012
	(In millions, except for per share data)				
Consolidated Statement of Income Data[1]					
Revenues:					
Transaction and clearing, net[2]	$3,384	$3,228	$3,144	$1,393	$1,185
Data services	1,978	871	691	246	161
Listings	419	405	367	33	—
Other revenues	177	178	150	58	17
Total revenues	5,958	4,682	4,352	1,730	1,363
Transaction-based expenses[2]	1,459	1,344	1,260	132	—
Total revenues, less transaction-based expenses	4,499	3,338	3,092	1,598	1,363
Operating expenses:					
Compensation and benefits	945	611	592	302	251
Professional services	137	139	181	54	33
Acquisition-related transaction and integration costs[3]	80	88	129	143	19
Technology and communication	374	203	188	63	46
Rent and occupancy	70	57	78	39	19
Selling, general and administrative	116	116	143	51	37
Depreciation and amortization	610	374	333	156	131
Total operating expenses	2,332	1,588	1,644	808	536
Operating income	2,167	1,750	1,448	790	827
Other expense, net[4]	138	97	41	286	37
Income from continuing operations before income tax expense	2,029	1,653	1,407	504	790
Income tax expense	580	358	402	184	228
Income from continuing operations	1,449	1,295	1,005	320	562
Income (loss) from discontinued operations, net of tax[5]	—	—	11	(50)	—
Net income	$1,449	$1,295	$1,016	$270	$562
Net income attributable to non-controlling interest	(27)	(21)	(35)	(16)	(10)
Net income attributable to ICE[6]	$1,422	$1,274	$981	$254	$552
Basic earnings (loss) per share attributable to ICE common shareholders[7]:					
Continuing operations[6]	$2.39	$2.29	$1.70	$0.78	$1.52
Discontinued operations[5]	—	—	0.02	(0.13)	—
Basic earnings per share	$2.39	$2.29	$1.72	$0.65	$1.52
Basic weighted average common shares outstanding[8]	595	556	570	392	364
Diluted earnings (loss) per share attributable to ICE common shareholders[7]:					
Continuing operations[6]	$2.37	$2.28	$1.69	$0.77	$1.50
Discontinued operations[5]	—	—	0.02	(0.13)	—
Diluted earnings per share	$2.37	$2.28	$1.71	$0.64	$1.50
Diluted weighted average common shares outstanding[8]	599	559	573	396	367
Dividend per share[7]	$0.68	$0.58	$0.52	$0.13	$—

(1) We acquired several companies during the periods presented and have included the financial results of these companies in our consolidated financial statements effective from the respective acquisition dates. Refer to note 3 to our consolidated financial statements and related notes, which are included elsewhere in this Annual Report, for more information on some of these acquisitions, including the acquisitions of Interactive Data on December 14, 2015 and NYSE on November 13, 2013.

(2)

Our transaction and clearing fees are presented net of rebates paid to our customers. We also report transaction-based expenses relating to Section 31 fees and payments made for routing services and to certain U.S. equities liquidity providers. For a

discussion of these rebates, see Item 7 "- Management's Discussion and Analysis of Financial Condition and Results of Operations - Segment Reporting - Trading and Clearing Segment" included elsewhere in this Annual Report.

(3) Acquisition-related transaction and integration costs relate to acquisitions and other strategic opportunities. The acquisition-related transaction costs include fees for investment banking advisors, lawyers, accountants, tax advisors and public relations firms, deal-related bonuses to certain of our employees, as well as costs associated with credit facilities and other external costs directly related to the transactions. We also incurred integration costs during the years ended December 31, 2016, 2015, 2014 and 2013 relating to our NYSE acquisition and during the year ended December 31, 2016 relating to our Interactive Data acquisition, primarily related to employee termination costs, lease terminations costs, costs incurred relating to the IPO of Euronext, transaction-related bonuses and professional services costs incurred relating to the integrations.

(4) Other expense, net during the year ended December 31, 2013 includes a $190 million impairment loss on our Cetip investment and a $51 million expense relating to the early payoff of outstanding debt.

(5) During the year ended December 31, 2014, we sold 100% of our wholly-owned subsidiary, Euronext, in connection with Euronext's IPO, and we sold our entire interest in three companies that comprised the former NYSE Technologies (NYFIX, Metabit and Wombat). We treated the sale of these entities as discontinued operations for all periods presented from their acquisition on November 13, 2013 to their dispositions. See Item 7 "- Management's Discussion and Analysis of Financial Condition and Results of Operations - Discontinued Operations" and note 16 to our consolidated financial statements and related notes, both of which are included elsewhere in this Annual Report, for more information regarding their presentation as discontinued operations.

(6) Our results include certain items that are not reflective of our cash operations and core business performance. Excluding these items, net of taxes, net income attributable to ICE for the year ended December 31, 2016 would have been $1.7 billion; and, basic earnings per share and diluted earnings per share attributable to ICE common shareholders would have been $2.80 and $2.78, respectively. See Item 7 "- Management's Discussion and Analysis of Financial Condition and Results of Operations - Non-GAAP Financial Measures" included elsewhere in this Annual Report for more information on these items.

(7) Figures have been retroactively adjusted to reflect the 5-for-1 stock split effected in the fourth quarter of 2016.

(8) The weighted average common shares outstanding increased in 2016 primarily due to the stock issued for the Interactive Data and Trayport acquisitions and increased in 2014 primarily due to stock issued for the NYSE acquisition. On a post-split basis, we issued 211.9 million shares of our common stock to NYSE stockholders, 32.3 million shares of our common stock to Interactive Data stockholders and 12.6 million shares of our common stock to Trayport stockholders, weighted to show these additional shares outstanding for all periods after the respective acquisition dates.

	As of December 31,				
	2016	2015	2014	2013	2012
	(In millions)				
Consolidated Balance Sheet Data					
Cash and cash equivalents[1]	$407	$ 627	$ 652	$ 961	$1,612
Margin deposits and guaranty fund assets[2]	55,150	51,169	47,458	42,216	31,883
Total current assets	57,133	53,313	50,232	44,269	33,750
Goodwill and other intangible assets, net[1]	22,711	22,837	16,315	18,512	2,737
Total assets	82,003	77,987	68,254	64,422	37,215
Margin deposits and guaranty fund liabilities[2]	55,150	51,169	47,458	42,216	31,883
Total current liabilities	58,617	54,743	50,436	44,321	32,246
Short-term and long-term debt[1]	6,364	7,308	4,277	5,058	1,132
Equity[1]	15,754	14,840	12,392	12,381	3,677

(1) The increases in our equity, goodwill and other intangible assets, and debt as of December 31, 2015 primarily relates to our acquisitions of Interactive Data and Trayport. The decrease in our cash and cash equivalents and the increases in our equity, goodwill and other intangible assets, and debt as of December 31, 2013 primarily relates to our acquisition of NYSE. Refer to notes 3, 7 and 9 to our consolidated financial statements and related notes,

which are included elsewhere in this Annual Report, for more information on these items.

(2) Clearing members of our clearing houses are required to deposit original margin and variation margin and to make deposits to a guaranty fund. The cash deposits made to these margin accounts and to the guaranty fund are recorded in the consolidated balance sheet as current assets with corresponding current liabilities to the clearing members that deposited them. Refer to note 12 to our

consolidated financial statements and related notes, which are included elsewhere in this Annual Report, for more information on these items.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements for many reasons. See the factors set forth under the heading "Forward Looking Statements" at the beginning of this Annual Report and in Item 1(A) under the heading "Risk Factors." The following discussion is qualified in its entirety by, and should be read in conjunction with, the more detailed information contained in Item 6 "Selected Financial Data" and our consolidated financial statements and related notes included elsewhere in this Annual Report.

Overview

We are a leading global operator of regulated exchanges, clearing houses and listings venues, and a provider of data services for commodity and financial markets. We operate regulated marketplaces for listing, trading and clearing a broad array of derivatives and securities contracts across major asset classes, including energy and agricultural commodities, interest rates, equities, equity derivatives, exchange traded funds, credit derivatives, bonds and currencies. We offer end-to-end market data services to support the trading, investment, risk management and connectivity needs of customers across virtually all asset classes.

Our exchanges include futures exchanges in the U.S., U.K., Continental Europe, Canada and Singapore, and cash equities, equity options and bond exchanges in the U.S. We also operate OTC markets for physical energy and CDS trade execution. To serve global derivatives markets, we operate central counterparty clearing houses in the U.S., U.K., Continental Europe, Canada and Singapore. We offer a range of data services for global financial and commodity markets, including pricing and reference data, exchange data, analytics, feeds, desktops and connectivity solutions. Through our markets, clearing houses, listings and data services, we provide end-to-end solutions for our customers through liquid markets, benchmark products, access to capital markets, and related services to support their ability to manage risk and raise capital. Our business is currently conducted as two reportable business segments, our Trading and Clearing segment and our Data and Listings segment, and the majority of our identifiable assets are located in the U.S. and U.K.

Recent Developments

Stock Split

On November 3, 2016, a 5-for-1 split of our common stock was effected in the form of a four share stock dividend per share of common stock to shareholders of record as of the close of market on October 27, 2016. The new shares began trading on a split-adjusted basis on November 4, 2016. All share and earnings per share information has been retroactively adjusted to reflect the stock split. We retired all of our outstanding treasury shares effective October 27, 2016, the record date.

Acquisitions

On October 3, 2016, we acquired from S&P Global 100% of Standard & Poor's Securities Evaluations, Inc., or SPSE, and 100% of Credit Market Analysis for $431 million in cash. The cash consideration was funded from borrowings under our commercial paper program. SPSE, which has been renamed Securities Evaluations, is a provider of fixed income evaluated pricing and Credit Market Analysis is a provider of independent data for the OTC markets, including credit derivatives and bonds. Securities Evaluations and Credit Market Analysis are part of the suite of pricing and analytics products and services that comprise ICE Data Services. In order to comply with an Order of the Securities and Exchange Commission, services offered by Securities Evaluations will be managed and operated separately from the existing fixed income evaluated pricing services offered by Interactive Data, as we work through an integration approach. The acquisitions will enable us to offer customers new data and valuation services. Refer to note 3 to our consolidated financial statements and related notes, which are included elsewhere in this Annual Report, for more information on this acquisition and the other acquisitions discussed below.

On June 30, 2016, we acquired a majority equity position in MERSCORP Holdings, Inc., owner of Mortgage Electronic Registrations Systems, Inc., or collectively "MERS". MERS is a privately held, member-based organization that owns and manages the MERS® System and is made up of thousands of lenders, servicers, sub-servicers, investors

and government institutions. In addition, we have entered into a software development agreement to rebuild the MERS® System to benefit the U.S. residential mortgage finance market. The MERS® System is a national electronic registry that tracks the changes in servicing rights and beneficial ownership interests in U.S.-based mortgage loans. This new infrastructure is expected to shift its operation to an ICE data center in the first half of 2018.

The terms of the MERS acquisition include a right for us to purchase all of the remaining equity interests of MERS after we satisfy our deliverables under the software development agreement. In addition, the MERS equity holders may exercise a put option to require us to purchase all of the remaining equity interests of MERS. Each of these terms is subject to certain price provisions. Because we do not have the ability to control MERS' operations, we have recorded the purchase as an equity method investment and our ratable share of net income (loss) in MERS in future periods will be recorded in our consolidated statements of income as equity earnings of our unconsolidated subsidiaries, below operating income in other income (loss).

On December 14, 2015, we acquired 100% of Interactive Data in a stock and cash transaction. The total purchase price was $5.6 billion comprised of cash consideration of $4.1 billion and 32.3 million shares of our common stock, on a post-split basis, and their results are included in our consolidated results effective from the acquisition date. The cash consideration is gross of $301 million of cash held by Interactive Data on the date of the acquisition. The cash consideration was funded from $2.5 billion of net proceeds received on November 24, 2015 in connection with the offering of new senior notes and $1.6 billion of borrowing under our commercial paper program.

On December 11, 2015, we acquired 100% of Trayport in a stock transaction. Trayport is a software company that licenses its technology to serve exchanges, OTC brokers and traders to facilitate electronic and hybrid trade execution primarily in the energy markets. The total purchase price was $620 million, comprised of 12.6 million shares of our common stock, on a post-split basis, and their results are included in our consolidated results effective from the acquisition date.

The U.K. Competition and Markets Authority, or the CMA, undertook a review of our acquisition of Trayport under the merger control laws of the U.K. During the pendency of the review, we did not integrate Trayport into our existing business operations. On October 17, 2016, the CMA issued its findings and ordered a divestment of Trayport to remedy what the CMA indicated it believed to be a substantial lessening of competition in the supply of trade execution services and trade clearing services to energy traders in the European Economic Area. In November 2016, we filed an appeal to challenge the CMA's decision. The outcome of the appeal is expected to be determined in 2017. If our appeal is successful, the matter will be sent back to the CMA for additional review. If our appeal is not successful, we will be forced to sell Trayport and there is no certainty of the price we could receive if a sale were required. The timing of a final decision is uncertain at this time.

The functional currency of Trayport is the pound sterling, as this is the currency in which Trayport operates. The $620 million in Trayport net assets were recorded on our December 11, 2015 opening balance sheet at a pound sterling/U.S. dollar exchange rate of 1.5218 (£407 million). Because our consolidated financial statements are presented in U.S. dollars, we must translate the Trayport net assets into U.S. dollars at exchange rates in effect at the end of each reporting period. Therefore, increases or decreases in the value of the U.S. dollar against the pound sterling will affect the value of the Trayport balance sheet, with gains or losses included in the cumulative translation adjustment account, a component of equity. As of the result of the decrease in the pounds sterling/U.S. dollar exchange rate to 1.2336 as of December 31, 2016, the portion of our equity attributable to the Trayport net assets in accumulated other comprehensive loss from foreign currency translation was $117 million as of December 31, 2016. If we are required to sell Trayport, we would include the accumulated translation adjustment when computing the gain or loss from the sale.

Creditex Customer Relationship Intangible Asset Impairment

In August 2016, we sold certain of Creditex's U.S. voice brokerage operations to Tullett Prebon. During the third quarter of 2016, we discontinued Creditex's U.K. voice brokerage operations. We continue to operate Creditex's electronically traded markets and systems, post-trade connectivity platforms and intellectual property.

We continued to monitor potential impairment triggering events in our CDS trade execution business during 2016, including the impacts of divesting the brokerage business, changes in the business and regulatory climate in which the remaining business operates, the volatility in the capital markets, our recent operating performance and our current financial projections. Based on an analysis of these factors, it was determined that the carrying value of the CDS Creditex customer relationship intangible asset was not fully recoverable and an impairment of the asset was recorded in September 2016 for $33 million. The impairment was recorded as amortization expense in the accompanying consolidated statements of income for the year ended December 31, 2016. As of December 31, 2016, the remaining Creditex customer relationship intangible asset is $14 million and will continue to be amortized over the remaining

useful life through August 2020.

Consolidated Financial Highlights

The following charts and table summarize our results and significant changes in our consolidated financial performance for the periods presented (dollars in millions, except per share amounts):

	Year Ended December 31,			Year Ended December 31,		
	2016	2015	Change	2015	2014	Change
Total revenues, less transaction-based expenses	$4,499	$3,338	35 %	$3,338	$3,092	8 %
Total operating expenses	$2,332	$1,588	47 %	$1,588	$1,644	(3)%
Adjusted operating expenses[1]	$1,947	$1,365	43 %	$1,365	$1,389	(2)%
Operating income	$2,167	$1,750	24 %	$1,750	$1,448	21 %
Adjusted operating income[1]	$2,552	$1,973	29 %	$1,973	$1,703	16 %
Operating margin	48 %	52 %	(4 pts)	52 %	47 %	5 pts
Adjusted operating margin[1]	57 %	59 %	(2 pts)	59 %	55 %	4 pts
Other expense, net	$138	$97	42 %	$97	$41	134 %
Income tax expense	$580	$358	62 %	$358	$402	(11)%
Effective tax rate	29 %	22 %	7 pts	22 %	29 %	(7 pts)
Net income from continuing operations	$1,449	$1,295	12 %	$1,295	$1,005	29 %
Adjusted net income from continuing operations attributable to ICE[1]	$1,665	$1,359	23 %	$1,359	1,104	23 %
Net income attributable to ICE	$1,422	$1,274	12 %	$1,274	$981	30 %
Diluted earnings per share attributable to ICE common shareholders from continuing operations	$2.37	$2.28	4 %	$2.28	$1.69	35 %
Adjusted diluted earnings per share attributable to ICE common shareholders from continuing operations[1]	$2.78	$2.43	14 %	$2.43	$1.92	27 %
Cash flows from operating activities of continuing operations	$2,149	$1,311	64 %	$1,311	$1,463	(10)%

[1] The adjusted numbers in the charts and table above are calculated by excluding items that are not reflective of our cash operations and core business performance, net of taxes, as applicable. As a result, these adjusted numbers are not calculated in accordance with U.S. GAAP. See “- Non-GAAP Financial Measures” below.

- Total revenues, less transaction-based expenses, increased $1.2 billion for the year ended December 31, 2016, from the comparable period in 2015, primarily due to our acquisitions of Interactive Data, Trayport, Securities Evaluations and Credit

Market Analysis, and to a lesser extent, revenue increases in our exchange-related data services and Brent crude and agricultural transaction and clearing. We recognized $1.1 billion in Interactive Data, Trayport, Securities Evaluations and Credit Market Analysis data services revenues for the year ended December 31, 2016, compared to $50 million in Interactive Data and Trayport data services revenues for the year ended December 31, 2015, subsequent to their acquisitions in December 2015. Partially offsetting the revenue increases were unfavorable foreign exchange effects of $59 million arising from the strengthening U.S. dollar (primarily impacting revenues billed in pounds sterling), for the year ended December 31, 2016 from the comparable period in 2015.

- Total revenues, less transaction-based expenses, increased $246 million for the year ended December 31, 2015, from the comparable period in 2014, primarily due to increases in our data services revenues, listings revenues and Brent crude transaction and clearing revenues. The data services fee revenues increase was partially due to $50 million in data services revenues from Interactive Data and Trayport during the year ended December 31, 2015, subsequent to their acquisitions. These revenue increases were partially offset by decreases in certain interest rate transaction and clearing revenues compared to the prior year period. Also partially offsetting the revenue increases were unfavorable foreign exchange effects of $55 million arising from the strengthening U.S. dollar (primarily impacting revenues billed in pounds sterling and euros), for the year ended December 31, 2015 from the comparable period in 2014.
- Total operating expenses increased $744 million for the year ended December 31, 2016, from the comparable period in 2015, primarily due to increased operating expenses relating to Interactive Data, Trayport, Securities Evaluations and Credit Market Analysis and $33 million relating to the Creditex customer relationship intangible asset impairment recorded in September 2016. Excluding acquisition-related transaction and integration costs, we recognized $812 million in Interactive Data, Trayport, Securities Evaluations and Credit Market Analysis operating expenses for the year ended December 31, 2016, compared to $39 million in Interactive Data and Trayport operating expenses for the year ended December 31, 2015, subsequent to their acquisitions in December 2015. These increases were partially offset by decreases in professional services expenses and selling, general and administrative expenses for the year ended December 31, 2016, from the comparable period in 2015. Also partially offsetting the operating expense increases were favorable foreign exchange effects of $40 million arising from the strengthening U.S. dollar (primarily impacting operating expenses incurred in pounds sterling) for the year ended December 31, 2016, from the comparable period in 2015.
- Total operating expenses decreased $56 million for the year ended December 31, 2015, from the comparable period in 2014, primarily due to decreases in acquisition-related transaction and integration costs, professional services expenses, rent and occupancy expenses, and selling, general and administrative expenses. Operating expenses also decreased due to the impact of a strengthening U.S. dollar on our foreign currency exchange rates (primarily for those operating expenses incurred in pounds sterling and euros), which reduced our operating expenses by $17 million for the year ended December 31, 2015, from the comparable period in 2014. These decreases were partially offset by increases in depreciation expenses compared to the prior year period primarily due to fixed asset additions relating to the NYSE integration and real estate expenditures relating primarily to the Atlanta and New York headquarters. We also had increases in operating expenses during the year ended December 31, 2015 of $39 million from Interactive Data and Trayport (excluding acquisition-related transaction and integration costs), subsequent to their acquisitions.
- The lower effective tax rate and income tax expense for the year ended December 31, 2015 are primarily due to the deferred tax benefit associated with future U.K. income tax rate reductions along with certain favorable settlements with various taxing authorities.

Business Environment and Market Trends

Our business environment has been characterized by industry consolidation and increasing competition among global markets for trading, clearing and listings; the globalization of exchanges, customers and competitors; market participants' rising demand for speed, data capacity and connectivity, which requires ongoing investment in technology; evolving and disparate regulation across multiple jurisdictions; and increasing focus on capital and cost efficiencies.

Price volatility increases the need to hedge risk and creates demand among market participants for the exchange of risk through trading and clearing. Market liquidity is one of the primary market attributes for attracting and maintaining customers and is an important indicator of a market's strength. In addition, the ability to evolve existing products to serve emerging needs, develop new products and respond to competitive dynamics in pricing, exclusivity

and consolidation is important to our business. Changes in these and other factors could cause our revenues to fluctuate from period to period and these fluctuations may affect the reliability of period to period comparisons of our revenues and operating results. For additional information regarding the factors that affect our results of operations, see Item 1(A) “Risk Factors” included elsewhere in this Annual Report.

The implementation of new laws or regulations or the uncertainty around potential changes may impact participation in our markets, or the demand for our clearing and data services either favorably or unfavorably. Many of the recent changes with regard to

global financial reform have emphasized the importance of transparent markets, centralized clearing and access to data, all of which are important aspects of our product offering. However, some of the proposed rules have yet to be implemented and some rules that have already been propagated are being reconsidered. In Europe, final regulations related to Mifid II have not yet been implemented and significant uncertainties and ambiguities remain around such regulations. As this is established, legislative and regulatory actions may change the way we conduct our business and may create uncertainty for market participants, which could affect trading volumes or demand for market data. As a result, it is difficult to predict all of the effects that the legislation and its implementing regulations will have on us. As discussed more fully in Item 1 "- Business - Regulation" included elsewhere in this Annual Report, the implementation of MiFID II and other regulations may result in operational, regulatory and/or business risk.

In recent years, low interest rates and uncertainty in the financial markets continued to reflect the impact of a relatively slow or yet to occur global economic recovery. Lower growth in Asia and the European Union may also continue to affect global financial markets. In addition, economic and regulatory uncertainty, coupled with periods of high market volatility around geopolitical events, low interest rates and low oil and natural gas prices has affected our clients' activities in recent years. The duration of these trends will determine the continued impact on our business across trading and listings. We have diversified our business so that we are not dependent on volatility or trading activity in any one asset class. In addition, we have increased our portion of non-transaction and clearing revenues from 13% in 2012 to 57% in 2016. This non-transaction revenue includes data services, listings and other revenues. We continue to focus on our strategy to grow each of our revenue streams, as well as on our company-wide expense reduction initiatives and our synergies in connection with our acquisitions in order to mitigate these uncertainties and to build on our growth opportunities by leveraging our proprietary data, clearing and markets.

In recent years, financial institutions and corporations have acted to control spending, including on financial information and related services. Yet many of the data products and services we sell are required for our clients' business operations regardless of market volatility or shifts in business profitability levels. While we expect that cost containment pressures will continue, we anticipate that there will continue to be growth in the financial information services sector driven by a number of global trends, including the following: increasing global regulatory demands; greater use of fair value accounting standards and reliance on independent valuations; greater emphasis on risk management; market fragmentation driven by regulatory changes; the move to passive investing and indexation; ongoing growth in the size and diversity of financial markets; increased electronification of fixed income and other less automated markets; the development of new data products; the demand for greater data capacity and connectivity; new entrants; and increasing demand for outsourced services by financial institutions. We contract with clients through data fixed-fee subscriptions, variable fees based on usage or a combination of fixed-fee subscription and usage-based fees. In addition, some of our data services generate one-time or non-recurring revenue, such as one-time purchases of historical data, set-up services or implementation fees.

Segment Reporting

We operated as a single reportable business segment as of December 31, 2015 but began operating as two operating segments in the first quarter of 2016 following our acquisition of Interactive Data. As of December 31, 2016, we continue to operate as two business segments: our Trading and Clearing segment and our Data and Listings segment. This presentation is reflective of how our chief operating decision maker reviews and operates our business. Our Trading and Clearing segment comprises our transaction-based execution and clearing businesses. Our Data and Listings segment comprises our subscription-based data services and securities listings businesses. Our chief operating decision maker does not review total assets, intersegment revenues/expenses or statements of income below operating income by segments; therefore, such information is not presented below.

While revenues are allocated directly to segments, a significant portion of our operating expenses are not solely related to a specific segment because the expenses serve functions that are necessary for the operation of both segments. Because these expenses do not relate to a single segment, we have employed a reasonable allocation method to allocate expenses between the segments for presentation purposes. We have elected to use a pro-rata revenue approach as the allocation method for the expenses that do not relate solely to one segment. Further, precise allocation of expenses to specific revenue streams within these segments is not reasonably possible. Accordingly, we did not allocate expenses to specific revenue streams within the segments.

Trading and Clearing Segment

The following charts and table present our selected statements of income data for our Trading and Clearing segment, from continuing operations (dollars in millions):

(1) The adjusted numbers in the chart above are calculated by excluding items that are not reflective of our cash operations and core business performance, net of taxes, as applicable. As a result, these adjusted numbers are not calculated in accordance with U.S. GAAP. See “- Non-GAAP Financial Measures” below.

	Year Ended December 31,			Year Ended December 31,		
	2016	2015	Change	2015	2014	Change
Revenues:						
Brent crude futures and options contracts	$299	$263	14 %	$263	$231	13 %
Other oil futures and options contracts	118	112	5	112	99	14
Gasoil futures and options contracts	98	93	4	93	82	14
Natural gas futures and options contracts	208	199	4	199	194	3
Power futures and options contracts	83	79	5	79	77	3
Emissions and other energy futures and options contracts	59	58	—	58	71	(17)
Sugar futures and options contracts	109	110	—	110	95	16
Other agricultural and metals futures and options contracts	119	101	17	101	96	6
Interest rates futures and options contracts	177	206	(13)	206	268	(24)
Other financial futures and options contracts	141	136	4	136	128	5
Cash equities and equity options	1,780	1,676	6	1,676	1,593	5
Credit default swaps	143	149	(4)	149	161	(7)
Other transactions	50	46	8	46	49	(6)
Transaction and clearing, net	3,384	3,228	5	3,228	3,144	3
Other revenues	177	178	—	178	150	18
Revenues	3,561	3,406	5	3,406	3,294	3
Transaction-based expenses	1,459	1,344	9	1,344	1,260	7
Revenues, less transaction-based expenses	2,102	2,062	2 %	2,062	2,034	1 %
Other operating expenses	624	670	(7)%	670	735	(9)%
Acquisition-related transaction and integration costs	10	28	(64)%	28	64	(57)%
Depreciation and amortization (including impairment)	246	217	13 %	217	212	2 %
Operating expenses	880	915	(4)%	915	1,011	(10)%
Operating income	$1,222	$1,147	7 %	$1,147	$1,023	12 %

Transaction and Clearing Revenues

Overview

Our transaction and clearing revenues are reported on a net basis, except for the NYSE transaction-based expenses discussed below, and consist of fees collected from our derivatives trading and clearing, and from our cash trading and equity options exchanges. In our derivatives markets, we earn transaction and clearing revenues from both counterparties to each contract that is traded and/or cleared, and in our equity and equity options markets, we receive trade execution fees as well as routing fees related to orders in our markets which are routed to other markets for execution.

Rates per-contract are driven by the number of contracts or securities traded and the fees charged per contract, net of certain rebates. Our per-contract transaction and clearing revenues will depend upon many factors, including, but not limited to, market conditions, transaction and clearing volume, product mix, pricing, applicable revenue sharing and market making agreements, and new product introductions. Because transaction and clearing revenues are generally assessed on a per-contract basis, revenues and profitability fluctuate with changes in contract volume and, though not to the same degree, due to product mix.

For the years ended December 31, 2016, 2015 and 2014, 19%, 20% and 26%, respectively, of our Trading and Clearing segment revenues, less transaction-based expenses, were billed in pounds sterling or euros. As the pound sterling or euro exchange rate changes, the U.S. equivalent of revenues denominated in foreign currencies changes accordingly. Due to the weakening of the pound sterling and euro the last two years compared to the U.S. dollar, our Trading and Clearing segment revenues, less transaction-based expenses, decreased $35 million for the year ended December 31, 2016 from the comparable period in 2015, and decreased $49 million for the year ended December 31, 2015 from the comparable period in 2014. See Item 3 “- Quantitative and Qualitative Disclosures About Market Risk - Foreign Currency Exchange Rate Risk” below for additional information on the impact of currency fluctuations.

Our transaction and clearing fees are presented net of rebates. We recorded rebates of $674 million, $563 million and $466 million for the years ended December 31, 2016, 2015 and 2014, respectively. We offer rebates in certain of our markets primarily to support market liquidity and trading volume by providing qualified participants in those markets a discount to the applicable commission rate. Such rebates are calculated based on volumes traded. The increase in the rebates is due primarily to an increase

in the number of participants in the rebate programs offered on various contracts, an increase in our traded volume and an increase in the number of rebate programs.

Commodities Markets

We operate global crude oil and refined oil futures markets, including the ICE Brent, ICE WTI and ICE Gasoil futures and options contracts, as well as over 400 refined oil futures products that relate to our benchmark futures contracts. The ICE Brent crude futures contract is relied upon by a broad range of global market participants, including oil producing nations and multinational companies, to price and hedge their crude oil production and consumption. ICE Gasoil is a key refined oil benchmark in Europe and Asia. Total oil volume and revenues increased 12% and 10%, respectively, for the year ended December 31, 2016, from the comparable period in 2015, and increased 17% and 14%, respectively, for the year ended December 31, 2015, from the comparable period in 2014.

In 2016, ICE Brent crude futures and options contracts produced the twentieth consecutive year of record volume. ICE Brent crude futures and options volume increased 15% for the year ended December 31, 2016, from the comparable period in 2015, and increased 14% for the year ended December 31, 2015, from the comparable period in 2014. ICE WTI crude futures and options volume increased 16% for the year ended December 31, 2016, from the comparable period in 2015, and increased 26% for the year ended December 31, 2015, from the comparable period in 2014. ICE Brent crude and ICE WTI crude futures and options volume increased primarily due to increased oil price volatility; broader market volatility in oil products, equities and foreign exchange rates; acts of central governments; outcomes of elections; and uncertainty around OPEC policy.

Our global natural gas futures and options volume declined 2% and revenues increased 4% for the year ended December 31, 2016, from the comparable period in 2015, respectively, and volume declined 4% and revenues increased 3% for the year ended December 31, 2015, from the comparable period in 2014, respectively. Global natural gas volume declined the last two years due to lower price volatility related to high natural gas supplies but revenues increased due to geographic product mix.

Total volume and revenues in our agricultural and metals futures and options markets increased 11% and 8%, respectively, for the year ended December 31, 2016, from the comparable period in 2015, and increased 13% and 11%, respectively, for the year ended December 31, 2015, from the comparable period in 2014. Volume in our largest agricultural contract, sugar futures and options, remained flat for the year ended December 31, 2016, from the comparable period in 2015, and increased 18% for the year ended December 31, 2015, from the comparable period in 2014. Volume in our other agricultural and metal futures and options volume increased 21% for the year ended December 31, 2016, from the comparable period in 2015 and increased 9% for the year ended December 31, 2015, from the comparable period in 2014. The increases in agricultural volume were primarily driven by increased price volatility due to changing supply and demand expectations largely related to weather and production levels.

Financial Markets

Financial futures and options volume increased 10% and revenues decreased 6%, respectively, for the year ended December 31, 2016, from the comparable period in 2015, and decreased 9% and 14%, respectively, for the year ended December 31, 2015, from the comparable period in 2014. Interest rate futures and options volume increased 12% for the year ended December 31, 2016, from the comparable period in 2015, and decreased 11% for the year ended December 31, 2015, from the comparable period in 2014. Interest rate futures and options volume increased for the year ended December 31, 2016 primarily due to uncertainty around central bank actions, economic data during 2016, and the U.K.'s decision to exit the European Union. Revenues decreased while volume increased for the interest rates futures and options for the year ended December 31, 2016 primarily due to the impact of foreign currency translation and increased market making rebates that apply at higher volume levels.

Other financial futures and options volume increased 5% for the year ended December 31, 2016, from the comparable period in 2015, and decreased 4% for the year ended December 31, 2015, from the comparable period in 2014. Other financial futures and options volume increased for the year ended December 31, 2016 primarily due to changes in price volatility in equity indexes driven by equity market volatility. Volume in our MSCI futures and options contracts increased 49% for the year ended December 31, 2016, from the comparable period in 2015, due to global equity market volatility.

Cash equities handled volume increased 6% for the year ended December 31, 2016, from the comparable period in 2015, primarily due to increased market volatility during the first half of 2016. Cash equities handled volume

increased 13% for the year ended December 31, 2015, from the comparable period in 2014, primarily due to increased market volatility throughout 2015. Cash equities revenues, net of transaction-based expenses, were $223 million, $220 million and $188 million for the years ended December 31, 2016, 2015 and 2014, respectively.

Equity options volume decreased 5% for the year ended December 31, 2016, compared to the same period in 2015, and decreased 20% for the year ended December 31, 2015, from the comparable period in 2014. Equity options revenues, net of

transaction-based expenses, were $98 million, $112 million and $145 million for the years ended December 31, 2016, 2015 and 2014, respectively. Equity options volume and revenues decreased the last several years primarily due to the restructuring of the NYSE Amex Options business. While revenues declined the last several years, the overall financial contribution of equity options was consistent with the prior years due to the retention of a higher percentage of profits from NYSE Amex Options driven by our repurchase of the equity in the exchange from the minority shareholders.

CDS clearing revenues were $107 million, $100 million and $97 million for the years ended December 31, 2016, 2015 and 2014, respectively. The notional value of CDS cleared during the same periods were $11.5 trillion, $11.9 trillion and $13.7 trillion, respectively. Buyside participation at our U.S. CDS clearing house, ICE Clear Credit, reached record levels in terms of number of participants and notional cleared due to increased participation from both U.S. and European buyside customers due to greater regulatory certainty, the breadth of products offered, and cost efficient margining in the U.S. relative to Europe.

CDS trade execution revenues were $36 million, $49 million and $64 million for the years ended December 31, 2016, 2015 and 2014, respectively. The notional value of the underlying CDS traded was $417.2 billion, $867.7 billion and $1.0 trillion for the years ended December 31, 2016, 2015 and 2014, respectively. CDS trading remains muted due to financial reform implementation and lower volatility in corporate credit markets. The decrease in the CDS trade execution revenues for the year ended December 31, 2016 is also impacted by the sale and discontinuance of our U.S. and U.K. CDS voice brokerage operations in the third quarter of 2016.

Other Revenues

Other revenues include interest income on certain clearing margin deposits, regulatory penalties and fines, fees for use of our facilities, regulatory fees charged to member organizations of our U.S. securities exchanges, designated market maker service fees, exchange membership fees and agricultural grading and certification fees. The increase in other revenues for the year ended December 31, 2015, from the comparable period in 2014, is primarily due to increases in the interest income recognized on certain clearing margin deposits and fees earned on non-cash collateral placed by clearing members primarily due to fee changes and increased clearing margin deposits.

Selected Operating Data

The following charts and table present trading activity and open interest in our futures and options markets by commodity type based on the total number of contracts traded, as well as futures and options rate per contract (in millions, except for percentages and rate per contract amounts):

Volume and Rate per Contract

	Year Ended December 31,			Year Ended December 31,		
	2016	2015	Change	2015	2014	Change
Number of contracts traded:						
Brent crude futures and options	227	197	15 %	197	174	14 %
Other oil futures and options	96	86	12	86	69	24
Gasoil futures and options	66	64	5	64	53	19
Natural gas futures and options	221	226	(2)	226	235	(4)
Power futures and options	28	29	(3)	29	28	2
Emissions and other energy futures and options	10	9	11	9	10	(11)
Sugar futures and options	43	43	—	43	36	18
Other agricultural and metals futures and options	57	47	21	47	44	9
Interest rates futures and options	412	370	12	370	415	(11)
Other financial futures and options	151	144	5	144	150	(4)
Total	1,311	1,215	8 %	1,215	1,214	— %
Rate per contract:						
Energy futures and options rate per contract	$1.33	$1.32	1 %	$1.32	$1.32	— %
Agricultural and metals futures and options rate per contract	$2.27	$2.34	(3)%	$2.34	$2.38	(2)%
Interest rates and other financial futures and options rate per contract	$0.54	$0.63	(14)%	$0.63	$0.67	(6)%

Open interest is the aggregate number of contracts (long or short) that clearing members hold either for their own account or on behalf of their clients. Open interest refers to the total number of contracts that are currently open — in other words, contracts that have been traded but not yet liquidated by either an offsetting trade, exercise, expiration or assignment. Open interest is also a measure of the future activity remaining to be closed out in terms of the number of contracts that members and their clients continue to hold in the particular contract and by the number of contracts held for each contract month listed by the exchange. The following table presents our year-end open interest for our futures and options contracts (in thousands, except for percentages).

Open
Interest

	As of December 31, 2016	2015	Change	As of December 31, 2015	2014	Change
Open interest — in thousands of contracts:						
Brent crude futures and options	3,723	3,642	2 %	3,642	3,804	(4)%
Other oil futures and options	5,105	4,930	4	4,930	4,763	4
Gasoil futures and options	854	750	14	750	526	43
Natural gas futures and options	17,334	17,769	(2)	17,769	20,517	(13)
Power futures and options	7,204	7,524	(4)	7,524	7,167	5
Emissions and other energy futures and options	1,549	1,718	(10)	1,718	1,660	4
Sugar futures and options	1,649	1,769	(7)	1,769	1,479	20
Other agricultural and metals futures and options	2,271	2,108	8	2,108	1,828	15
Interest rates futures and options	13,943	19,143	(27)	19,143	13,042	47
Other financial futures and options	5,470	4,691	17	4,691	4,925	(5)
Total	59,102	64,044	(8)%	64,044	59,711	7 %

The following charts and table present selected cash and equity options trading data. All trading volume below is presented as net daily trading volume and is single counted.

	Year Ended December 31,			Year Ended December 31,		
	2016	2015	Change	2015	2014	Change
Cash products (shares in millions):						
NYSE listed (tape A) issues:						
Handled volume	1,269	1,203	5 %	1,203	1,063	13 %
Matched volume	1,256	1,185	6 %	1,185	1,039	14 %
Total NYSE listed consolidated volume	3,918	3,685	6 %	3,685	3,391	9 %
Share of total matched consolidated volume	32.1 %	32.2 %	(0.1) pts	32.2 %	30.6 %	1.5 pts
NYSE Arca, NYSE MKT and regional listed (tape B) issues:						
Handled volume	372	310	20 %	310	258	20 %
Matched volume	360	296	22 %	296	244	21 %
Total NYSE Arca, NYSE MKT and regional listed consolidated volume	1,536	1,355	13 %	1,355	1,099	23 %
Share of total matched consolidated volume	23.4 %	21.8 %	1.6 pts	21.8 %	22.2 %	(0.4) pts
Nasdaq listed (tape C) issues:						
Handled volume	186	217	(14)%	217	204	6 %
Matched volume	177	206	(14)%	206	189	9 %
Total Nasdaq listed consolidated volume	1,907	1,894	1 %	1,894	1,955	(3)%
Share of total matched consolidated volume	9.3 %	10.9 %	(1.6) pts	10.9 %	9.7 %	1.2 pts
Total cash volume handled	1,828	1,730	6 %	1,730	1,525	13 %
Total cash market share matched	24.4 %	24.3 %	0.1 pts	24.3 %	22.8 %	1.5 pts
Equity options (contracts in thousands):						
NYSE equity options	2,719	2,867	(5)%	2,867	3,577	(20)%
Total equity options volume	14,391	14,793	(3)%	14,793	15,258	(3)%
NYSE share of total equity options	18.9 %	19.4 %	(0.5) pts	19.4 %	23.4 %	(4.0) pts
Revenue capture or rate per contract:						
Cash products revenue capture (per 100 shares)	$0.049	$0.050	(4)%	$0.050	$0.050	1 %
Equity options rate per contract	$0.143	$0.156	(8)%	$0.156	$0.158	(2)%

Handled volume represents the total number of shares of equity securities, ETFs and crossing session activity internally matched on our exchanges or routed to and executed on an external market center. Matched volume represents the total number of shares of equity securities, ETFs and crossing session activity executed on our exchanges.

Transaction-Based Expenses

Our equities and equity options markets pay fees to the SEC pursuant to Section 31 of the Exchange Act. Section 31 fees collected from customers are recorded on a gross basis as a component of transaction and clearing fee revenue. These Section 31 fees are designed to recover the government's costs of supervising and regulating the securities markets and securities professionals. We, in turn, collect activity assessment fees, which are included in transaction and clearing revenues in our consolidated statements of income, from member organizations clearing or settling trades on the equities and options exchanges and recognize these amounts when invoiced. The activity assessment fees are designed so that they are equal to the Section 31 fees which are included in transaction-based expenses in our consolidated statements of income. As a result, activity assessment fees and Section 31 fees do not have an impact on our net income. Activity assessment fees received are included in cash at the time of

receipt and, as required by law, the amount due to the SEC is remitted semi-annually and recorded as an accrued liability until paid. As of December 31, 2016, the accrued liability related to the un-remitted SEC Section 31 fees was $131 million.

We also incur liquidity payments made to cash and options trading customers and routing charges made to other exchanges that are included in transaction-based expenses. We incur routing charges when we do not have the best bid or offer in the market for a security that a customer is trying to buy or sell on one of our securities exchanges. In that case, we route the customer's order to the external market center that displays the best bid or offer. The external market center charges us a fee per share (denominated in tenths of a cent per share) for routing to its system. We record routing charges on a gross basis as a component of transaction and clearing fee revenue.

Operating Expenses, Operating Income and Operating Margin

Trading and Clearing segment operating expenses decreased $35 million for the year ended December 31, 2016, from the comparable period in 2015 (with the decrease being partially offset by the $33 million Creditex customer relationship intangible asset impairment expense recorded in September 2016), and decreased $96 million for the year ended December 31, 2015, from the comparable period in 2014. See "- Consolidated Operating Expenses" below.

Trading and Clearing segment operating income increased $75 million for the year ended December 31, 2016, from the comparable period in 2015, and increased $124 million for the year ended December 31, 2015, from the comparable period in 2014. Trading and Clearing segment operating margins were 58%, 56% and 50% for the years ended December 31, 2016, 2015 and 2014, respectively. The operating income and operating margin increases the last two years were driven by the revenue increases and operating expense decreases discussed above.

Trading and Clearing segment adjusted operating expenses were $770 million, $809 million and $868 million for the years ended December 31, 2016, 2015 and 2014, respectively. Trading and Clearing segment adjusted operating income was $1.3 billion, $1.3 billion and $1.2 billion for the years for the years ended December 31, 2016, 2015 and 2014, respectively. Trading and Clearing segment adjusted operating margins were 63%, 61% and 57% for the years for the years ended December 31, 2016, 2015 and 2014, respectively. See "- Non-GAAP Financial Measures" below.

Data and Listings

The following presents our selected statements of income data for our Data and Listings segment, from continuing operations (dollars in millions):

(1) The adjusted numbers in the chart above are calculated by excluding items that are not reflective of our cash operations and core business performance, net of taxes, as applicable. As a result, these adjusted numbers are not calculated in accordance with U.S. GAAP. See “- Non-GAAP Financial Measures” below.

	Year Ended December 31,			Year Ended December 31,		
	2016	2015	Change	2015	2014	Change
Revenues:						
Pricing and analytics	$858	$151	469 %	$151	$26	491 %
Desktops and connectivity	585	250	134	250	219	14
Exchange data	535	470	14	470	446	5
Data services	1,978	871	127	871	691	26
Listings	419	405	4	405	367	10
Revenues	2,397	1,276	88	1,276	1,058	21
Other operating expenses	1,018	456	123	456	448	2
Acquisition-related transaction and integration costs	70	60	17	60	120	(7)
Depreciation and amortization	364	157	133	157	65	30
Operating expenses	1,452	673	116	673	633	6
Operating income	$945	$603	57 %	$603	$425	42 %

Data Services Revenues

The Data and Listings segment represents subscription-based, or recurring, revenue businesses that relate to data services and listings services offered across ICE, NYSE and ICE Data Services. Through ICE Data Services, we generate revenues from a range of data services, including the dissemination of our exchange and evaluated pricing data and analytics, desktops and connectivity and exchange market data. Through NYSE, NYSE MKT and NYSE Arca, we generate listings revenue related to the provision of listings services for public companies and ETFs, and related corporate actions for listed companies.

Our pricing and analytics services consist of an extensive set of independent evaluated pricing services focused primarily on fixed income and international equity securities, valuation services, reference data, market data, end of day pricing, fixed income, equity portfolio analytics and risk management analytics. We also serve as an administrator of regulated benchmarks, including LIBOR, the ICE Swap Rate and the LBMA Gold Price. Our index services offer a range of products across fixed income, energy, equities, ETFs and other asset classes to provide the methodology, pricing and licensing of key benchmarks.

Our desktop and connectivity services comprise technology-based information platforms, feeds and connectivity. These include trading applications, desktop solutions and data feeds to support trading, voice brokers and investment functions. Our desktop and web-based applications deliver real-time market information, analytical and decision support tools to support trading and investment decisions. Through our consolidated feeds, clients receive consolidated real-time and/or delayed financial data from global exchanges, trading venues and data sources for exchange-traded and OTC markets. Our connectivity services offer a secure, resilient, private multi-participant network that provides connectivity to global exchanges and content service providers. Our connectivity infrastructure managed services solution also offers colocation space, direct exchange access, proximity hosting and support services that enable access to real-time exchange data and facilitates low latency electronic trading.

Our exchange data primarily represents subscription fees for the provision of our market data that is created from activity in our Trading and Clearing segment. In our derivatives markets, exchange data fees primarily relate to subscription fees charged for customer and license access from third party data vendors, or quote vendors such as Thomson Reuters and Bloomberg, and from end users, as well as view-only data access, direct access services, terminal access, daily indices, forward curves and other valuation services, and end of day reports.

We earn exchange data fees relating to our cash equity and options markets, and related data and network services. We collect cash trading market data fees principally for consortium-based data products and, to a lesser extent, for NYSE proprietary data products. Consortium-based data fees are determined by the securities industry plans and are charged to vendors based on their redistribution of data. Consortium-based data revenues (net of administrative costs) are distributed to participating securities markets on the basis of a formula set by the SEC under Regulation NMS. Last trade prices and quotes in New York Stock Exchange-listed, NYSE MKT-listed, and NYSE Arca-listed securities are disseminated through “Tape A” and “Tape B,” which constitute the majority of our revenues from consortium-based

market data revenues.

Our data services revenues increased during the year ended December 31, 2016, from the comparable period in 2015, primarily due to the acquisitions of Interactive Data and Trayport in December 2015, the acquisitions of Securities Evaluations and Credit Market Analysis in October 2016, the high retention rate of existing customers, the addition of new customers, increased usage by existing customers and the development of new and enhanced products designed to efficiently deliver more value to our customers. These increases were partially offset due to the impact of foreign currency translation. We recognized $1.1 billion in

data services revenues for Interactive Data, Trayport, Securities Evaluations and Credit Market Analysis during the year ended December 31, 2016, compared to $50 million in data services revenues for Interactive Data and Trayport during year ended December 31, 2015, subsequent to their acquisitions dates.

Our data services revenues increased during the year ended December 31, 2015, from the comparable period in 2014, primarily due to the addition of new users, increased usage by customers, expanded product offerings, fee increases and the addition of SuperDerivatives and ICE Benchmark Administration for all of 2015 and Interactive Data and Trayport subsequent to their acquisitions in December 2015.

For the years ended December 31, 2016, 2015 and 2014, 12%, 4% and 4%, respectively, of our Data and Listings segment revenues were billed in pounds sterling or euros (all relating to our data services revenues). As the pound sterling or euro exchange rate changes, the U.S. equivalent of revenues denominated in foreign currencies changes accordingly. Due to the weakening of the pound sterling and euro the last two years compared to the U.S. dollar, our data services revenues decreased $24 million for the year ended December 31, 2016 from the comparable period in 2015, and decreased $6 million for the year ended December 31, 2015 from the comparable period in 2014. See Item 3 “- Quantitative and Qualitative Disclosures About Market Risk - Foreign Currency Exchange Rate Risk” below for additional information on the impact of currency fluctuations.

Listings Revenues

We recognize listings revenues in our securities markets from two types of fees applicable to companies listed on our cash equities exchanges - original listing fees and annual listing fees. Original listing fees consist of two components: initial listing fees and fees related to other corporate-related actions. Initial listing fees, subject to a minimum and maximum amount, are based on the number of shares that a company initially lists. Initial listing fees are recognized as revenue on a straight-line basis over estimated service periods of nine years for NYSE and five years for NYSE Arca and NYSE MKT. U.S. companies pay annual fees based on the number of outstanding shares the company has and non-U.S. companies pay annual fees based on the number of outstanding shares the company has issued or held in the U.S. Annual fees are recognized as revenue on a pro rata basis over the calendar year.

In addition, other corporate actions-related listing fees are paid by listed companies in connection with actions involving the issuance of new shares, such as stock splits, rights issues and sales of additional securities, as well as mergers and acquisitions. Other corporate actions-related listing fees are recognized as revenue on a straight-line basis over estimated service periods of six years for NYSE and three years for NYSE Arca and NYSE MKT. Unamortized balances are recorded as deferred revenue in our consolidated balance sheet.

Listings revenues increased for the last two years primarily due to the amortization of the original listing fees earned since the acquisition of NYSE and due to additional annual listing fee revenue from new customers. The listings unamortized deferred revenue balance as of December 31, 2016 of $149 million relates to original and other corporate action listing fees incurred and billed and not yet recognized as revenue subsequent to the November 13, 2013 acquisition through December 31, 2016.

Operating Expenses, Operating Income and Operating Margin

Data and Listings segment operating expenses increased $779 million for the year ended December 31, 2016, from the comparable period in 2015, and increased $40 million for the year ended December 31, 2015, from the comparable period in 2014. The increases primarily relate to the $812 million in operating expenses recognized relating to Interactive Data, Trayport, Securities Evaluations and Credit Market Analysis for the year ended December 31, 2016, compared to $39 million in operating expenses recognized relating to Interactive Data and Trayport for the year ended December 31, 2015 (both excluding acquisition-related transaction and integration costs). See “- Consolidated Operating Expenses” below for further details on the Interactive Data, Trayport, Securities Evaluations and Credit Market Analysis operating expenses.

Data and Listings segment operating income increased $342 million for the year ended December 31, 2016, from the comparable period in 2015, and increased $178 million for the year ended December 31, 2015, from the comparable period in 2014. Data and Listings segment operating margins were 39%, 47% and 40% for the years ended December 31, 2016, 2015 and 2014, respectively. The operating income increases the last two years were driven by the acquisitions discussed above.

Data and Listings segment adjusted operating expenses were $1.2 billion, $556 million and $521 million for the years ended December 31, 2016, 2015 and 2014, respectively. Data and Listings adjusted operating income was $1.2

billion, $720 million and $537 million for the years for the years ended December 31, 2016, 2015 and 2014, respectively. Data and Listings adjusted operating margins were 51%, 56% and 51% for the years for the years ended December 31, 2016, 2015 and 2014, respectively. See “- Non-GAAP Financial Measures” below.

Consolidated Operating Expenses

The majority of our operating expenses do not vary directly with changes in our volume and revenues, except for certain technology and communication expenses and a portion of our compensation expense that is tied directly to our financial performance, as discussed below. The following chart and table present our operating expenses from continuing operations (dollars in millions):

	Year Ended December 31,			Year Ended December 31,		
	2016	2015	Change	2015	2014	Change
Compensation and benefits	$945	$611	55 %	$611	$592	3 %
Professional services	137	139	(1)	139	181	(23)
Acquisition-related transaction and integration costs	80	88	(9)	88	129	(32)
Technology and communication	374	203	84	203	188	8
Rent and occupancy	70	57	21	57	78	(27)
Selling, general and administrative	116	116	—	116	143	(19)
Depreciation and amortization	610	374	63	374	333	12
Total operating expenses	$2,332	$1,588	47 %	$1,588	$1,644	(3)%

We expect our operating expenses to increase in absolute terms in future periods in connection with our acquisitions and growth of our business, and to vary from year to year based on the type and level of our acquisitions and other investments.

For the years ended December 31, 2016, 2015 and 2014, 18%, 12% and 18%, respectively, of our consolidated operating expenses were incurred in pounds sterling or euros. As the pound sterling or euro exchange rate changes, the U.S. equivalent of operating expenses denominated in foreign currencies changes accordingly. Due to the weakening of the pound sterling and euro the last two years compared to the U.S. dollar, our consolidated operating expenses decreased $40 million for the year ended December 31, 2016 from the comparable period in 2015, and decreased $17 million for the year ended December 31, 2015 from the comparable period in 2014. See Item 3 "- Quantitative and Qualitative Disclosures About Market Risk - Foreign Currency Exchange Rate Risk" below for additional information on the impact of currency fluctuations.

Compensation and Benefits Expenses

Compensation and benefits expense is our most significant operating expense and includes non-capitalized employee wages, bonuses, non-cash or stock compensation, certain severance costs, benefits and employer taxes. The bonus component of our compensation and benefits expense is based on both our financial performance and the individual employee performance and the performance-based restricted stock compensation expense is also based on our financial performance. Therefore, our compensation and benefits expense will vary year to year based on our financial performance and fluctuations in the number of employees.

Compensation and benefits expenses increased for the last two years primarily due to increases in employee headcount. Our employee headcount increased primarily due to the acquisitions of Interactive Data, Trayport, Securities Evaluations, Credit Market Analysis, SuperDerivatives, Singapore Mercantile Exchange and Holland Clearing House, converting contractor roles to employees at NYSE, and hiring for clearing, technology, regulation and compliance. Headcount increased from 2,879 employees at December 31, 2013 (excluding the Euronext and NYSE Technologies employees) to 2,902 employees as of December 31, 2014, increased to 5,549 employees as of December 31, 2015, and increased to 5,631 employees as of December 31, 2016. We recognized $342 million in compensation and benefits expenses relating to the Interactive Data, Trayport, Securities Evaluations and Credit Market Analysis acquisitions during the year ended December 31, 2016, compared to $17 million in compensation and benefits expenses relating to Interactive Data and Trayport during the year ended December 31, 2015, subsequent to their acquisitions. The employee increases associated with these acquisitions were partially offset by employee terminations for the years ended December 31, 2016, 2015 and 2014 for NYSE and for the year ended December 31, 2016 for Interactive Data, in connection with our integrations.

We recorded $33 million, $20 million and $99 million in NYSE and Interactive Data employee severance costs during the years ended December 31, 2016, 2015 and 2014, respectively, with such costs included in the acquisition-related transaction and integration costs discussed below and primarily related to executive departures. In addition, we incurred non-acquisition related employee severance costs of $10 million, $3 million and $4 million for the years ended December 31, 2016, 2015 and 2014, respectively. Non-cash compensation expenses recognized in our consolidated financial statements for employee stock options and restricted stock were $123 million, $111 million and $82 million for the years ended December 31, 2016, 2015 and 2014, respectively. The increases in non-cash compensation expenses primarily relates to a greater number of employees receiving non-cash awards due to the headcount increases discussed above.

Professional Services Expenses

This expense includes fees for consulting services received on strategic and technology initiatives, temporary labor, as well as regulatory, legal and accounting fees. This expense may fluctuate as a result of changes in consulting and technology services, temporary labor, and regulatory, accounting and legal proceedings.

We recognized $34 million in professional services expenses relating to Interactive Data, Trayport, Securities Evaluations and Credit Market Analysis during the year ended December 31, 2016, compared to $2 million in professional services expenses for Interactive Data and Trayport during the year ended December 31, 2015, subsequent to their acquisitions. Excluding the impact of the acquisitions, professional services expenses decreased the last two years primarily due to the continued reduction in professional services and contractors at NYSE. We eliminated or replaced certain contractor positions with full time employees at NYSE. In addition, during the year

ended December 31, 2016, we recorded a credit from a third party service provider related to fees charged during 2015, and we incurred lower legal fees during the year ended December 31, 2016, from the comparable period in 2015. Legal fees, which are included in professional services expenses, primarily related to class action lawsuits in which NYSE is a defendant.

Acquisition-Related Transaction and Integration Costs

We incurred $80 million in acquisition-related transaction and integration costs during the year ended December 31, 2016, primarily relating to our integration of Interactive Data and NYSE, legal and professional fees related to the Trayport CMA review, our investment in MERS, our acquisitions of Securities Evaluations and Credit Market Analysis, and various other potential and discontinued acquisitions. Of this amount, $41 million was primarily related to fees for investment banking advisors, lawyers,

accountants, tax advisors and other external costs directly related to the completed 2016 acquisitions and to other transactions. We incurred $39 million for Interactive Data and NYSE integration costs during the year ended December 31, 2016, primarily relating to employee and lease termination costs and professional services costs. As of December 31, 2016, the integration of NYSE has been completed and we will no longer include any NYSE integration costs in the future.

We incurred $88 million in acquisition-related transaction and integration costs during the year ended December 31, 2015, primarily relating to our acquisitions of Interactive Data and Trayport and the integration of NYSE. Of this amount, $46 million was primarily related to fees for investment banking advisors, lawyers, accountants, tax advisors and other external costs directly related to the Interactive Data and Trayport acquisitions and to other transactions. We incurred $42 million for NYSE integration costs during the year ended December 31, 2015, primarily relating to employee and lease termination costs and professional services costs.

We incurred $129 million in acquisition-related transaction and integration costs during the year ended December 31, 2014, primarily relating to our acquisition and integration of NYSE and the acquisitions of ICE Futures Singapore, SuperDerivatives, ICE Clear Netherlands and True Office. Of this amount, $6 million was related to fees for investment banking advisors, lawyers, accountants, tax advisors and public relations firms, and other external costs directly related to the transactions. The remaining $123 million was for NYSE integration costs incurred during the year ended December 31, 2014, primarily relating to employee termination costs, costs incurred relating to the Euronext IPO and sale, costs incurred relating to the sale of NYSE Technologies, and professional service costs.

We expect to continue to explore and pursue various potential acquisitions and other strategic opportunities to strengthen our competitive position and support our growth. As a result, we may incur acquisition-related transaction costs in future periods. See “- Non-GAAP Financial Measures” below.

Technology and Communication Expenses

Technology support services consist of costs for running our wholly-owned data centers, hosting costs paid to third-party data centers, and maintenance of our computer hardware and software required to support our technology. These costs are driven by system capacity, functionality and redundancy requirements. Communication expenses consist of costs for network connection for our electronic platforms, telecommunications costs, and fees paid for access to external market data. This expense also includes licensing and other fee agreement expenses which may be impacted by growth in electronic contract volume, our capacity requirements, changes in the number of telecommunications hubs and connections with customers to access our electronic platforms directly.

We recognized $162 million in technology and communication expenses relating to Interactive Data, Trayport, Securities Evaluations and Credit Market Analysis during the year ended December 31, 2016, compared to $8 million in technology and communication expenses for Interactive Data and Trayport during the year ended December 31, 2015, subsequent to their acquisitions. In addition, during the last two years, we incurred increased hardware and software support costs related to our trading and clearing platforms and our data services.

Rent and Occupancy Expenses

This expense consists of costs related to leased and owned property including rent, maintenance, real estate taxes, utilities and other related costs. We have significant operations located in and around Atlanta, New York, London and Boston with smaller offices located throughout the world. See “Item 2 - Properties” above for additional information regarding our leased and owned property.

We recognized $28 million in rent and occupancy expenses relating to Interactive Data, Trayport, Securities Evaluations and Credit Market Analysis during the year ended December 31, 2016, compared to $1 million in rent and occupancy expenses for Interactive Data and Trayport during the year ended December 31, 2015, subsequent to their acquisitions. Excluding the impact of the acquisitions, rent and occupancy expenses decreased the last two years primarily due to reduced rent and occupancy costs realized due to the continued consolidation of our New York, Atlanta and London office locations.

Selling, General and Administrative Expenses

This expense relates to expenses from marketing, advertising, public relations, insurance, bank service charges, dues and subscriptions, travel and entertainment, non-income taxes and other general and administrative costs.

We recognized $22 million in selling, general and administrative expenses relating to Interactive Data, Trayport, Securities Evaluations and Credit Market Analysis during the year ended December 31, 2016, compared to $1 million

in selling, general and administrative expenses for Interactive Data and Trayport during the year ended December 31, 2015, subsequent to their acquisitions. Excluding the impact of the acquisitions, selling, general and administrative expenses decreased the last two years primarily due to the release of non-income tax-related reserves and lower marketing expenses.

Depreciation and Amortization Expenses

Depreciation and amortization expense results from depreciation of long-lived assets such as buildings, leasehold improvements, planes, furniture, fixtures and equipment over their estimated useful lives. This expense includes amortization of intangible assets obtained in our acquisitions of businesses, as well as on various licensing agreements, over their estimated useful lives. Intangible assets subject to amortization consist primarily of customer relationships, trading products with finite lives and technology. This expense also includes amortization of internally developed and purchased software over their estimated useful lives.

We recorded amortization expenses on the intangible assets acquired as part of our acquisitions, as well as on the other intangible assets, of $356 million, $160 million and $151 million for the years ended December 31, 2016, 2015 and 2014, respectively. We recognized $182 million and $8 million in amortization expenses on the Interactive Data, Trayport, Securities Evaluations and Credit Market Analysis intangible assets during the years ended December 31, 2016 and 2015, respectively. We recorded an impairment of the Creditex customer relationship intangible asset of $33 million during the year ended December 31, 2016, which was recorded as amortization expense. See “- Recent Developments - Creditex Customer Relationship Intangible Asset Impairment” above. The increases in amortization expenses for the year ended December 31, 2016 discussed above were partially offset by a reduction in amortization expenses recorded on intangible assets which became fully amortized during 2016, primarily related to certain of the NYSE intangible assets.

We recorded depreciation expenses on our fixed assets of $254 million, $213 million and $182 million for the years ended December 31, 2016, 2015 and 2014, respectively. We recognized $42 million and $2 million in depreciation expenses on the Interactive Data, Trayport, Securities Evaluations and Credit Market Analysis during the years ended December 31, 2016 and 2015, respectively. In addition to the impact of the acquisitions, depreciation expenses increased for the year ended December 31, 2015 primarily due to additional fixed asset additions and capitalized internally developed software, including additions relating to the NYSE integration and real estate expenditures during the last several years relating primarily to the Atlanta, New York and London headquarters.

Non-Operating Income (Expenses)

Income and expenses incurred through activities outside of our core operations are considered non-operating. The following tables present our non-operating income (expenses) (dollars in millions):

	Year Ended December 31,			Year Ended December 31,		
	2016	2015	Change	2015	2014	Change
Other income (expense):						
Interest expense	$(178)	$(97)	83 %	$(97)	$(96)	1 %
Other income, net	40	—	n/a	—	55	n/a
Total other expense, net	$(138)	$(97)	42 %	$(97)	$(41)	134 %
Net income attributable to non-controlling interest	$(27)	$(21)	28 %	$(21)	$(35)	(39)%

Interest expense increased for the year ended December 31, 2016, from the comparable period in 2015, primarily due to the interest expense we recognized on the additional debt incurred to finance the Interactive Data acquisition in December 2015. Interest expense increased for the year ended December 31, 2015, from the comparable period in 2014, primarily due to interest expense that we recognized relating to new debt we incurred for the Interactive Data acquisition during the fourth quarter of 2015, partially offset by the repayment of $1.0 billion in NYSE EUR Notes on June 30, 2015. See “- Debt” below.

We account for our investment in Cetip as an available-for-sale investment and it is classified as a long-term investment in our consolidated balance sheet. We recognized dividend income primarily received relating to our Cetip investment in other income, which was $19 million, $16 million and $23 million for the years ended December 31, 2016, 2015 and 2014, respectively. We account for our investments in MERS and The Options Clearing Corporation, or OCC, as equity method investments. We recognized $25 million, $6 million and $25 million in equity income related to these investments during the years ended December 31, 2016, 2015 and 2014, respectively, as other income.

During the year ended December 31, 2015, we incurred $15 million in settlements and accruals for various outstanding legal matters (net of insurance proceeds), which was recorded in other expense.

We incurred foreign currency transaction losses of $1 million, $14 million and $2 million for the years ended December 31, 2016, 2015 and 2014, respectively. Foreign currency gains and losses are recorded in other income (expense) and relate to the settlement of foreign currency assets, liabilities and payables that occur through our foreign operations that are received in non-functional currencies due to the increase or decrease in the period-end foreign currency exchange rates between periods. See Item 7A

"- Quantitative and Qualitative Disclosures About Market Risk - Foreign Currency Exchange Rate Risk" included elsewhere in this Annual Report for more information on these items.

For consolidated subsidiaries in which our ownership is less than 100%, and for which we have control over the assets, liabilities and management of the entity, the outside stockholders' interests are shown as non-controlling interests. During the years ended December 31, 2015 and 2014, we repurchased the remaining ownership of NYSE Amex Options from the minority owners. Effective from July 1, 2015, all of the profits from NYSE Amex Options are retained by us as we now own 100% of NYSE Amex Options. See note 13 to our consolidated financial statements and related notes, which are included elsewhere is this Annual Report, for additional information on NYSE Amex Options. The decrease in the net income attributable to non-controlling interest for the year ended December 31, 2015, from the comparable period in 2014, is primarily due to a decrease in the net income relating to the NYSE Amex Options minority ownership interest primarily due to the reduction in the minority ownership percentage.

Income Tax Provision

Consolidated income tax expense from continuing operations was $580 million, $358 million and $402 million for the years ended December 31, 2016, 2015 and 2014, respectively. The change in consolidated income tax expense between years is primarily due to the tax impact of changes in our pre-tax income and the changes in our effective tax rate each year. Our effective tax rate from continuing operations was 29%, 22% and 29% for the years ended December 31, 2016, 2015 and 2014, respectively. The effective tax rates for the years ended December 31, 2016, 2015 and 2014 were lower than the federal statutory rate primarily due to favorable foreign income tax rate differentials and favorable tax law changes, partially offset by state income taxes. Favorable foreign income tax rate differentials result primarily from lower tax rates in the U.K and various other lower tax jurisdictions as compared to the tax rates in the U.S.

During the fourth quarter of 2015, the U.K. reduced the corporate income tax rate from 20% to 19% effective April 1, 2017 and to 18% effective April 1, 2020. During the third quarter of 2016, the U.K. further reduced their corporate income tax rate from 18% to 17% effective April 1, 2020. The reduction in the future U.K. corporate income tax rates resulted in deferred tax benefits. The impact of the deferred tax benefit for the years ended December 31, 2016 and 2015 lower the effective tax rate by 2% and 4%, respectively. The increase in the effective tax rate for the year ended December 31, 2016, from the comparable period in 2015, is primarily due to the tax impact of foreign versus U.S. based pre-tax income, lower deferred tax benefit associated with the future U.K. income tax rate reduction, and greater favorable settlements with various taxing authorities in 2015, partially offset by a tax benefit from the early adoption of ASU 2016-09 in 2016. The decrease in the effective tax rate for the year ended December 31, 2015, from the comparable period in 2014, is primarily due to the deferred tax benefit associated with future U.K. income tax rate reductions along with certain favorable settlements with various taxing authorities. See note 11 to our consolidated financial statements and related notes, which are included elsewhere is this Annual Report, for additional information on these tax items.

Discontinued Operations

On November 13, 2013, we acquired 100% of NYSE for $11.1 billion, comprised of cash consideration of $2.7 billion and 211.9 million shares of our common stock, on a post-split basis, and their results are included in our consolidated results effective from the acquisition date. NYSE owned and operated Euronext, which was comprised of continental European-based exchanges. On June 24, 2014, we sold an aggregate 65.8 million shares of common stock of Euronext, representing 94% of all outstanding shares, in three transactions. The three transactions include our sale of 42.2 million shares of Euronext common stock in an initial public offering, or IPO, at €20 per share, 23.4 million shares of Euronext common stock to a group of European institutional investors at €19.20 per share, and 0.2 million shares of Euronext common stock to eligible Euronext employees at €16 per share. On December 9, 2014, we sold our remaining 4.2 million shares of Euronext common stock, representing 6% of the outstanding shares of Euronext, for €95 million ($118 million). We no longer hold any shares of Euronext stock and these four transactions generated an aggregate €1.5 billion ($2.1 billion) of net cash proceeds for us. The net cash proceeds received included cash of $220 million distributed from Euronext as part of the separation of Euronext from us.

NYSE previously operated a commercial technology business, NYSE Technologies, which offered transaction, data and infrastructure services, and managed solutions for market participants. During the year ended December 31, 2014,

we sold NYFIX, Metabit and Wombat, the three companies that comprised NYSE Technologies. These sales completed our previously announced intention to divest non-core NYSE Technologies assets.

The results of Euronext, NYFIX, Metabit and Wombat are reflected as discontinued operations in the consolidated financial statements. We used the net cash proceeds from the IPO and sales to repay debt, invest in growth initiatives, pursue strategic investments and return capital to shareholders via dividends and share repurchases. See “- Debt” below. Also, refer to note 16 to our consolidated financial statements and related notes, which are included elsewhere in this Annual Report, for more information on the IPO and sales and the presentation of the results as discontinued operations.

There was no gain or loss recognized on the Euronext IPO or on the sale of the NYSE Technologies companies, as any differences in the carrying value of these net assets was adjusted in the NYSE purchase price allocation. The results below include

external advisory costs and professional services costs related to the sales of Euronext and NYSE Technologies of $51 million for the year ended December 31, 2014, which have been included with acquisition-related transaction and integration costs, below, from discontinued operations. The results below also include deal-related compensation and severance costs related to the sales of Euronext and NYSE Technologies of $42 million for the year ended December 31, 2014, which have also been included with acquisition-related transaction and integration costs, below, from discontinued operations. Results of discontinued operations were as follows for the year ended December 31, 2014 (in millions):

	Year Ended December 31, 2014
Revenues:	
European equity derivatives futures and options contracts	$ 45
European cash equities	116
Total transaction and clearing fees, net	161
Market data fees	60
Listing fees	19
Other revenues	112
Total revenues	352
Transaction-based expenses	5
Total revenues, less transaction-based expenses	347
Compensation and benefits	105
Technology and communication	31
Professional services	31
Rent and occupancy	12
Acquisition-related transaction and integration costs	103
Selling, general, administrative	16
Depreciation and amortization	16
Total operating expenses	314
Operating income	33
Other income, net	5
Income tax expense	27
Income from discontinued operations, net of tax	$ 11

Quarterly Results of Operations

The following quarterly unaudited consolidated statements of income data has been prepared on substantially the same basis as our audited consolidated financial statements and includes all adjustments, consisting only of normal recurring adjustments, necessary for the fair presentation of our consolidated results of operations for the quarters presented. The historical results for any quarter do not necessarily indicate the results expected for any future period. This unaudited condensed consolidated quarterly data should be read together with our consolidated financial statements and related notes included elsewhere in this Annual Report. The following table sets forth quarterly consolidated statements of income data (in millions):

	Three Months Ended,							
	December 31, 2016 (1)	September 30, 2016 (1)	June 30, 2016 (1)	March 31, 2016 (1)	December 31, 2015 (1)	September 30, 2015	June 30, 2015	March 31, 2015
Revenues:								
Brent crude futures and options contracts	$75	$ 70	$72	$82	$ 64	$ 65	$60	$74
Other oil futures and options contracts	32	30	27	29	26	27	26	33
Gasoil futures and options contracts	25	25	24	24	24	24	21	24
Natural gas futures and options contracts	54	46	51	57	52	46	43	58
Power futures and options contracts	21	18	23	21	20	17	21	21
Emissions and other energy futures and options contracts	17	10	15	17	16	13	12	17
Sugar futures and options contracts	18	25	34	32	23	30	30	27
Other agricultural and metals futures and options contracts	29	27	33	30	25	23	27	26
Interest rates futures and options contracts	40	37	44	56	57	43	50	56
Other financial futures and options contracts	34	33	36	38	33	38	32	33
Cash equities and equity options	426	410	454	490	428	457	379	412
Credit default swaps	34	35	34	40	34	38	34	43
Other transactions	13	11	13	13	12	10	12	12
Total transaction and clearing, net	818	777	860	929	814	831	747	836
Pricing and analytics	234	209	211	204	63	36	27	25
Desktops and connectivity	149	144	147	145	76	58	58	58
Exchange data	132	136	139	128	118	115	120	117
Total data services (1)	515	489	497	477	257	209	205	200
Listings	105	106	105	103	102	101	101	101
Other revenues	46	44	42	45	46	46	43	43
Total revenues	1,484	1,416	1,504	1,554	1,219	1,187	1,096	1,180
Transaction-based expenses	346	338	375	400	344	371	299	330
Total revenues, less transaction-based expenses	1,138	1,078	1,129	1,154	875	816	797	850
Compensation and benefits	237	236	236	236	166	150	144	151
Professional services	36	32	37	32	37	37	32	33
Acquisition-related transaction and integration costs	19	14	20	27	54	8	7	19
Technology and communication	97	93	92	92	56	49	47	51
Rent and occupancy	18	17	17	18	12	14	15	16
Selling, general and administrative	33	31	30	22	34	24	29	29
Depreciation and amortization (2)	140	181	146	143	98	94	93	89
Total operating expenses	580	604	578	570	457	376	367	388
Operating income	558	474	551	584	418	440	430	462
Other expense, net	(28)	(31)	(35)	(44)	(27)	(17)	(32)	(21)
Income tax expense (3)	171	93	153	163	18	113	109	118
Net income	$359	$ 350	$363	$377	$ 373	$ 310	$289	$323
Net income attributable to non-controlling interest	(7)	(6)	(6)	(8)	(3)	(4)	(6)	(8)
Net income attributable to ICE	$352	$ 344	$357	$369	$ 370	$ 306	$283	$315

(1) We acquired Securities Evaluations and Credit Market Analysis on October 3, 2016, Trayport on December 11, 2015 and Interactive Data on December 14, 2015 and have included their financial results in our results of operations

for the periods subsequent to their acquisitions dates, including all revenues from these acquisitions in data services revenues.

(2) The increase in the depreciation and amortization expenses for the three months ended September 30, 2016 is primarily due to the $33 million Creditex customer relationship intangible asset impairment. See “- Recent Developments - Creditex Customer Relationship Intangible Asset Impairment” above.

(3) The decrease in the income tax expenses for the three months ended September 30, 2016 and for the three months ended December 31, 2015 is primarily due to the deferred tax benefit associated with future U.K. income tax rate reductions. See “- Consolidated Income Tax Provision” above.

Liquidity and Capital Resources

Below are charts that reflect our capital allocation. The acquisition and integration costs in the chart below includes both the net cash paid for the acquisitions and the acquisition-related transaction and integration costs in each year.

We have financed our operations, growth and cash needs primarily through income from operations and borrowings under our various debt facilities. Our principal capital requirements have been to fund capital expenditures, working capital, strategic acquisitions and investments, stock repurchases, dividends to our shareholders and the continued development of our electronic trading and clearing platforms. We believe that our cash on hand and cash flows from operations will be sufficient to repay our outstanding debt as it matures. In the future, we may need to incur additional debt or issue additional equity securities, which we may be unable to do or to do on favorable terms. We used the cash proceeds from the Euronext IPO and sale to repay debt and we used the net cash proceeds from the sale of select NYSE Technology businesses to repay debt, invest in growth initiatives, pursue strategic investments and return capital to shareholders via dividends and share repurchases. See “- Discontinued Operations” above and “- Debt” and “- Future Capital Requirements” below.

On October 3, 2016, we acquired Securities Evaluations and Credit Market Analysis for $431 million in cash. The cash consideration was funded from borrowing under our commercial paper program. On December 14, 2015, we acquired Interactive Data in a stock and cash transaction. The total purchase price was $5.6 billion, comprised of cash consideration of $4.1 billion and 32.3 million shares of our common stock (the cash consideration is gross of $301 million of cash held by Interactive Data on the date of the acquisition). The cash consideration was funded from $2.5 billion of net proceeds received on November 24, 2015 in connection with the offering of new senior notes and $1.6 billion of borrowing under our commercial paper program. On December 11, 2015, we acquired Trayport in a stock transaction. The total purchase price was $620 million, comprised of 12.6 million shares of our common stock.

Our commercial paper program enables us to borrow efficiently at reasonable short term interest rates and provides us with the flexibility to de-lever using our strong annual cash flows from operating activities whenever our leverage becomes elevated as a result of investment or acquisition activities. We reduced our outstanding commercial paper during the year ended December 31, 2016 by $949 million, enabled by strong cash flows and a reduction in our unrestricted cash balance, partially offset by $431 million in commercial paper borrowing in October 2016 to fund the purchase price of the Securities Evaluations and Credit Market Analysis acquisitions.

Upon maturity of old issuances of commercial paper and to the extent old issuances are not repaid by cash on hand, we are exposed to the rollover risk of not being able to issue new commercial paper. To mitigate the rollover risk, we maintain an undrawn back-stop bank revolving credit facility for an aggregate amount equaling at any time the amount issued under our commercial paper

program. If we were not able to issue new commercial paper, we have the option of drawing on the back-stop revolving facility, however electing to do so would result in higher interest expense. See “- Debt” below.
Consolidated cash and cash equivalents were $407 million and $627 million as of December 31, 2016 and 2015, respectively. We had $432 million and $299 million in long-term investments as of December 31, 2016 and 2015, respectively, and $943 million and $920 million in short-term and long-term restricted cash and investments as of December 31, 2016 and 2015, respectively. We consider all short-term, highly liquid investments with remaining maturity dates of three months or less at the time of purchase to be cash equivalents. We classify all investments with original maturity dates in excess of three months but less than one year as short-term investments and all investments that we intend to hold for more than one year as long-term investments. Cash and investments that are not available for general use, either due to regulatory requirements or through restrictions in specific agreements, are classified as restricted cash and investments.
As of December 31, 2016, the amount of unrestricted cash held by our non-U.S. subsidiaries was $250 million. While we consider our non-U.S. earnings to be indefinitely reinvested overseas, if these cash balances are needed for our operations in the U.S., any repatriation by way of dividend may be subject to both U.S. federal and state income taxes, as adjusted for any non-U.S. tax credits. However, we do not have any current needs or foreseeable future needs or other plans to repatriate cash by way of dividends from our non-U.S. subsidiaries.
Our cash and cash equivalents and financial investments are managed as a global treasury portfolio of non-speculative financial instruments that are readily convertible into cash, such as overnight deposits, term deposits, money market funds, mutual funds for treasury investments, short duration fixed income investments and other money market instruments, thus ensuring high liquidity of financial assets. We may invest a portion of our cash in excess of short-term operating needs in investment-grade marketable debt securities, including government or government sponsored agencies and corporate debt securities.
Certain of these investments, with an original maturity of greater than three months, will be classified as available-for-sale in accordance with relevant accounting standards. Available-for-sale investments are carried at their fair values with unrealized gains and losses, reported as a component of accumulated other comprehensive income. Realized gains and losses, and declines in value deemed to be other-than-temporary on available-for-sale investments, are recognized currently in earnings. We do not have any investments classified as held-to-maturity or trading.
During the years ended December 31, 2016, 2015 and 2014, we repurchased 902,920 shares, 14,343,845 shares and 16,157,420 shares, respectively, of our outstanding common stock at a cost of $50 million, $660 million and $645 million, respectively. These repurchases were completed under stock repurchase plans authorized by our board of directors. In connection with our acquisition of Interactive Data during the fourth quarter of 2015, we suspended our stock repurchase plan and that plan expired shortly thereafter. The timing and extent of future repurchases that are not made pursuant to a Rule 10b5-1 trading plan will be at our discretion and will depend upon many conditions. Our management and board of directors periodically review whether or not to be active in repurchasing our stock. In making a determination regarding any stock repurchases, we consider multiple factors. The factors may include: overall stock market conditions, our common stock price movements, the remaining amount authorized for repurchases by our board of directors, the potential impact of a stock repurchase program on our corporate debt ratings, our expected free cash flow and working capital needs, our current and future planned strategic growth initiatives, and other potential uses of our cash and capital resources.
In August 2016, our board of directors approved an aggregate of $1.0 billion for future repurchases of our common stock with no fixed expiration date, subject to applicable laws and regulations. Repurchases may be made from time to time on the open market, through established plans, in privately-negotiated transactions or otherwise, in accordance with all applicable securities laws, rules and regulations. We have entered into a Rule 10b5-1 trading plan, as authorized by our board of directors, to govern some or all of the repurchases of our shares of common stock, and we began to repurchase shares in October 2016. We may discontinue the stock repurchases at any time and may amend or terminate the Rule 10b5-1 trading plan at any time. The approval of our board of directors for the share repurchases does not obligate us to acquire any particular amount of our common stock. In addition, our board of directors may increase or decrease the amount of capacity we have for repurchases from time to time and our purchases will generally depend upon market conditions, our stock price, our target debt ratio and corporate debt rating, and our strategic growth initiatives at that time. We expect funding for any share repurchases to come from our operating cash

flow or borrowings under our debt facilities or commercial paper program. The shares repurchased are held in treasury stock. As of December 31, 2016, the remaining board authorization permits repurchases of up to $950 million of our common stock with no fixed expiration date.

Cash Flow

The following presents the major components of net increases (decreases) in cash and cash equivalents (in millions):

	Year Ended December 31,		
	2016	2015	2014
Net cash provided by (used in):			
Operating activities from continuing operations	$2,149	$1,311	$1,463
Investing activities from continuing operations	(898)	(3,298)	36
Financing activities from continuing operations	(1,462)	1,976	(1,673)
Discontinued operations	—	—	(114)
Effect of exchange rate changes	(9)	(14)	(21)
Net decrease in cash and cash equivalents	$(220)	$(25)	$(309)

Operating Activities

Net cash provided by operating activities from continuing operations primarily consists of net income adjusted for certain non-cash items, including depreciation and amortization and the effects of changes in working capital. Fluctuations in net cash provided by operating activities from continuing operations is primarily attributable to increases and decreases in our net income between periods and due to fluctuations in working capital.

The $838 million increase in net cash provided by operating activities from continuing operations for the year ended December 31, 2016, from the comparable period in 2015, is primarily due to $393 million in cash provided by operating activities for Interactive Data, Trayport, Securities Evaluations and Credit Market Analysis for the year ended December 31, 2016, increase in the net income of our historical income statement excluding the acquisitions, and other fluctuations in working capital (including the impact of the increase in cash paid for income taxes in 2015 as discussed below). The $152 million decrease in net cash provided by operating activities from continuing operations for the year ended December 31, 2015, from the comparable period in 2014, is primarily due to normal changes in operating cash flow during the year and timing of repayment of accrued expenses, including an increase of $204 million in cash paid for income taxes for the year ended December 31, 2015, from the comparable period in 2014.

Investing Activities

Consolidated net cash (used in) provided by investing activities from continuing operations for the years ended December 31, 2016, 2015 and 2014 primarily relates to cash paid for acquisitions, cash proceeds from the IPO and sale of Euronext and NYSE Technologies, purchases/proceeds from term deposits and sales of available-for-sale investments, changes in the restricted cash and investment balances, and increases in the capital expenditures and capitalized software development costs.

We paid cash for acquisitions, net of cash acquired, of $425 million, $3.8 billion and $577 million, respectively, for the years ended December 31, 2016, 2015 and 2014, primarily relating to the Securities Evaluations and Credit Market Analysis acquisitions during the year ended December 31, 2016, the Interactive Data acquisition during the year ended December 31, 2015, and the SuperDerivatives, ICE Futures Singapore, ICE Clear Netherlands and True Office acquisitions during the year ended December 31, 2014. We received net cash proceeds from the IPO and sale of Euronext shares and the sale of NYSE Technologies of $2.3 billion for the year ended December 31, 2014.

We purchased euro-denominated term deposits of $1.3 billion during the year ended December 31, 2014 and we received proceeds from the euro-denominated terms deposits of $1.1 billion during the year ended December 31, 2015 relating to the repayments of the NYSE EUR Notes. See “- Debt” below for a discussion of the term deposits. The decrease in the value of the euro-denominated term notes is due to the strengthening of the U.S. dollar compared to the euro during 2015.

We had net increases in restricted cash and investments of $38 million, $294 million and $161 million for the years ended December 31, 2016, 2015 and 2014, respectively. The restricted cash increase in 2016 primarily related to increases in the regulatory capital restricted cash at ICE Clear Europe, ICE Futures Europe, ICE Clear U.S. and ICE Clear Credit. The increases in the regulatory capital restricted cash at ICE Clear U.S and ICE Clear Credit were primarily due our voluntarily adoption of the application of EMIR capital requirements for our U.S. clearing houses, which exceeded the CFTC financial resource requirements as of December 31, 2016. The increases in the regulatory capital restricted cash at ICE Clear Europe and ICE Futures Europe were primarily due to additional expenses incurred due to the growth of our trading and clearing businesses and additional regulatory capital buffers required by the Bank of England that we have classified as restricted cash. These 2016 increases were partially offset by the elimination of the regulatory capital restricted cash at LIFFE Administration and Management and a decrease in the

restricted cash held as escrow for the SuperDerivatives acquisition.

The restricted cash increase in 2015 primarily related to additional cash that was put into our clearing houses to cover our financial resources, regulatory capital needs and for liquidity purposes. The restricted cash increase in 2014 primarily related to a contribution to the ICE Clear U.S. guaranty fund in connection with ICE Clear U.S.'s status as a QCCP, cash escrow set aside for the SuperDerivatives acquisition, regulatory capital from HCH after our acquisition, and increases in the regulatory capital of ICE Clear

Europe and ICE Futures Europe due to additional expenses incurred at both of these companies due to growth of these businesses. Refer to note 4 to our consolidated financial statements and related notes, which are included elsewhere in this Annual Report, for more information on the changes in our restricted cash and investments.

Capital expenditures were $250 million, $190 million and $172 million for the years ended December 31, 2016, 2015 and 2014, respectively, and we had capitalized software development expenditures of $115 million, $87 million and $78 million for the years ended December 31, 2016, 2015 and 2014, respectively. The capital expenditures primarily relate to hardware purchases to continue the development and expansion of our electronic platforms, data services and clearing houses and leasehold improvements associated with the new and renovated office spaces in Atlanta, New York and London. The software development expenditures primarily relate to the continued development and expansion of our electronic trading platforms, data services and clearing houses.

Financing Activities

Consolidated net cash used in financing activities from continuing operations for the year ended December 31, 2016 primarily relates to $949 million in net repayments under our commercial paper program, $409 million in dividend and dividend equivalent payments to our shareholders, $54 million in cash payments related to treasury shares received for restricted stock tax payments and stock options exercises and $50 million in repurchases of common stock. See “- Debt” below.

Consolidated net cash provided by financing activities from continuing operations for the year ended December 31, 2015 primarily relates to $2.5 billion in net proceeds received in connection with the offering of new senior notes and $1.7 billion in net borrowings under our commercial paper program, partially offset by $1.0 billion in net repayments under our debt facilities, $660 million in repurchases of common stock, $331 million in dividend and dividend equivalent payments to our shareholders, $128 million for the purchase of subsidiary shares from non-controlling interest holders (for the purchase of the NYSE Amex Options shares) and $45 million in cash payments related to treasury shares received for restricted stock tax payments and stock options exercises.

Consolidated net cash used in financing activities from continuing operations for the year ended December 31, 2014 primarily relates to $552 million in net repayments of our debt facilities and commercial paper, $645 million in repurchases of common stock, $299 million in dividend and dividend equivalent payments to our shareholders, $129 million in purchases of subsidiary shares from non-controlling interest holders (for the purchase of the NYSE Amex Options shares) and $45 million in cash payments related to treasury shares received for restricted stock tax payments and stock options exercises.

Discontinued Operations

We did not have any cash provided by or used in any activities from discontinued operations for the years ended December 31, 2016 and 2015. Consolidated net cash provided by (used in) operating activities, investing activities and financing activities from discontinued operations was $51 million, ($504 million) and $339 million, respectively, for the year ended December 31, 2014. The $504 million in net cash used in investing activities primarily relates to $220 million of cash distributed from Euronext to us as part of the separation of Euronext from our remaining businesses and $262 million in cash retained by Euronext and removed from our balance sheet in the de-consolidation. The $339 million in net cash provided by financing activities relates to cash proceeds received from the issuance of debt by Euronext just prior to the IPO.

Debt

Our total debt, including short-term and long-term debt, consisted of the following as of December 31, 2016 and 2015 (in millions):

	As of December 31,	
	2016	2015
Debt:		
Commercial Paper	$1,642	$2,591
NYSE USD Notes (2.00% senior unsecured notes due October 5, 2017)	851	—
Short-term debt	2,493	2,591
NYSE USD Notes (2.00% senior unsecured notes due October 5, 2017)	—	852
2018 Senior Notes (2.50% senior unsecured notes due October 15, 2018)	598	597
2020 Senior Notes (2.75% senior unsecured notes due December 1, 2020)	1,242	1,239
2023 Senior Notes (4.00% senior unsecured notes due October 15, 2023)	790	789
2025 Senior Notes (3.75% senior unsecured notes due December 1, 2025)	1,241	1,240
Long-term debt	3,871	4,717
Total debt	$6,364	$7,308

Credit Facility

We have entered into a $3.0 billion senior unsecured revolving credit facility, or the Credit Facility, with a maturity date of November 13, 2020, pursuant to a credit agreement with Wells Fargo Bank, National Association, or Wells Fargo, as administrative agent, issuing lender and swing line lender, Bank of America, N.A., as syndication agent, and the lenders party thereto. The Credit Facility includes an option for us to propose an increase in the aggregate amount available for borrowing by up to $1.0 billion, subject to the consent of the lenders funding the increase and certain other conditions. On November 13, 2015, we utilized this option to increase the amount of the Credit Facility to $3.4 billion. The commitments under the Credit Facility will automatically reduce to $3.17 billion on April 3, 2019. No amounts were outstanding under the Credit Facility as of December 31, 2016.

Amounts borrowed under the Credit Facility may be prepaid at any time without premium or penalty. The Credit Facility provides for a $3.4 billion multi-currency revolving facility, with sub-limits for non-dollar borrowings and letters of credit and with a swing-line facility available on a same-day basis. Of the $3.4 billion that is currently available for borrowing under the Credit Facility, $1.6 billion is required to back-stop the amount outstanding under our Commercial Paper Program as of December 31, 2016. The amount required to back-stop the amounts outstanding under the Commercial Paper Program will fluctuate as we increase or decrease our commercial paper borrowings. The remaining $1.8 billion available under the Credit Facility as of December 31, 2016 is available to us to use for working capital and general corporate purposes including, but not limited to, acting as a back-stop to future increases in the amounts outstanding under the Commercial Paper Program.

Borrowings under the Credit Facility will bear interest on the principal amount outstanding at either (a) LIBOR plus an applicable margin rate or (b) a “base rate” plus an applicable margin rate; provided, however, that all loans denominated in a foreign currency will bear interest at LIBOR plus an applicable margin rate. The “base rate” equals the higher of (i) Wells Fargo’s prime rate, (ii) the federal funds rate plus 0.50%, or (iii) the one month LIBOR rate plus 1.00%. The applicable margin rate is based upon our public long term debt ratings and ranges from 0.875% to 1.50% on LIBOR borrowings and from 0.00% to 0.50% on base rate borrowings.

The Credit Facility includes an unutilized revolving credit commitment fee that is equal to the unused maximum revolver amount, multiplied by an applicable commitment fee rate and is payable in arrears on a quarterly basis. The applicable commitment fee rate ranges from 0.08% to 0.20% and is determined based on our long term debt rating. As of December 31, 2016, the applicable commitment fee rate was 0.125% based on our current long term debt ratings.

Commercial Paper Program

We have entered into a U.S. dollar commercial paper program, or the Commercial Paper Program. Our Commercial Paper Program is currently backed by the borrowing capacity available under the Credit Facility, equal to the amount of the commercial paper that is issued and outstanding at any given point in time. The effective interest rate of commercial paper issuances does not materially differ from short term interest rates (such as USD LIBOR). The fluctuation of these rates due to market conditions may impact our interest expense.

We used net proceeds from notes issued under the Commercial Paper Program during the year ended December 31, 2016 for the $431 million cash purchase price of the Securities Evaluations and Credit Market Analysis acquisitions

and for general corporate purposes. We used net proceeds from notes issued under the Commercial Paper Program during the year ended December 31, 2015 to finance part of the cash portion of the purchase price of the Interactive Data acquisition and to pay related fees and expenses, to repurchase our common stock, and for general corporate purposes. We used net proceeds from notes issued under the Commercial

Paper Program during the year ended December 31, 2014 to repay amounts outstanding under our prior credit facilities that were terminated in connection with us entering into the Credit Facility, to fund certain of our acquisitions, and to repurchase our common stock. We repaid a portion of the amounts outstanding under the Commercial Paper Program during the years ended December 31, 2016, 2015 and 2014 with cash flows from operations and a portion of our unrestricted cash balances. We also repaid a portion of the amounts outstanding under the Commercial Paper Program during the year ended December 31, 2014 using a combination of the cash proceeds received from the IPO and sale of Euronext, and the sale of NYSE Technologies.

Commercial paper notes of $1.6 billion with original maturities ranging from 3 to 68 days were outstanding as of December 31, 2016 under the Commercial Paper Program. As of December 31, 2016, the weighted average interest rate on the $1.6 billion outstanding under the Commercial Paper Program was 0.74% per annum, with a weighted average maturity of 18 days. Commercial paper notes with original maturities ranging from 2 to 89 days were outstanding as of December 31, 2015 under the Commercial Paper Program. As of December 31, 2015, the weighted average interest rate on the amounts outstanding under the Commercial Paper Program was 0.60% per annum, with a weighted average maturity of 19 days.

364 Day Facility

On November 13, 2015, we entered into a $500 million 364 day senior unsecured revolving credit facility, or the 364 Day Facility, pursuant to a credit agreement with Wells Fargo, as administrative agent, Bank of America, N.A., as syndication agent, and the lenders signatory thereto. The amounts available under the 364 Day Facility were available for use by us for working capital and general corporate purposes but specifically excluding any use to back-stop amounts issued under the Commercial Paper Program. The 364 Day Credit Facility expired on November 13, 2016.

Senior Notes

In November 2015, we issued $2.5 billion in aggregate senior notes, including $1.25 billion principal amount of 2.75% senior unsecured fixed rate notes due November 2020, or the 2020 Senior Notes, and $1.25 billion principal amount of 3.75% senior unsecured fixed rate notes due November 2025, or the 2025 Senior Notes. We used the net proceeds from the 2020 Senior Notes and 2025 Senior Notes offering, together with $1.6 billion of borrowings under our Commercial Paper Program, to finance the $4.1 billion cash portion of the purchase price of the acquisition of Interactive Data.

In October 2013, we issued $600 million principal amount of 2.50% senior unsecured fixed rate notes due October 2018, or the 2018 Senior Notes, and $800 million principal amount of 4.00% senior unsecured fixed rate notes due October 2023, or the 2023 Senior Notes. We used the net proceeds from the 2018 Senior Notes and 2023 Senior Notes offering to finance, together with cash on hand, the $2.7 billion cash portion of the purchase price of the acquisition of NYSE.

NYSE Notes

In connection with our acquisition of NYSE, one of our subsidiaries assumed the outstanding NYSE debt instruments, which included $850 million of 2.0% senior unsecured fixed rate notes due in October 2017, or the NYSE USD Notes, and €920 million ($1.1 billion) of 5.375% senior unsecured fixed rate notes due in June 2015, or the NYSE EUR Notes, and together with the NYSE USD Notes, the NYSE Notes.

On June 30, 2015, we repaid the NYSE EUR Notes using cash that had been set aside in July 2014 from the proceeds of the Euronext IPO. The cash, in the amount of €969 million ($1.2 billion) had been placed in term deposits that matured on June 25, 2015. The cash was sufficient to settle the principal maturity of €920 million ($1.1 billion) and the final interest coupon of €49 million ($60 million).

Refer to note 9 to our consolidated financial statements and related notes, which are included elsewhere in this Annual Report, for additional information on our debt and debt facilities.

Future Capital Requirements

Our future capital requirements will depend on many factors, including the rate of growth across our trading and clearing and data and listings segments, strategic plans and acquisitions, available sources for financing activities, required technology and clearing initiatives, regulatory requirements, the timing and introduction of new products and enhancements to existing products, the geographic mix of our business, potential stock repurchases, and the continuing market acceptance of our electronic trading and clearing platforms. We currently expect to make aggregate operational capital expenditures and to incur capitalized software development costs ranging between $280 million

and $300 million for the year ended December 31, 2017, which we believe will support the enhancement of our technology, business integration and the continued growth of our businesses. In addition, we currently expect between $40 million to $45 million in real estate capital expenditures during 2017 for leasehold improvements primarily associated with our New York headquarters.

Our board of directors has adopted a quarterly dividend declaration policy providing that the declaration of any dividends will be determined quarterly by the board of directors or audit committee of the board of directors taking into account such factors as our evolving business model, prevailing business conditions and our financial results and capital requirements, without a predetermined annual net income payout ratio. During the year ended December 31, 2016, we paid cash dividends of $0.68 per share of our common stock in the aggregate, including 2016 quarterly dividends of $0.17 per share, for an aggregate payout of $409 million in 2016, which includes the payment of dividend equivalents on unvested employee restricted stock units. Refer to note 10 to our consolidated financial statements and related notes, which are included elsewhere in this Annual Report, for details on the amounts of our quarterly dividend payouts for the last two years. For the first quarter of 2017, we announced a $0.20 per share dividend, which is a 18% increase over the prior dividend, which is payable on March 31, 2017 to shareholders of record as of March 16, 2017.

As of December 31, 2016, we had $6.4 billion in outstanding debt. We currently have a $3.4 billion Credit Facility. After factoring in the $1.6 billion required to backstop the Commercial Paper Program as of December 31, 2016, $1.8 billion of our Credit Facility is currently available for general corporate purposes. The Credit Facility and our Commercial Paper Program are currently the only significant agreements or arrangements that we have with third parties for liquidity and capital resources. In the event of any strategic acquisitions, mergers or investments, or if we are required to raise capital for any reason or desire to return capital to our stockholders, we may incur additional debt, issue additional equity to raise necessary funds, repurchase additional shares of our common stock or pay a dividend. However, we cannot provide assurance that such financing or transactions will be available or successful, or that the terms of such financing or transactions will be favorable to us. See “- Debt” above.

In connection with our acquisition of NYSE, we assumed NYSE’s pension plans covering its U.S. and certain European operations. The benefit accrual for the U.S. operations pension plan is frozen. Following the Euronext IPO in June 2014, there are no longer any NYSE European operations covered by the pension plans. During the year ended December 31, 2016, we contributed $10 million to our pension plans. Our practice is to fund our frozen defined benefit pension plan each year at a level above the minimum required contribution but within tax deductible limits. Based on actuarial projections, we estimate that a contribution of $10 million in 2017 will allow us to meet our funding goal. However, the actual contribution is contingent on the actual plan performance relative to assumptions.

Non-GAAP Financial Measures

We use non-GAAP measures internally to evaluate our performance and in making financial and operational decisions. When viewed in conjunction with our GAAP results and the accompanying reconciliation, we believe that our presentation of these measures provides investors with greater transparency and a greater understanding of factors affecting our financial condition and results of operations than GAAP measures alone. In addition, we believe the presentation of these measures is useful to investors for period-to-period comparison of results because the items described below as adjustments to GAAP are not reflective of our core business performance. These financial measures are not in accordance with, or an alternative to, GAAP financial measures and may be different from non-GAAP measures used by other companies. We use these adjusted results because we believe they more clearly highlight trends in our business that may not otherwise be apparent when relying solely on GAAP financial measures, since these measures eliminate from our results specific financial items that have less bearing on our core operating performance. We strongly recommend that investors review the GAAP financial measures included in this Annual Report, including our consolidated financial statements and the notes thereto.

Adjusted operating expenses, adjusted operating income, adjusted operating margin, adjusted net income attributable to ICE common shareholders from continuing operations and adjusted earnings per share from continuing operations for the periods presented below are calculated by adding or subtracting the adjustments described below, which are not reflective of our cash operations and core business performance, and their related income tax effect and other tax adjustments (in millions, except for percentages and per share amounts). All share and per share amounts have been retroactively adjusted to reflect the 5-for-1 stock split that was effected in the fourth quarter of 2016:

	Trading and Clearing Segment			Data and Listings Segment			Consolidated		
	Year Ended December 31,			Year Ended December 31,			Year Ended December 31,		
	2016	2015	2014	2016	2015	2014	2016	2015	2014
Total revenues, less transaction-based expenses	$2,102	$2,062	$2,034	$2,397	$1,276	$1,058	$4,499	$3,338	$3,092
Operating expenses	880	915	1,011	1,452	673	633	2,332	1,588	1,644
Less: NYSE and Interactive Data transaction and integration costs and acquisition related success fees	1	24	60	45	59	64	46	83	124
Less: Employee severance costs related to Creditex U.K. brokerage operations	4	—	—	—	—	—	4	—	—
Less: Creditex customer relationship intangible asset impairment	33	—	—	—	—	—	33	—	—
Less: Amortization of acquisition-related intangibles	72	82	83	230	58	48	302	140	131
Adjusted operating expenses	$770	$809	$868	$1,177	$556	$521	$1,947	$1,365	$1,389
Operating income	$1,222	$1,147	$1,023	$945	$603	$425	$2,167	$1,750	$1,448
Adjusted operating income	$1,332	$1,253	$1,166	$1,220	$720	$537	$2,552	$1,973	$1,703
Operating margin	58 %	56 %	50 %	39 %	47 %	40 %	48 %	52 %	47 %
Adjusted operating margin	63 %	61 %	57 %	51 %	56 %	51 %	57 %	59 %	55 %
Net income attributable to Intercontinental Exchange, Inc.							$1,422	$1,274	$981
Add: NYSE and Interactive Data transaction and integration costs and acquisition related success fees							46	83	124
Add: Amortization of acquisition-related intangibles							302	140	131
Add: Employee severance costs related to Creditex U.K. brokerage operations							4	—	—
							33	—	—

Add: Creditex customer relationship intangible asset impairment			
Add: Litigation settlements and accruals, net	—	15	—
Add: Pre-acquisition interest expense on debt issued for Interactive Data acquisition	—	5	—
Less: Net gain on the sale of 6% remaining ownership in Euronext	—	—	(4)
Less: Other income from OCC equity investment	—	—	(26)
Less: Income tax effect related to the items above	(143)	(83)	(89)
Less: Deferred tax adjustments on acquisition-related intangibles	(22)	(82)	(14)
Add: Other tax adjustments	23	7	12
Less: Income from discontinued operations, net of tax	—	—	(11)
Adjusted net income attributable to ICE common shareholders from continuing operations	$1,665	$1,359	$1,104
Basic earnings per share attributable to ICE common shareholders from continuing operations	$2.39	$2.29	$1.70
Diluted earnings per share attributable to ICE common shareholders from continuing operations	$2.37	$2.28	$1.69
Adjusted basic earnings per share attributable to ICE common shareholders from continuing operations	$2.80	$2.44	$1.93
Adjusted diluted earnings per share	$2.78	$2.43	$1.92

attributable to ICE common shareholders from continuing operations			
Basic weighted average common shares outstanding	595	556	570
Diluted weighted average common shares outstanding	599	559	573

	Trading and Clearing Segment			Data and Listings Segment			Consolidated		
	Three Months Ended December 31,			Three Months Ended December 31,			Three Months Ended December 31,		
	2016	2015	2014	2016	2015	2014	2016	2015	2014
Total revenues, less transaction-based expenses	$518	$516	$516	$620	$359	$284	$1,138	$875	$800
Operating expenses	208	241	231	372	216	169	580	457	400
Less: NYSE and Interactive Data transaction and integration costs and acquisition related success fees	—	12	14	15	40	13	15	52	27
Less: Amortization of acquisition-related intangibles	14	20	18	58	21	15	72	41	33
Adjusted operating expenses	$194	$209	$199	$299	$155	$141	$493	$364	$340
Operating income	$310	$275	$285	$248	$143	$115	$558	$418	$400
Adjusted operating income	$324	$307	$317	$321	$204	$143	$645	$511	$460
Operating margin	60 %	53 %	55 %	40 %	40 %	40 %	49 %	48 %	50 %
Adjusted operating margin	63 %	59 %	61 %	52 %	57 %	50 %	57 %	58 %	58 %
Net income attributable to Intercontinental Exchange, Inc.							$352	$370	$288
Add: NYSE and Interactive Data transaction and integration costs and acquisition related success fees							15	52	27
Add: Amortization of acquisition-related intangibles							72	41	33
Add: Pre-acquisition interest expense on debt issued for Interactive Data acquisition							—	5	—
Less: Net gain on the sale of 6% remaining ownership in Euronext							—	—	(4)
Less: Other income from OCC equity investment							—	—	(26)
Less: Income tax effect related to the items above							(32)	(31)	(19)
Less: Deferred tax adjustments on acquisition-related intangibles							(2)	(68)	(8)
Add: Other tax adjustments							23	—	3
Adjusted net income attributable to ICE common shareholders from continuing operations							$428	$369	$294
Basic earnings per share attributable to ICE common shareholders from continuing operations							$0.59	$0.66	$0.51
Diluted earnings per share attributable to ICE common shareholders from continuing operations							$0.59	$0.66	$0.51
							$0.72	$0.66	$0.52

Adjusted basic earnings per share attributable to ICE common shareholders from continuing operations			
Adjusted diluted earnings per share attributable to ICE common shareholders from continuing operations	$0.71	$0.65	$0.52
Basic weighted average common shares outstanding	595	558	563
Diluted weighted average common shares outstanding	600	562	566

Acquisition-related transaction costs are included as part of our core business expenses, except for those that are directly related to the announcement, closing, financing or termination of a transaction. However, the acquisition-related transaction and integration costs relating to NYSE and Interactive Data are included in non-GAAP adjustments given the sizes of these acquisitions. As of December 31, 2016, the integration of NYSE has been completed and we will no longer include any NYSE integration costs as non-GAAP adjustments in the future.

Amortization of acquisition-related intangibles are included in non-GAAP adjustments as excluding these non-cash expenses provides greater clarity regarding our financial strength and stability of cash operating results.

During the year ended December 31, 2016, we also include as non-GAAP adjustments the Creditex U.K. voice brokerage severance costs related to its discontinuance and the Creditex customer relationship intangible asset impairment expense, as they are not part of our core business operations. During the year and/or three months ended December 31, 2015, we also include as non-GAAP adjustments various litigation settlements and accruals and the interest expense on the senior notes and commercial paper we issued for the Interactive Data acquisition (from the issuance date of the new senior notes on November 24, 2015 and on the issuance dates of the commercial paper in early December 2015 to the acquisition date of Interactive Data on December 14, 2015), as they are not part of our core business operations. During the year and three months ended December 31, 2014, we also include as non-GAAP adjustments the net gain on the sale of our 6% remaining ownership in Euronext and the income recognized on our OCC equity investment, as they are not part of our core business operations.

The income tax effects relating to the items above are included in non-GAAP adjustments as well as deferred tax adjustments on acquisition-related intangibles and other tax adjustments. The tax items in non-GAAP adjustments are either the tax impacts of the pre-tax non-GAAP adjustments or are tax items as described below that are not in the normal course of business and are not indicative of our core business performance. Deferred tax adjustments on acquisition-related intangibles relates primarily to future U.K. corporate income tax rate reductions with deferred tax benefits of $34 million and $60 million for the years ended December 31, 2016 and 2015, respectively. Further, deferred tax adjustments on acquisition-related intangibles include the impact of U.S. state tax law and apportionment changes which resulted in a deferred tax expense of $12 million for the year ended December 31, 2016 and a deferred tax benefit of $22 million and $14 million for the years ended December 31, 2015 and 2014, respectively. Other tax adjustments for the year ended December 31, 2016 relate to a $15 million valuation allowance on Singapore pre-acquisition net operating losses and other deferred tax assets and an $8 million deferred tax adjustment with respect to our OCC equity method investment. Other tax adjustments for year ended December 31, 2015 represents a $7 million uncertain tax position relating to a retrospective foreign tax law change for a pre-acquisition period and for the year ended December 31, 2014, represents $12 million of foreign tax expense in connection with the IPO of Euronext and the integration of Liffe.

For additional information on these items, refer to our consolidated financial statements and related notes, which are included elsewhere in this Annual Report and “- Consolidated Operating Expenses”, “- Non-Operating Income (Expenses)” and “- Income Tax Provision” above.

Off-Balance Sheet Arrangements

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

Contractual Obligations and Commercial Commitments

The following table presents, for the periods indicated, our contractual obligations (which we intend to fund from our existing cash as well as cash flow from operations) and commercial commitments as of December 31, 2016 (in millions):

	Payments Due by Period				
	Total	Less Than 1 Year	1-3 Years	4-5 Years	After 5 Years
Contractual Obligations:					
Short-term and long-term debt and interest	$7,225	$2,639	$ 2,205	$ 158	$ 2,223
Operating lease obligations	612	85	148	113	266
Purchase obligations	118	83	35	—	—
Other liabilities and commitments	20	20	—	—	—
Total contractual cash obligations	$7,975	$2,827	$ 2,388	$ 271	$ 2,489

Purchase obligations include our estimate of the minimum outstanding obligations under agreements to purchase goods or services that we believe are enforceable and legally binding and that specify all significant terms, including: fixed or minimum quantities to be purchased; fixed, minimum or variable price provisions; and the approximate timing of the transaction. Purchase obligations exclude agreements that are cancellable at any time without penalty.

We have excluded from the contractual obligations and commercial commitments table above $55.2 billion in cash margin deposits and guaranty fund liabilities. Clearing members of our clearing houses are required to deposit original margin and variation margin and to make deposits to a guaranty fund. The cash deposits made to these margin accounts and to the guaranty fund are recorded in the consolidated balance sheet as current assets with corresponding current liabilities to the clearing members that deposited them. See note 12 to our consolidated financial statements and related notes that are included elsewhere in this Annual Report for additional information on our clearing houses and the margin deposits and guaranty funds’ liabilities.

We have also excluded unrecognized tax benefits, or UTBs, from the contractual obligations and commercial commitments table above. As of December 31, 2016, our cumulative UTBs were $112 million. Interest and penalties

related to UTBs were $35 million as of December 31, 2016. We are under examination by various tax authorities. We are unable to make a reasonable estimate of the periods of cash settlement because it is not possible to reasonably predict, the amount of tax, interest and penalties, if any, that might be assessed by a tax authority or the timing of an assessment or payment. It is also not possible to reasonably predict whether or not the applicable statutes of limitations might expire without us being examined by any particular tax authority. See note 11 to our consolidated financial statements and related notes that are included elsewhere in this Annual Report for additional information on our UTBs.

As of December 31, 2016, in connection with our acquisition of NYSE, we have obligations related to our pension and other benefit programs. The date of payment under these obligations cannot be determined and have been excluded from the table above. See note 14 to our consolidated financial statements and related notes that are included elsewhere in this Annual Report for additional information on our pension and other benefit programs.

We have a 40% ownership in OCC. Under the OCC's capital plan, the OCC shareholders have committed to contribute up to $200 million in equity capital if certain capital thresholds are breached, including up to $80 million to be contributed by NYSE.

New and Recently Adopted Accounting Pronouncements

Refer to Note 2 to our consolidated financial statements and related notes included elsewhere in this Annual Report for information on the new and recently adopted accounting pronouncements that are applicable to us.

Critical Accounting Policies

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 application of these and other accounting policies, see note 2 to our consolidated financial statements and related notes included elsewhere in this Annual Report. Our discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of financial statements in conformity with these accounting principles requires us to make estimates and assumptions that affect the reported amount of assets and liabilities, and the disclosure of contingent assets and liabilities, at the date of our financial statements and the reported amounts of revenues and expenses during the reporting period.

We evaluate our estimates and judgments on an ongoing basis, including those related to the accounting matters described below. We base our estimates and judgments on our historical experience and other factors that we believe to be reasonable under the circumstances when we make these estimates and judgments. Based on these factors, we make estimates and judgments about, among other things, the carrying values of assets and liabilities that are not readily apparent from market prices or other independent sources and about the recognition and characterization of our revenues and expenses. The values and results based on these estimates and judgments could differ significantly under different assumptions or conditions and could change materially in the future.

We believe that the following critical accounting policies, among others, affect our more significant judgments and estimates used in the preparation of our consolidated financial statements and could materially increase or decrease our reported results, assets and liabilities.

Goodwill and Other Identifiable Intangible Assets

We have significant intangible assets related to goodwill and other acquired intangible assets. In connection with our acquisitions, assets acquired and liabilities assumed are recorded at their estimated fair values. 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. We recognize specifically identifiable intangibles when a specific right or contract is acquired. Our determination of the fair value of the intangible assets and whether or not these assets are impaired requires us to make significant judgments and requires us to use significant estimates and assumptions regarding estimated future cash flows. If we change our strategy or if market conditions shift, our judgments may change, which may result in adjustments to recorded asset balances. As of December 31, 2016, we had goodwill of $12.3 billion and net other intangible assets of $10.4 billion relating to our acquisitions and our purchase of trademarks and Internet domain names from various third parties. We do not amortize goodwill or other intangible assets with indefinite useful lives. Intangible assets with finite useful lives are amortized over their estimated useful lives.

In performing the purchase price allocation, we consider, among other factors, the intended future use of acquired assets, analysis of historical financial performance and estimates of future performance of the acquired business. At the acquisition date, a preliminary allocation of the purchase price is recorded based upon a preliminary valuation. We continue to review and validate estimates, assumptions and valuation methodologies underlying the preliminary valuation during the measurement period. Accordingly, these estimates and assumptions are subject to change, which could have a material impact on our consolidated financial statements. The measurement period ends as soon as we

receive the information about facts and circumstances that existed as of the acquisition date or we learn that more information is not obtainable, which usually does not exceed one year from the date of acquisition.

Our goodwill and other indefinite-lived intangible assets are evaluated for impairment annually in our fiscal fourth quarter or more frequently if conditions exist that indicate that the value may be impaired. We test our goodwill for impairment at the reporting unit level. These impairment evaluations are performed by comparing the carrying value of the goodwill reporting unit or other indefinite-lived intangibles to its estimated fair value. We allocate goodwill to reporting units based on the reporting unit expected to

benefit from the business combination. We had previously identified three reporting units: our futures reporting unit, our CDS reporting unit, and our cash listings reporting unit. During the year ended December 31, 2016, we conducted a review to determine the appropriate reporting units as a result of operating under two business segments effective January 1, 2016 and following our acquisition of Interactive Data in December 2015. This review has led to the identification of four reporting units: our futures reporting unit, our CDS reporting unit, our cash reporting unit, and our data and listings reporting unit.

Goodwill impairment testing consists of a two-step methodology. The initial step requires us to determine the fair value of each reporting unit and compare it to the carrying value, including goodwill and other intangible assets, of such reporting unit. If the fair value exceeds the carrying value, no impairment loss is recognized and the second step, which is a calculation of the impairment, is not performed. However, if the carrying value of the reporting unit exceeds its fair value, an impairment charge is recorded equal to the extent that the carrying amount of goodwill exceeds its implied fair value. For annual goodwill 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 is less than its carrying amount, including goodwill and other intangible assets. If we conclude that this is the case, we must perform the two-step methodology described above. Otherwise, we can skip the two-step methodology and do not need to perform any further testing. For annual indefinite-lived intangible asset impairment testing, we also have the option to first perform a qualitative assessment to determine whether it is more likely than not that the fair value of the indefinite-lived intangible assets is less than its carrying amount.

Application of the impairment test requires judgment, including the identification of reporting units, assignment of assets and liabilities to reporting units, assignment of goodwill to reporting units, and determination of the fair value of each reporting unit. We have historically determined the fair value of our reporting units based on various valuation techniques, including discounted cash flow analysis and a multiple of earnings approach. In assessing whether goodwill and other intangible assets are impaired, we must make estimates and assumptions regarding future cash flows, long-term growth rates of our business, operating margins, discount rates, weighted average cost of capital and other factors to determine the fair value of our assets. These estimates and assumptions require management's judgment, and changes to these estimates and assumptions, as a result of changing economic and competitive conditions, could materially affect the determination of fair value and/or impairment. The cash flows employed in the discounted cash flow analysis are based on our most recent budgets and business plans and, when applicable, various growth rates have been assumed for years beyond the current business plan period. Future events could cause us to conclude that indicators of impairment exist for goodwill or other intangible assets. Impairment may result from, among other things, deterioration in the performance of our business, adverse market conditions, adverse changes in applicable laws and regulations, competition, or the sale or disposition of a reporting unit. Any resulting impairment loss could have a material adverse impact on our financial condition and results of operations. Our impairment analysis has not resulted in any impairment of goodwill through December 31, 2016.

We are also required to evaluate other finite-lived intangible assets and property and equipment for impairment by first determining whether events or changes in circumstances indicate that the carrying value of these assets to be held and used may not be recoverable. If impairment indicators are present, then an estimate of undiscounted future cash flows produced by these long-lived assets is compared to the carrying value of those assets to determine if the asset is recoverable. If an asset is not recoverable, the loss is measured as the difference between fair value and carrying value of the impaired asset. Fair value of these assets is based on various valuation techniques, including discounted cash flow analysis.

Among our finite-lived intangible assets, during the year ended December 31, 2015, we performed an undiscounted cash flow analysis to test whether the CDS Creditex customer relationship intangible asset was recoverable as we concluded that indicators of impairment were present. CDS trade execution revenues at Creditex have decreased over the last several years as trading volumes in the global CDS market have declined and CDS trading remains muted due to financial reform implementation and lower volatility in corporate credit markets. We identified the decline in revenues and the delay in their expected recovery as a triggering event requiring our Creditex customer relationship intangible asset to be tested for recoverability. As of December 31, 2015, the Creditex customer relationship intangible asset had a remaining net book value of $61 million and will become fully amortized in August 2020. The results of the recoverability test indicated that the estimated future undiscounted cash flows exceeded the carrying

value of the asset by 8%. Therefore, no impairment was recorded for the year ended December 31, 2015.
In August 2016, we sold certain of Creditex's U.S. voice brokerage operations to Tullett Prebon. During the third quarter of 2016, we discontinued Creditex's U.K. voice brokerage operations. We continue to operate Creditex's electronically traded markets and systems, post-trade connectivity platforms and intellectual property. We continued to monitor potential impairment triggering events in our CDS trade execution business during 2016, including the impacts of divesting the brokerage business, changes in the business and regulatory climate in which the remaining business operates, the volatility in the capital markets, our recent operating performance and our current financial projections. Based on an analysis of these factors, it was determined that the carrying value of the CDS Creditex customer relationship intangible asset was not fully recoverable and an impairment of the asset was recorded in September 2016 for $33 million. The impairment was recorded as amortization expense in the accompanying consolidated statements of income for the year ended December 31, 2016. As of December 31, 2016, the remaining Creditex customer relationship intangible asset is $14 million and will continue to be amortized over the remaining useful life through August 2020.

Income Taxes

We are subject to income taxes in the U.S., U.K. and other foreign jurisdictions where we operate. The determination of our provision for income taxes and related accruals, deferred tax assets and liabilities requires significant judgment, the use of estimates, and the interpretation and application of complex tax laws. We recognize a current tax liability or tax asset for the estimated taxes payable or refundable on tax returns for the current year. We recognize deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the financial statement carrying amounts and the tax bases of our assets and liabilities. We establish valuation allowances if we believe that it is more likely than not that some or all of our deferred tax assets will not be realized. Deferred tax assets and liabilities are measured using current enacted tax rates in effect for the years in which those temporary differences and carryforwards are expected to reverse.

We do not recognize a tax benefit unless we conclude that it is more likely than not that the benefit will be sustained on audit by the taxing authority based solely on the technical merits of the associated tax position. If the recognition threshold is met, we recognize a tax benefit measured at the largest amount of the tax benefit that, in our judgment, is greater than 50 percent likely to be realized. We recognize accrued interest and penalties related to uncertain income tax positions as income tax expense in the consolidated statements of income.

The undistributed earnings from our non-U.S. subsidiaries are considered to be indefinitely reinvested and, accordingly, no provision for U.S. federal and state income taxes has been made in our consolidated financial statements. A distribution of these non-U.S. earnings in the form of dividends, or otherwise, could subject us to both U.S. federal and state income taxes, as adjusted for non-U.S. tax credits, and withholding taxes payable to the various non-U.S. countries. Determination of the amount of any unrecognized deferred income tax liability on these undistributed earnings is not practicable.

We operate within multiple domestic and foreign taxing jurisdictions and are subject to audit in these jurisdictions by domestic and foreign tax authorities. These audits include questions regarding our tax filing positions, including the timing and amount of deductions taken and the allocation of income among various tax jurisdictions. We record accruals for the estimated outcomes of these audits, and the accruals may change in the future due to new developments in each matter. At any point in time, many tax years are subject to or in the process of being audited by various taxing authorities. To the extent our estimates of settlements change or the final tax outcome of these matters is different from the amounts recorded, such differences will impact the income tax provision in the period in which such determinations are made. Our income tax expense includes changes in our estimated liability for exposures associated with our various tax filing positions. Determining the income tax expense for these potential assessments requires management to make assumptions that are subject to factors such as proposed assessments by tax authorities, changes in facts and circumstances, issuance of new regulations, and resolution of tax audits.

We believe the judgments and estimates discussed above are reasonable. However, if actual results are not consistent with our estimates or assumptions, we may be exposed to losses or gains that could be material.

ITEM 7 (A). QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

As a result of our operating and financing activities, we are exposed to market risks such as interest rate risk, foreign currency exchange rate risk and credit risk. We have implemented policies and procedures designed to measure, manage, monitor and report risk exposures, which are regularly reviewed by the appropriate management and supervisory bodies.

Interest Rate Risk

We have exposure to market risk for changes in interest rates relating to our cash and cash equivalents, short-term investments, short-term and long-term restricted cash and investments, and indebtedness. As of December 31, 2016 and 2015, our cash and cash equivalents, short-term investments and short-term and long-term restricted cash and investments were $1.4 billion and $1.6 billion, respectively, of which $294 million and $439 million, respectively, were denominated in pounds sterling, euros or Canadian dollars. The remaining cash and cash equivalents, short-term investments and short-term and long-term restricted cash and investments are denominated in U.S. dollars. We do not use our investment portfolio for trading or other speculative purposes. A hypothetical decrease in long-term interest rates to zero basis points would decrease annual pre-tax earnings by $3 million as of December 31, 2016, assuming no change in the amount or composition of our cash and cash equivalents, short-term investments and short-term and

long-term restricted cash and investments.

Our investment in Cetip, which is recorded as an available-for-sale long-term investment, was valued at $432 million as of December 31, 2016, including an accumulated unrealized gain of $108 million. Changes in the fair value of the Cetip investment are reflected in accumulated other comprehensive income and do not impact earnings, except to the extent that unrealized losses are deemed to be other than temporary.

As of December 31, 2016, we had $6.4 billion in outstanding debt, of which $3.9 billion relates to senior notes and $851 million relates to the NYSE Notes, all of which bear interest at fixed interest rates. The remaining amount outstanding of $1.6 billion relates to

the Commercial Paper Program, which bears interest at fluctuating rates and, therefore, subjects us to interest rate risk. A hypothetical 100 basis point increase in long-term interest rates relating to the amounts outstanding under the Commercial Paper Program as of December 31, 2016 would decrease annual pre-tax earnings by $16 million, assuming no change in the volume or composition of our outstanding indebtedness and no hedging activity. The interest rates on our Commercial Paper Program are currently evaluated based upon current maturities and market conditions. See Item 7 "- Management's Discussion and Analysis of Financial Condition and Results of Operations - Debt" included elsewhere in this Annual Report.

Foreign Currency Exchange Rate Risk

As an international business, we are subject to foreign currency exchange rate risk. We may experience gains or losses from foreign currency transactions in the future given that a significant part of our assets, liabilities, revenues and expenses are recorded in pounds sterling or euros. Certain assets, liabilities, revenues and expenses of foreign subsidiaries are denominated in the local functional currency of such subsidiaries. Our exposure to foreign denominated earnings for the years ended December 31, 2016 and 2015 is presented by primary foreign currency in the following table (dollars in millions, except exchange rates):

	Year Ended December 31, 2016		Year Ended December 31, 2015	
	Pound Sterling	Euro	Pound Sterling	Euro
Average exchange rate to the U.S. dollar	$1.3603	$1.1075	$1.5292	$1.1117
Average exchange rate to the U.S. dollar for the prior year	$1.5292	$1.1117	$1.6481	$1.3300
Average exchange rate change from prior year	(11)%	—%	(7)%	(16)%
Foreign denominated percentage of:				
Revenues, less transaction-based expenses	10%	5%	11%	4%
Operating expenses	14%	4%	10%	2%
Operating income	7%	7%	11%	7%
Impact of the currency fluctuations [1] on:				
Revenues, less transaction-based expenses	$(58)	$(1)	$(27)	$(28)
Operating expenses	$(40)	$—	$(12)	$(5)
Operating income	$(18)	$(1)	$(15)	$(23)

(1) Represents the impact of currency fluctuation for the year compared to the same period in the prior year.

We have a significant part of our assets, liabilities, revenues and expenses recorded in pounds sterling or euros. For the year ended December 31, 2016, 15% of our consolidated revenues, less transaction-based expenses, were denominated in pounds sterling or euros, and 18% of our consolidated operating expenses were denominated in pounds sterling or euros. As the pound sterling or euro exchange rate changes, the U.S. equivalent of revenues and expenses denominated in foreign currencies changes accordingly.

We have foreign currency transaction risk related to the settlement of foreign currency denominated assets, liabilities and payables that occur through our operations, which are received in or paid in pounds sterling or euros, due to the increase or decrease in the foreign currency exchange rates between periods. We had foreign currency transaction losses of $1 million, $14 million and $2 million for the years ended December 31, 2016, 2015 and 2014, respectively, primarily attributable to the fluctuations of the pound sterling and euro relative to the U.S. dollar, which strengthened. A 10% adverse change in the underlying foreign currency exchange rates as of December 31, 2016 would result in a foreign currency transaction loss of $1 million, assuming no change in the composition of the foreign currency denominated assets, liabilities and payables and assuming no hedging activity.

We entered into foreign currency hedging transactions during years ended December 31, 2016, 2015 and 2014 as economic hedges to help mitigate a portion of our foreign exchange risk exposure and may enter into additional hedging transactions in the future to help mitigate our foreign exchange risk exposure. Although we may enter into additional hedging transactions in the future to help mitigate our foreign exchange risk exposure, these hedging arrangements may not be effective, particularly in the event of imprecise forecasts of the levels of our non-U.S. denominated assets and liabilities.

We have foreign currency translation risk equal to our net investment in our foreign subsidiaries. The financial statements of these subsidiaries are translated into U.S. dollars using a current rate of exchange, with gains or losses included in the cumulative translation adjustment account, a component of equity. Our exposure to the net investment in foreign currencies is presented by primary foreign currencies in the table below (in millions):

	As of December 31, 2016	
	Position in Pounds Sterling	Position in Euros
Assets	£ 1,283	€ 240
of which goodwill represents	522	43
Liabilities	122	110
Net currency position	£ 1,161	€ 130
Impact on consolidated equity of a 10% decrease in foreign currency exchange rates	$ 143	$ 14

As of December 31, 2016 and 2015, the portion of our equity attributable to accumulated other comprehensive loss from foreign currency translation was $345 million and $45 million, respectively. As of December 31, 2016, we had net exposure of pounds sterling and euro of £1.2 billion ($1.4 billion) and €130 million ($137 million), respectively. Based on these December 31, 2016 net currency positions, a hypothetical 10% decrease of pound sterling against U.S. dollar would negatively impact our equity by $143 million and a hypothetical 10% decrease of euro against U.S. dollar would negatively impact our equity by $14 million. For the years ended December 31, 2016, 2015 and 2014, currency exchange rate differences had a negative impact of $300 million, $58 million and $130 million, respectively, on our consolidated equity. The decrease for the year ended December 31, 2016 is primarily due to the decrease in the pound sterling/U.S. dollar exchange rate to 1.2336 as of December 31, 2016 (from 1.4868 as of December 31, 2015) due to the weakening pound sterling. The pound sterling decreased starting in June 2016 following the U.K. referendum that resulted in a vote for the U.K. to leave the European Union. The future impact on our business relating to the U.K. leaving the European Union and the corresponding regulatory changes are uncertain at this time, including future impacts on currency exchange rates.

Credit Risk

We are exposed to credit risk in our operations in the event of a counterparty default. We limit our exposure to credit risk by rigorously selecting the counterparties with which we make our investments and execute agreements. Credit risk is monitored by using exposure limits depending on ratings assigned by rating agencies as well as the nature and maturity of transactions. Our investment objective is to invest in securities that preserve principal while maximizing yields, without significantly increasing risk. We seek to substantially mitigate credit risk associated with investments by ensuring that these financial assets are placed with governments, well-capitalized financial institutions and other creditworthy counterparties.

An ongoing review is performed to evaluate changes in the status of counterparties. In addition to the intrinsic creditworthiness of counterparties, our policies require diversification of counterparties (banks, financial institutions, bond issuers and funds) so as to avoid a concentration of risk.

Clearing House Cash Deposit Risks

Our clearing houses hold material amounts of clearing member cash deposits which are held or invested primarily to provide security of capital while minimizing credit, market and liquidity risks. Refer to note 12 to our consolidated financial statements and related notes, which are included elsewhere in this Annual Report, for more information about clearing house cash deposits, which were $55.2 billion as of December 31, 2016. While we seek to achieve a reasonable rate of return which may generate interest income for our clearing members, we are primarily concerned with preservation of capital and managing the risks associated with these deposits. As the clearing houses may pass on interest revenues (minus costs) to the members, this could include negative or reduced yield due to market conditions. The following is a summary of the risks associated with these deposits and how these risks are mitigated.

Credit Risk

When a clearing house has the ability to hold cash collateral at a central bank, the clearing house utilizes its access to the central bank system to minimize credit risk exposures. Credit risk is monitored by using exposure limits reflecting a number of factors including ratings assigned by rating agencies, CDS spreads and internal ratings, as well as the nature and maturity of transactions. We seek to substantially mitigate credit risk associated with investments by ensuring financial assets are placed with governments, well-capitalized financial institutions and other creditworthy counterparties.

An ongoing review is performed to evaluate changes in the financial status of counterparties. In addition to the intrinsic creditworthiness of counterparties, our policies require diversification of counterparties (banks, financial

institutions, bond issuers and funds) to avoid a concentration of risk.

Liquidity Risk

Liquidity risk is the risk a clearing house may not be able to meet its payment obligations in the right currency, in the right place and the right time. To mitigate this risk, the clearing houses monitor liquidity requirements closely and maintain funds and assets in a

manner which minimizes the risk of loss or delay in the access by the clearing house to such funds and assets. For example, holding funds with a central bank where possible or making only short term investments such as overnight reverse repurchase agreements serves to reduce liquidity risks.

Interest Rate Risk

Interest rate risk is the risk that interest rates rise causing the value of purchased securities to decline. If we were required to sell securities prior to maturity, and interest rates had risen, the sale of the securities might be made at a loss relative to the latest market price. Our clearing houses seek to manage this risk by making short term investments of cash deposits. For example, where possible and in accordance with regulatory requirements, the clearing houses invest cash pursuant to overnight reverse repurchase agreements or term reverse repurchase agreements with short dated maturities. In addition, the clearing house investment guidelines allow for direct purchases of high quality sovereign debt (for example, U.S. Treasury securities) and supranational debt instruments (Euro cash deposits only) with short dated maturities.

Security Issuer Risk

Security issuer risk is the risk that an issuer of a security defaults on its payment when the security matures. This risk is mitigated by limiting allowable investments under the reverse repurchase agreements to high quality sovereign or government agency debt and limiting any direct investments to high quality sovereign debt instruments.

Investment Counterparty Risk

Investment counterparty risk is the risk that a reverse repurchase agreement counterparty might become insolvent and, thus, fail to meet its obligations to our clearing houses. We mitigate this risk by only engaging in transactions with high credit quality reverse repurchase agreement counterparties and by limiting the acceptable collateral under the repurchase agreement to high quality issuers. When engaging in reverse repurchase agreements, our clearing houses take delivery of the underlying reverse repurchase securities in custody accounts under clearing house control. Additionally, the securities purchased subject to reverse repurchase have a market value greater than the reverse repurchase amount. The typical haircut received for high quality sovereign debt is 2% of the reverse repurchase amount. Thus, in the event that a reverse repurchase counterparty defaults on its obligation to repurchase the underlying reverse repurchase securities, our clearing house will have possession of a security with a value potentially greater than the reverse repurchase counterparty's obligation to the clearing house.

Our clearing houses may use third party investment advisors who make investments subject to the guidelines provided to them by the clearing house. Such investment advisors do not hold clearing member cash deposits or the underlying investments. Clearing house property is held in custody accounts under clearing house control. Clearing house property is held with credit worthy custodians including JPMorgan Chase Bank N.A., Citibank N.A., BNY Mellon, BMO Harris N.A. and Euroclear Bank Brussels (for non-U.S. dollar deposits).

Each clearing house employs (or may employ) multiple investment advisors and custodians to ensure that in the event a single investment advisor or custodian is unable to fulfill its role, additional investment advisors or custodians are available as alternatives.

Cross-Currency Margin Deposit Risk

Each of our clearing houses, pursuant to their rules, may permit posting of cross-currency collateral to satisfy margin requirements (for example, accepting margin deposits denominated in U.S. dollars to secure a Euro margin obligation). The clearing houses mitigate the risk of a decline in currency value by applying a "haircut" to the currency posted as margin at a level sufficient to provide financial protection during periods of high currency volatility. Cross-currency balances are marked-to-market on a daily basis. Should the currency posted to satisfy margin requirements decline in value, the clearing member is required to increase its margin deposit on a same-day basis.

Impact of Inflation

We have not been adversely affected by inflation as technological advances and competition have generally caused prices for the hardware and software that we use for our electronic platforms to remain constant or to decline. In the event of inflation, we believe that we will be able to pass on any price increases to our participants, as the prices that we charge are not governed by long-term contracts.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA
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REPORT OF MANAGEMENT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Our management is responsible for the preparation and integrity of the consolidated financial statements appearing in our Annual Report on Form 10-K. The financial statements were prepared in conformity with generally accepted accounting principles appropriate in the circumstances and, accordingly, include certain amounts based on our best judgments and estimates.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as such term is defined in Rule 13a-15(f) and 15d-a5(f) under the Securities Exchange Act of 1934 ("Exchange Act"). Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the consolidated financial statements. Our internal control over financial reporting is supported by a program of internal audits and appropriate reviews by management, written policies and guidelines, careful selection and training of qualified personnel and a written Global Code of Business Conduct adopted by our Board of Directors, applicable to all of our directors and all officers and all of our employees.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements and even when determined to be effective, can only provide reasonable assurance with respect to financial statement preparation and presentation. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management assessed the effectiveness of our internal control over financial reporting as of December 31, 2016. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in Internal Control - Integrated Framework (2013 framework). Based on our assessment, management believes that we maintained effective internal control over financial reporting as of December 31, 2016.

Our independent auditors, Ernst & Young LLP, a registered public accounting firm, are appointed by the Audit Committee, subject to ratification by our shareholders. Ernst & Young LLP has audited and reported on our consolidated financial statements and the effectiveness of our internal control over financial reporting. The reports of our independent registered public accounting firm are contained in this Annual Report.

/s/ Jeffrey C. Sprecher	/s/ Scott A. Hill
Jeffrey C. Sprecher	Scott A. Hill
Chairman of the Board and Chief Executive Officer	Chief Financial Officer
February 7, 2017	February 7, 2017

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The Board of Directors and Shareholders of Intercontinental Exchange, Inc.

We have audited Intercontinental Exchange, Inc. and Subsidiaries' internal control over financial reporting as of December 31, 2016, based on criteria established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). Intercontinental Exchange, Inc. and Subsidiaries' 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 "Report of Management 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 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 its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that 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, Intercontinental Exchange, Inc. and Subsidiaries maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Intercontinental Exchange, Inc. and Subsidiaries as of December 31, 2016 and 2015, and the related consolidated statements of income, comprehensive income, changes in equity, accumulated other comprehensive income (loss) and redeemable non-controlling interest, and cash flows for each of the three years in the period ended December 31, 2016 of Intercontinental Exchange, Inc. and Subsidiaries, and our report dated February 7, 2017 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Atlanta, Georgia

February 7, 2017

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM ON FINANCIAL STATEMENTS

The Board of Directors and Shareholders of Intercontinental Exchange, Inc.

We have audited the accompanying consolidated balance sheets of Intercontinental Exchange, Inc. and Subsidiaries as of December 31, 2016 and 2015, and the related consolidated statements of income, comprehensive income, changes in equity, accumulated other comprehensive income (loss) and redeemable non-controlling interest, and cash flows for each of the three years in the period ended December 31, 2016. 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, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Intercontinental Exchange, Inc. and Subsidiaries at December 31, 2016 and 2015, and the consolidated results of their operations and their cash flows for each of the three years in the period ended December 31, 2016, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Intercontinental Exchange, Inc.’s internal control over financial reporting as of December 31, 2016, based on criteria established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 7, 2017 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Atlanta, Georgia

February 7, 2017

Intercontinental Exchange, Inc. and Subsidiaries
Consolidated Balance Sheets
(In millions, except per share amounts)

	As of December 31,	
	2016	2015
Assets:		
Current assets:		
Cash and cash equivalents	$407	$627
Short-term investments	23	29
Short-term restricted cash and investments	679	657
Customer accounts receivable, net of allowance for doubtful accounts of $7 and $2 at December 31, 2016 and 2015, respectively	777	700
Margin deposits and guaranty funds	55,150	51,169
Prepaid expenses and other current assets	97	131
Total current assets	57,133	53,313
Property and equipment, net	1,129	1,037
Other non-current assets:		
Goodwill	12,291	12,079
Other intangible assets, net	10,420	10,758
Long-term restricted cash and investments	264	263
Long-term investments	432	299
Other non-current assets	334	238
Total other non-current assets	23,741	23,637
Total assets	$82,003	$77,987
Liabilities and Equity:		
Current liabilities:		
Accounts payable and accrued liabilities	$388	$398
Section 31 fees payable	131	116
Accrued salaries and benefits	230	215
Deferred revenue	114	98
Short-term debt	2,493	2,591
Margin deposits and guaranty funds	55,150	51,169
Other current liabilities	111	156
Total current liabilities	58,617	54,743
Non-current liabilities:		
Non-current deferred tax liability, net	2,958	2,837
Long-term debt	3,871	4,717
Accrued employee benefits	430	478
Other non-current liabilities	337	337
Total non-current liabilities	7,596	8,369
Total liabilities	66,213	63,112
Commitments and contingencies		
Redeemable non-controlling interest	36	35
Equity:		
Intercontinental Exchange, Inc. shareholders' equity:		
Preferred stock, $0.01 par value; 100 shares authorized; no shares issued or outstanding at December 31, 2016 and 2015	—	—

Common stock, $0.01 par value; 1,500 shares authorized; 596 and 595 shares issued and outstanding at December 31, 2016, respectively, and 628 and 594 shares issued and outstanding at December 31, 2015, respectively	6	6
Treasury stock, at cost; 1 and 34 shares at December 31, 2016 and 2015, respectively	(40)	(1,448)
Additional paid-in capital	11,306	12,290
Retained earnings	4,789	4,148
Accumulated other comprehensive loss	(344)	(188)
Total Intercontinental Exchange, Inc. shareholders' equity	15,717	14,808
Non-controlling interest in consolidated subsidiaries	37	32
Total equity	15,754	14,840
Total liabilities and equity	$82,003	$77,987

See accompanying notes.

Intercontinental Exchange, Inc. and Subsidiaries
Consolidated Statements of Income
(In millions, except per share amounts)

	Year Ended December 31,		
	2016	2015	2014
Revenues:			
Transaction and clearing, net	$3,384	$3,228	$3,144
Data services	1,978	871	691
Listings	419	405	367
Other revenues	177	178	150
Total revenues	5,958	4,682	4,352
Transaction-based expenses:			
Section 31 fees	389	349	359
Cash liquidity payments, routing and clearing	1,070	995	901
Total revenues, less transaction-based expenses	4,499	3,338	3,092
Operating expenses:			
Compensation and benefits	945	611	592
Professional services	137	139	181
Acquisition-related transaction and integration costs	80	88	129
Technology and communication	374	203	188
Rent and occupancy	70	57	78
Selling, general and administrative	116	116	143
Depreciation and amortization	610	374	333
Total operating expenses	2,332	1,588	1,644
Operating income	2,167	1,750	1,448
Other income (expense):			
Interest expense	(178)	(97)	(96)
Other income, net	40	—	55
Other expense, net	(138)	(97)	(41)
Income from continuing operations before income tax expense	2,029	1,653	1,407
Income tax expense	580	358	402
Income from continuing operations	1,449	1,295	1,005
Income from discontinued operations, net of tax	—	—	11
Net income	$1,449	$1,295	$1,016
Net income from continuing operations attributable to non-controlling interest	(27)	(21)	(35)
Net income attributable to Intercontinental Exchange, Inc.	$1,422	$1,274	$981
Basic earnings per share attributable to Intercontinental Exchange, Inc. common shareholders:			
Continuing operations	$2.39	$2.29	$1.70
Discontinued operations	—	—	0.02
Basic earnings per share	$2.39	$2.29	$1.72
Basic weighted average common shares outstanding	595	556	570
Diluted earnings per share attributable to Intercontinental Exchange, Inc. common shareholders:			
Continuing operations	$2.37	$2.28	$1.69
Discontinued operations	—	—	0.02
Diluted earnings per share	$2.37	$2.28	$1.71
Diluted weighted average common shares outstanding	599	559	573
Dividend per share	$0.68	$0.58	$0.52

See accompanying notes.

Intercontinental Exchange, Inc. and Subsidiaries
Consolidated Statements of Comprehensive Income
(In millions)

	Year Ended December 31,		
	2016	2015	2014
Net income	$1,449	$1,295	$1,016
Other comprehensive income (loss):			
Foreign currency translation adjustments, net of tax benefit of ($22), ($4) and ($5) for the years ended December 31, 2016, 2015 and 2014, respectively	(300)	(58)	(130)
Change in fair value of available-for-sale securities	134	(81)	55
Change in fair value or discontinuance of net investment hedge, net of tax expense of $7 for the year ended December 31, 2014	—	—	21
Comprehensive income from equity method investment	—	2	—
Employee benefit plan net gains (losses), net of tax expense (benefit) of $7 and ($78) for the years ended December 31, 2016 and 2014, respectively	10	(5)	(117)
Other comprehensive loss	(156)	(142)	(171)
Comprehensive income	$1,293	$1,153	$845
Comprehensive income attributable to non-controlling interest	(27)	(21)	(35)
Comprehensive income attributable to Intercontinental Exchange, Inc.	$1,266	$1,132	$810

See accompanying notes.

Intercontinental Exchange, Inc. and Subsidiaries
Consolidated Statements of Changes in Equity, Accumulated Other Comprehensive Income (Loss) and Redeemable Non-Controlling Interest
(In millions)

	Intercontinental Exchange, Inc. Shareholders' Equity									
	Common Stock		Treasury Stock					Non-Controlling		
	Shares	Value	Shares	Value	Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Interest in Consolidated Subsidiaries	Total Equity	Redeemable Non-controlling Interest
Balance, as of January 1, 2014	574	$ 6	—	$(53)	$9,789	$2,482	$ 125	$ 32	$12,381	$ 322
Other comprehensive loss	—	—	—	—	—	—	(171)	—	(171)	—
Exercise of common stock options	—	—	—	—	13	—	—	—	13	—
Repurchases of common stock	—	—	(16)	(645)	—	—	—	—	(645)	—
Payments relating to treasury shares	—	—	(3)	(45)	—	—	—	—	(45)	—
Stock-based compensation	—	—	—	—	105	—	—	—	105	—
Issuance of restricted stock	5	—	—	—	—	—	—	—	—	—
Tax benefits from stock option plans	—	—	—	—	26	—	—	—	26	—
Adjustment to redemption value	—	—	—	—	—	46	—	—	46	(46)
Acquisition of redeemable non-controlling interest	—	—	—	—	—	—	—	—	—	16
Distributions of profits	—	—	—	—	—	—	—	(17)	(17)	(16)
Dividends paid to shareholders	—	—	—	—	—	(299)	—	—	(299)	—
Purchase of subsidiary shares	—	—	—	—	—	—	—	—	—	(129)
Net income attributable to non-controlling interest	—	—	—	—	—	(35)	—	17	(18)	18
Net income	—	—	—	—	—	1,016	—	—	1,016	—
Balance, as of December 31, 2014	579	6	(19)	(743)	9,933	3,210	(46)	32	12,392	165
Other comprehensive loss	—	—	—	—	—	—	(142)	—	(142)	—
Stock consideration issued for Interactive Data and Trayport acquisitions	45	—	—	—	2,197	—	—	—	2,197	—
Exercise of common stock options	—	—	—	—	19	—	—	—	19	—
Repurchases of common stock	—	—	(14)	(660)	—	—	—	—	(660)	—
Payments relating to treasury shares	—	—	(1)	(45)	—	—	—	—	(45)	—
Stock-based compensation	—	—	—	—	122	—	—	—	122	—
Issuance of restricted stock	4	—	—	—	—	—	—	—	—	—
Tax benefits from stock option plans	—	—	—	—	19	—	—	—	19	—

Adjustment to redemption value	—	—	—	—	—	(5)	—	—	(5)	4
Distributions of profits	—	—	—	—	—	—	—	(16)	(16)	(11)
Dividends paid to shareholders	—	—	—	—	—	(331)	—	—	(331)	—
Purchase of subsidiary shares	—	—	—	—	—	—	—	—	—	(128)
Net income attributable to non-controlling interest	—	—	—	—	—	(21)	—	16	(5)	5
Net income	—	—	—	—	—	1,295	—	—	1,295	—
Balance, as of December 31, 2015	628	6	(34)	(1,448)	$ 12,290	4,148	(188)	32	14,840	35
Other comprehensive loss	—	—	—	—	—	—	(156)	—	(156)	—
Exercise of common stock options	1	—	—	—	22	—	—	—	22	—
Treasury shares retired in connection with stock split	(35)	—	35	1,512	(1,142)	(370)	—	—	—	—
Repurchases of common stock	—	—	(1)	(50)	—	—	—	—	(50)	—
Payments relating to treasury shares	—	—	(1)	(54)	—	—	—	—	(54)	—
Stock-based compensation	—	—	—	—	136	—	—	—	136	—
Issuance of restricted stock	2	—	—	—	—	—	—	—	—	—
Adjustment to redemption value	—	—	—	—	—	(2)	—	—	(2)	1
Distributions of profits	—	—	—	—	—	—	—	(19)	(19)	(3)
Dividends paid to shareholders	—	—	—	—	—	(409)	—	—	(409)	—
Net income attributable to non-controlling interest	—	—	—	—	—	(27)	—	24	(3)	3
Net income	—	—	—	—	—	1,449	—	—	1,449	—
Balance, as of December 31, 2016	596	$ 6	(1)	$ (40)	$ 11,306	$ 4,789	$ (344)	$ 37	$ 15,754	$ 36

See accompanying notes.

Intercontinental Exchange, Inc. and Subsidiaries
Consolidated Statements of Changes in Equity, Accumulated Other Comprehensive Income (Loss) and Redeemable Non-Controlling Interest — (Continued)
(In millions)

	As of December 31,		
	2016	2015	2014
Accumulated other comprehensive income (loss) was as follows:			
Foreign currency translation adjustments	$(345)	$(45)	$13
Fair value of available-for-sale securities	108	(26)	55
Comprehensive income from equity method investment	2	2	—
Employee benefit plans adjustments	(109)	(119)	(114)
Accumulated other comprehensive loss	$(344)	$(188)	$(46)

See accompanying notes.

Intercontinental Exchange, Inc. and Subsidiaries
Consolidated Statements of Cash Flows
(In millions)

	Year Ended December 31,		
	2016	2015	2014
Operating activities			
Net income	$1,449	$1,295	$1,016
Less: income from discontinued operations, net of tax	—	—	(11)
Income from continuing operations	1,449	1,295	1,005
Adjustments to reconcile income from continuing operations to net cash provided by operating activities:			
Depreciation and amortization	610	374	333
Stock-based compensation	124	111	97
Deferred taxes	114	(108)	21
Amortization of fair market value premium on NYSE Notes	—	(23)	(55)
Other	(6)	(17)	(46)
Changes in assets and liabilities:			
Customer accounts receivable	(65)	(45)	(43)
Other current and non-current assets	7	(5)	22
Section 31 fees payable	14	(21)	52
Deferred revenue	42	27	58
Other current and non-current liabilities	(140)	(277)	19
Total adjustments	700	16	458
Net cash provided by operating activities from continuing operations	2,149	1,311	1,463
Investing activities			
Capital expenditures	(250)	(190)	(172)
Capitalized software development costs	(115)	(87)	(78)
Proceeds from IPO and sale of Euronext and sale of NYSE Technologies	—	—	2,274
Cash paid for acquisitions, net of cash acquired	(425)	(3,751)	(577)
Proceeds from term deposits and sales of available-for-sale investments	—	1,089	54
Purchases of term deposits and available-for-sale investments	—	(5)	(1,304)
Increase in restricted cash and investments	(38)	(294)	(161)
Other	(70)	(60)	—
Net cash provided by (used in) investing activities from continuing operations	(898)	(3,298)	36
Financing activities			
Proceeds from debt facilities	—	2,472	—
Repayments of debt facilities	—	(1,028)	(377)
Proceeds from (repayments of) commercial paper, net	(949)	1,686	(175)
Dividends to shareholders	(409)	(331)	(299)
Repurchases of common stock	(50)	(660)	(645)
Payments relating to treasury shares received for restricted stock tax payments and stock option exercises	(54)	(45)	(45)
Purchase of subsidiary shares from non-controlling interest	—	(128)	(129)
Other	—	10	(3)
Net cash provided by (used in) financing activities from continuing operations	(1,462)	1,976	(1,673)
Net cash provided by operating activities from discontinued operations	—	—	51
Net cash used in investing activities from discontinued operations	—	—	(504)

Net cash provided by financing activities from discontinued operations	—	—	339
Effect of exchange rate changes on cash and cash equivalents	(9)	(14)	(21)
Net decrease in cash and cash equivalents	(220)	(25)	(309)
Cash and cash equivalents, beginning of year	627	652	961
Cash and cash equivalents, end of year	$407	$627	$652
Supplemental cash flow disclosure			
Cash paid for income taxes	$460	$542	$338
Cash paid for interest	$170	$123	$140
Supplemental non-cash investing and financing activities			
Common stock and vested stock options issued for acquisitions	$—	$2,197	$—
Treasury stock retirement	$1,512	$—	$—

See accompanying notes.

Intercontinental Exchange, Inc. and Subsidiaries
Notes to Consolidated Financial Statements

1. Description of Business

Nature of Business and Organization

We are a leading global operator of regulated exchanges, clearing houses and listings venues, and a provider of data services for commodity and financial markets. We operate regulated marketplaces for listing, trading and clearing a broad array of derivatives and securities contracts across major asset classes, including energy and agricultural commodities, interest rates, equities, equity derivatives, exchange traded funds, credit derivatives, bonds and currencies. We offer end-to-end market data services to support the trading, investment, risk management and connectivity needs of customers across virtually all asset classes.

Our exchanges include futures exchanges in the United States, or U.S., United Kingdom, or U.K., Continental Europe, Canada and Singapore, and cash equities, equity options and bond exchanges in the U.S. We also operate over-the-counter, or OTC, markets for physical energy and credit default swaps, or CDS, trade execution. To serve global derivatives markets, we operate central counterparty clearing houses in the U.S., U.K., Continental Europe, Canada and Singapore (Note 12). We offer a range of data services for global financial and commodity markets, including pricing and reference data, exchange data, analytics, feeds, desktops and connectivity solutions. Through our markets, clearing houses, listings and data services, we provide end-to-end solutions for our customers through liquid markets, benchmark products, access to capital markets, and related services to support their ability to manage risk and raise capital.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying consolidated financial statements are presented in accordance with U.S. generally accepted accounting principles, or U.S. GAAP. The consolidated financial statements include our wholly-owned and controlled subsidiaries. All intercompany balances and transactions between our wholly-owned and controlled subsidiaries have been eliminated in consolidation. As discussed in Note 3, we completed several acquisitions during the years ended December 31, 2016, 2015 and 2014 and have included the financial results of these companies in the consolidated financial statements effective from the respective acquisition dates. As discussed in Note 16, we completed the initial public offering, or IPO, of our wholly-owned subsidiary Euronext N.V., or Euronext, in June 2014 and completed the sales of Wombat in July 2014 and NYFIX and Metabit in September 2014, and have included the financial results of these companies in discontinued operations in the consolidated financial statements.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires our management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements. Estimates also affect the reported amounts of revenues and expenses during the reporting period. Actual amounts could differ from those estimates.

Comprehensive Income

Other comprehensive income includes changes in unrealized gains and losses on financial instruments classified as available-for-sale, changes in fair value of net investment hedges, foreign currency translation adjustments, income from equity method investments, and amortization of the difference in the projected benefit obligation and the accumulated benefit obligation associated with benefit plan liabilities, net of tax.

Non-controlling Interest

For those consolidated subsidiaries in which our ownership is less than 100% and for which we have control over the assets and liabilities and the management of the entity, the outside stockholders' interests are shown as non-controlling interests. For instances where outside stockholders' hold an option to require us to repurchase the outside stockholders' interest, these interests are shown as redeemable non-controlling interests.

Segment and Geographic Information

We operated as a single reportable business segment as of December 31, 2015 but began operating as two operating segments in the first quarter of 2016 following our acquisition of Interactive Data. As of December 31, 2016, we continue to operate as two business segments: our Trading and Clearing segment and our Data and Listings segment.

This presentation is reflective of how our chief operating decision maker reviews and operates our business. Our Trading and Clearing segment comprises our transaction-based

execution and clearing businesses. Our Data and Listings segment comprises our subscription-based data services and securities listings businesses. The majority of our identifiable assets are located in the U.S. and U.K.

Cash and Cash Equivalents

We consider all short-term, highly liquid investments with original maturities at the purchase date of three months or less to be cash equivalents.

Short-Term and Long-Term Restricted Cash and Investments

We classify all cash and cash equivalents and investments that are not available for immediate or general business use by us as restricted in the accompanying consolidated balance sheets (Note 4). The restricted cash would include cash set aside due to regulatory requirements, earmarked for specific purposes, or restricted by specific agreements.

Short-Term and Long-Term Investments

We periodically invest a portion of our cash in excess of short-term operating needs in term deposits and investment-grade marketable debt securities, including government or government sponsored agencies and corporate debt securities (Note 5). These investments are classified as available-for-sale in accordance with U.S. GAAP. We do not have any investments classified as held-to-maturity or trading. Additionally, we classify equity and fixed income mutual funds, held for the purpose of providing future payments for the supplemental executive savings plan and a component of the supplemental executive retirement plan, as available-for-sale securities. Available-for-sale investments are carried at their fair value using primarily quoted prices in active markets for identical securities, with unrealized gains and losses, net of deferred income taxes, reported as a component of accumulated other comprehensive income. Realized gains and losses, and declines in value deemed to be other-than-temporary on available-for-sale investments, are recognized currently in earnings. The cost of securities sold is based on the specific identification method. Investments that we intend to hold for more than one year are classified as long-term investments in the accompanying consolidated balance sheets.

Cost and Equity Method Investments

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 account for our investments in MERSCORP Holdings, Inc., or MERS, and Options Clearing Corporation, or OCC, as equity method investments. We recognized $25 million, $6 million and $25 million in equity income related to these investments during the years ended December 31, 2016, 2015 and 2014, respectively, as other income. We recognize dividend income when declared as a reduction in the carrying value of our equity method investments. Cost and equity method investments were $208 million and $116 million as of December 31, 2016 and 2015, respectively, and are classified as other non-current assets in the accompanying consolidated balance sheets. The increase in the cost and equity method investments during the year ended December 31, 2016 is primarily due to our investment in MERS.

Margin Deposits and Guaranty Funds

Original margin, variation margin and guaranty funds held by our clearing houses for clearing members may be in the form of cash, government obligations, certain agency and corporate debt or gold (Note 12). Cash original margin, variation margin and guaranty fund deposits are reflected in the accompanying consolidated balance sheets as current assets and current liabilities. The amount of margin deposits on hand will fluctuate over time as a result of, among other things, the extent of open positions held at any point in time by market participants in contracts and the margin rates then in effect for such contracts. Non-cash original margin and guaranty fund deposits are not reflected in the accompanying consolidated balance sheets as the risks and rewards of these assets remain with the clearing members unless the clearing houses have sold or re-pledged the assets or in the event of a clearing member default, where the clearing member is no longer entitled to redeem the assets. Any income, gain or loss accrues to the clearing members.

Property and Equipment

Property and equipment is recorded at cost, reduced by accumulated depreciation (Note 6). Depreciation and amortization expense related to property and equipment is computed using the straight-line method based on estimated useful lives of the assets, or in the case of leasehold improvements, the shorter of the initial lease term or the estimated useful life of the improvement. We review the remaining estimated useful lives of our property and equipment at each balance sheet date and will make adjustments to the estimated remaining useful lives whenever events or changes in

circumstances indicate that the remaining useful lives have changed.

Gains on disposals of property and equipment are included in other income and losses on disposals of property and equipment are included in depreciation expense. Maintenance and repair costs are expensed as incurred.

Allowance for Doubtful Accounts

The allowance for doubtful accounts is maintained at a level that we believe to be sufficient to absorb probable losses in our accounts receivable portfolio. The allowance is based on several factors, including a continuous assessment of the collectability of each account. In circumstances where a specific customer's inability to meet its financial obligations is known, we record a specific provision for bad debts against amounts due to reduce the receivable to the amount we reasonably believe will be collected. Accounts receivable are written off against the allowance for doubtful accounts when collection efforts cease. A reconciliation of the beginning and ending amount of allowance for doubtful accounts is as follows for the years ended December 31, 2016, 2015 and 2014 (in millions):

	Year Ended December 31,		
	2016	2015	2014
Beginning balance of allowance for doubtful accounts	$2	$ 1	$ 1
Bad debt expense	5	2	1
Charge-offs	—	(1)	(1)
Ending balance of allowance for doubtful accounts	$7	$ 2	$ 1

Bad debt expense in the table above is based on our historical collection experiences and our assessment of the collectability of specific accounts. Charge-offs in the table above represent the write-off of uncollectible receivables, net of recoveries. These lines also include the impact of foreign currency translation adjustments.

Software Development Costs

We capitalize costs, both internal and external direct and incremental costs, related to software developed or obtained for internal use in accordance with U.S. GAAP. Software development costs incurred during the preliminary or maintenance project stages are expensed as incurred, while costs incurred during the application development stage are capitalized and are amortized using the straight-line method over the useful life of the software, not to exceed three years (except for Interactive Data's and NYSE's new platforms, which have eight year useful lives). Amortization of these capitalized costs begins only when the software becomes ready for its intended use. General and administrative costs related to developing or obtaining such software are expensed as incurred.

Accrued Employee Benefits

We have a defined benefit pension plan and other postretirement benefit plans, or collectively the “benefit plans”, covering certain of our U.S. operations. The benefit accrual for the pension plan is frozen. We recognize the funded status of the benefit plans in the consolidated balance sheets, measure the fair value of plan assets and benefit obligations as of the date of our fiscal year-end, and provide additional disclosures in the footnotes to the consolidated financial statements (Note 14).

Benefit plan costs and liabilities are dependent on assumptions used in calculating such amounts. These assumptions include discount rates, health care cost trend rates, benefits earned, interest cost, expected return on assets, mortality rates and other factors. Actual results that differ from the assumptions are accumulated and amortized over future periods and, therefore, generally affect recognized expense and the recorded obligation in future periods. We immediately recognize in the consolidated statements of income certain of these unrecognized amounts when triggering events occur, such as when a settlement of pension obligations in excess of total interest and service costs occurs. While we believe that the assumptions used are appropriate, differences in actual experience or changes in assumptions may affect our pension and other post-retirement obligations and future expense recognized.

Goodwill and Indefinite-Lived 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 (Note 7). We recognize specifically identifiable intangibles when a specific right or contract is acquired. Goodwill has been allocated to reporting units for purposes of impairment testing based on the portion of synergy, cost savings and other expected future cash flows expected to benefit the reporting units at the time of the acquisition. We test our goodwill for impairment at the reporting unit level. The reporting units identified for our goodwill testing are the futures, data and listings, cash and CDS reporting units.

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 indefinite-lived intangible assets for impairment annually in our fiscal fourth quarter or more frequently if conditions exist that indicate that the asset may be impaired. Such evaluation includes either applying the optional qualitative screen to

determine if it is not more likely than not that the fair value of the asset continues to exceed its carrying value or determining the fair value of the asset and comparing the fair value of the asset to 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.

We did not record an impairment charge related to goodwill or indefinite lived intangible assets during the years ended December 31, 2016, 2015 or 2014.

Impairment of Long-Lived Assets and Finite-Lived Intangible Assets

We review our property and equipment and finite-lived intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount may not be fully recoverable. To analyze recoverability, we project undiscounted net future cash flows over the remaining life of such assets. If these projected cash flows are less than the carrying amount, an impairment indicator would exist. The impairment loss is measured based upon the difference between the carrying amount and the fair value of the assets. Finite-lived intangible assets are generally amortized on a straight-line basis or using an accelerated method over the lesser of their contractual or estimated useful lives.

In August 2016, we sold certain of Creditex's U.S. voice brokerage operations to Tullett Prebon. During the third quarter of 2016, we discontinued Creditex's U.K. voice brokerage operations and an impairment of the asset was recorded as amortization expense in September 2016 for $33 million (Note 7).

Derivatives and Hedging Activity

We may use derivative instruments to limit exposure to changes in foreign currency exchange rates. All derivatives are required to be recorded at fair value in the accompanying consolidated balance sheets. Changes in the fair value of such derivative financial instruments are recognized in net income as they are not designated as hedges under U.S. GAAP.

From time to time, we may hedge the foreign currency translation of certain net investments by designating all or a portion of certain financial liabilities denominated in the same currency in accordance with U.S. GAAP. We entered into foreign currency hedging transactions during years ended December 31, 2016, 2015 and 2014 as economic hedges to help mitigate a portion of our foreign exchange risk exposure. During the year ended December 31, 2014, we recognized a loss of $21 million as a component of income from discontinued operations upon discontinuance of the net investment hedge in connection with the IPO of Euronext.

Intellectual Property

All costs related to internally developed patents and trademarks are expensed as incurred. All costs related to purchased patents, trademarks and internet domain names are recorded as other intangible assets and are amortized on a straight-line basis over their estimated useful lives. All costs related to licensed patents are capitalized and amortized on a straight-line basis over the term of the license.

Income Taxes

We recognize income taxes under the liability method. We recognize a current tax liability or tax asset for the estimated taxes payable or refundable on tax returns for the current year. We recognize deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the financial statement carrying amounts and the tax bases of assets and liabilities. We establish valuation allowances if we believe that it is more likely than not that some or all of our deferred tax assets will not be realized. Deferred tax assets and liabilities are measured using current enacted tax rates in effect.

We do not recognize a tax benefit unless we conclude that it is more likely than not that the benefit will be sustained on audit by the taxing authority based solely on the technical merits of the associated tax position. If the recognition threshold is met, we recognize a tax benefit measured at the largest amount of the tax benefit that, in our judgment, is greater than 50 percent likely to be realized. We recognize accrued interest and penalties related to uncertain tax positions as a component of income tax expense.

We are subject to tax in numerous domestic and foreign jurisdictions primarily based on our operations in these jurisdictions. Significant judgment is required in assessing the future tax consequences of events that have been

recognized in our financial statements or tax returns. Fluctuations in the actual outcome of these future tax consequences could have a material impact on our financial position or results of operations.

Revenue Recognition

We recognize revenue when persuasive evidence of an arrangement exists, delivery has occurred, the sale price is fixed or determinable and collectability is reasonably assured. Our revenues primarily consist of transaction and clearing fee revenues for transactions executed and/or cleared through our global electronic derivatives trading and clearing platforms and cash equities trading and revenues related to our data services fees and listing fees. We also evaluate all contracts in order to determine appropriate gross versus net revenue reporting.

Derivatives trading and clearing revenues are recognized over the period in which the services are provided, which is typically the date the transactions are executed or are cleared, except for a portion of clearing revenues related to cleared contracts which have an ongoing clearing obligation that extends beyond the execution date. The transaction and clearing fee revenues are determined on the basis of the transaction and clearing fee charged for each contract traded on the exchanges. Derivatives transaction and clearing fees are recorded net of rebates of $674 million, $563 million and $466 million for the years ended December 31, 2016, 2015 and 2014, respectively. We offer rebates in certain of our markets primarily to support market liquidity and trading volume by providing qualified participants in those markets a discount to the applicable commission rate. Such rebates are calculated based on volumes traded. The increase in the rebates is due primarily to an increase in the number of participants in the rebate programs offered on various contracts, an increase in our traded volume and an increase in the number of rebate programs.

Cash trading fee revenues are paid by organizations based on their trading activity. Fees are assessed on a per share basis for trading in equity securities. The fees are applicable to all transactions that take place on any of our equity trading venues, and the fees vary based on the size and type of trade that is consummated and trading venue. The equity trading venues earn transaction fees for customer orders of equity securities matched internally, as well as for customer orders routed to other exchanges. Cash trading fees are recognized as earned, which is generally upon execution of the trade. Cash trading fees are recorded gross of liquidity rebates and routing charges. Liquidity payments made to cash and options trading customers and routing charges made to other exchanges are included in transaction-based expenses in the consolidated statements of income.

Listings revenues consist of original listing fees paid by issuers to list the initial securities on the various cash markets, other listing fees related to other corporate actions (including stock splits, sales of additional securities and merger and acquisitions), annual listing fees paid by companies whose financial instruments are listed on the cash markets, and other services provided to our listed companies and other companies. Original listing fees are assessed primarily based on the number of shares that the issuer initially lists. Original listing fees are recognized as revenue on a straight-line basis over the estimated service periods ranging from 5 to 9 years. Other corporate action listing fees are recognized as revenue on a straight-line basis over the estimated service periods ranging from 3 to 6 years. The service periods are determined separately for each of our listing venues (Note 8). Annual listing fees are billed at the beginning of the year and are recognized on a pro rata basis over the calendar year.

Data services revenues in our derivatives markets primarily include terminal and license fees received from data vendors in exchange for the provision of real-time futures price information and market data access fees. Market data fees are charged to data vendors on a monthly basis based on the number and type of terminals they have carrying futures data. Each data vendor also pays an annual license fee, which is deferred and recognized as revenue ratably over the period of the annual license. Data services revenues also include market data access fees charged to customers that trade on the electronic platform. The market data access amount for each company is based on the number of users at each company trading on the electronic platform. Monthly trading commissions are recognized as transaction and clearing fee revenues. Any customer's market data access fees in excess of that customer's commissions on trading activity are recognized as market data access revenues.

We collect market data revenues from our cash equity and options consortium-based data products and, to a lesser extent, for New York Stock Exchange proprietary data products. Consortium-based data fees are determined by securities industry plans. Consortium-based data revenues that coordinated market data distribution generates (net of administration costs) are distributed to participating markets on the basis of the Regulation NMS formula. We collect annual license fees from vendors for the right to distribute market data to third parties and a service fee from vendors for direct connection to market data. These fees are recognized as revenue as services are rendered. We also charge customers for accessing our data services through Secure Financial Transaction Infrastructure, or SFTI, and colocation services. SFTI is a physical network infrastructure that connects our markets and other major market centers with market participants and allows those participants to receive data feeds. Data analytics includes a number of products

such as forward curves, index and valuation services.

Revenue for subscription based contracts is recognized ratably over the life of the contract and revenue for usage based contracts is recognized in the month that the products/services are provided. Certain of our businesses collect fees for installation/set-up services which, if deemed a separate deliverable with standalone value, are recognized upon delivery as long as the remaining criteria for recognition of revenue have been achieved. Revenue for installation/set-up services, that do not meet the criteria for separation, is recognized ratably either over the contractual term or the expected client relationship life. Revenue for professional services is recognized as the services are provided. Revenue for hardware is recognized when installation is completed and the related services go-live.

Some contracts include multiple elements for which we determine whether the various elements meet the applicable criteria to be accounted for as separate elements and makes estimates regarding the relative fair values. Revenue for elements that cannot be

separated is recognized once the revenue recognition criteria for the entire arrangement have been met or over the period that our obligation to perform is fulfilled. Consideration for elements that are deemed separable is allocated to the separate elements at the inception of the arrangement on the basis of their relative selling price and recognized based on meeting authoritative criteria to do so.

Other revenues primarily consist of various fees for services provided to our customers, including interest income on certain clearing margin deposits, regulatory penalties and fines, fees for use of our facilities, regulatory fees charged to member organizations of our U.S. securities exchanges, designated market maker service fees, exchange membership fees and agricultural grading and certification fees. These fees are recognized as revenue as services are rendered.

Activity Assessment Fees and Section 31 Fees

We pay the Securities and Exchange Commission, or SEC, fees pursuant to Section 31 of the Securities Exchange Act of 1934 for transactions executed on our U.S. equities and options exchanges. These Section 31 fees are designed to recover the costs to the government for supervising and regulating the securities markets and securities professionals. We (or the OCC on our behalf), in turn, collect activity assessment fees, which are included in transaction and clearing fees in the accompanying consolidated statements of income, from member organizations clearing or settling trades on the U.S. equities and options exchanges and recognize these amounts as revenue when invoiced. Fees received are included in cash at the time of receipt and, as required by law, the amount due to the SEC is remitted semi-annually and recorded as an accrued liability until paid. The activity assessment fees are designed so that they are equal to the Section 31 fees paid by us to the SEC. As a result, Section 31 fees do not have an impact on our net income.

Stock-Based Compensation

We currently sponsor employee and director stock option and restricted stock plans (Note 10). U.S. GAAP requires the measurement and recognition of compensation expenses for all share-based payment awards made to employees and directors, including employee stock options and restricted stock, based on estimated fair values. U.S. GAAP requires companies to estimate the fair value of stock option awards on the date of grant using an option-pricing model. The value of the portion of the award that is ultimately expected to vest is recognized as stock-based compensation expense over the requisite service period in our consolidated financial statements.

We use the Black-Scholes option pricing model for purposes of valuing stock option awards. Our determination of fair value of stock option awards on the date of grant using the Black-Scholes option pricing model is affected by our stock price as well as assumptions regarding a number of subjective variables. These variables include interest rates, our expected dividend yield, our expected share price volatility over the term of the awards and actual and projected employee stock option exercise behavior.

Stock Split

On November 3, 2016, a 5-for-1 split of our common stock was effected in the form of a four share stock dividend per share of common stock to shareholders of record as of the close of market on October 27, 2016. The new shares began trading on a split-adjusted basis on November 4, 2016. All share and earnings per share information has been retroactively adjusted to reflect the stock split. We retired all of our outstanding treasury shares effective October 27, 2016, the record date.

Treasury Stock

We record treasury stock activities under the cost method whereby the cost of the acquired stock is recorded as treasury stock (Note 10). We retired all of our outstanding treasury shares effective October 27, 2016, the record date of the stock split mentioned above. Our accounting policy upon the formal retirement of treasury stock is to deduct the par value from common stock and to reflect any excess of cost over par value as a deduction from additional paid-in capital (to the extent created by previous issuances of the shares) and retained earnings.

Credit Risk and Significant Customers

Our clearing houses have credit risk for maintaining certain of the clearing member cash deposits at various financial institutions (Note 12). Cash deposit accounts are established at larger money center banks and structured to restrict the rights of offset or liens by the banks. Our clearing houses monitor the cash deposits and mitigate credit risk by keeping such deposits in several financial institutions, ensuring that its overall credit risk exposure to any individual financial institution remains within acceptable concentration limits, and by ensuring that the financial institutions have high investment grade ratings. We also limit our risk of loss by holding the majority of the cash deposits in high quality

short-term sovereign debt reverse repurchase agreements with several different counterparty banks or direct investments in short-term high quality sovereign and supranational debt issues. While we seek to achieve a reasonable rate of return which may generate interest income for our clearing members, we are primarily concerned with

preservation of capital and managing the risks associated with these deposits. As the clearing houses may pass on interest revenues, minus costs, to the members, this could include negative or reduced yield due to market conditions. When engaging in reverse repurchase agreements, our clearing houses take delivery of the underlying securities in custody accounts under clearing house control. Additionally, the securities purchased subject to reverse repurchase have a market value greater than the reverse repurchase amount. The typical haircut received for high quality sovereign debt is 2% of the reverse repurchase amount. Thus, in the event that a reverse repurchase counterparty defaults on its obligation to repurchase the underlying reverse repurchase securities, our clearing house will have possession of securities with a value potentially greater than the reverse repurchase counterparty's obligation to the clearing house.

ICE Clear Credit has been designated as a systemically important financial market utility by the Financial Stability Oversight Council and has been authorized to establish and maintain a cash account at the Federal Reserve Bank of Chicago. Such account was opened on July 30, 2015 and it is intended to decrease ICE Clear Credit's custodial, liquidity and operational risk as compared to alternative custodial and investment arrangements.

Our futures businesses have minimal credit risk as all of their transaction revenues are currently cleared through our clearing houses. Our accounts receivable related to market data revenues, cash trading, listing revenues, technology revenues, CDS transaction revenues and bilateral over-the-counter energy transaction revenues subjects us to credit risk, as we do not require these customers to post collateral. We limit our risk of loss by terminating access to trade to entities with delinquent accounts. The concentration of risk on accounts receivable is also mitigated by the large number of entities comprising our customer base.

Our accounts receivable are stated at cost. Excluding clearing members, there were no individual accounts receivable balances greater than 10% of total consolidated accounts receivable as of December 31, 2016 or December 31, 2015. No single customer accounted for more than 10% of total consolidated revenues during any of the years ended December 31, 2016, 2015 or 2014.

Leases

We expense rent from non-cancellable operating leases, net of sublease income, on a straight-line basis based on future minimum lease payments. The net costs are included in rent and occupancy expenses and technology and communication expenses in the accompanying consolidated statements of income (Note 13).

Acquisition-Related Transaction and Integration Costs

We incurred incremental direct acquisition-related transaction costs relating to various completed and potential acquisitions and other strategic opportunities to strengthen our competitive position and support growth. The acquisition-related transaction costs include fees for investment banking advisors, lawyers, accountants, tax advisors and public relations firms, deal-related bonuses to certain of our employees, as well as costs associated with credit facilities and other external costs directly related to the proposed or closed transactions. We also incurred integration costs during the years ended December 31, 2016, 2015 and 2014 relating to our integration of NYSE and during the year ended December 31, 2016 relating to our integration of Interactive Data. Integration costs primarily related to employee termination costs, costs incurred relating to the IPO and sale of Euronext in Europe and the sale of NYSE Technologies, deal related bonuses, lease termination costs and professional services costs incurred relating to the integrations.

The acquisition-related transaction and integration costs incurred during the year ended December 31, 2016 primarily relate to the integration costs incurred for our Interactive Data and NYSE integrations, legal and professional fees related to the Trayport CMA review, our investment in MERS, our acquisition of Securities Evaluations and Credit Market Analysis, and various other potential and discontinued acquisitions. As of December 31, 2016, the integration of NYSE has been completed. The acquisition-related transaction and integration costs incurred during the year ended December 31, 2015 primarily relate to the integration costs incurred for our NYSE integration and the acquisition-related transaction costs related to our Interactive Data and Trayport acquisitions. The acquisition-related transaction and integration costs incurred during the year ended December 31, 2014 primarily relate to the acquisition and integration costs incurred for NYSE and the acquisition-related transaction costs related to our SuperDerivatives, ICE Futures Singapore, ICE Clear Netherlands and True Office acquisitions. See Note 3 for additional information on our acquisitions.

Fair Value of Financial Instruments

We apply fair value accounting for all financial assets and liabilities and non-financial assets and liabilities that are recognized or disclosed at fair value in the financial statements on a recurring basis (Note 15). Fair value is the price that would be received from selling an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants at the measurement date. Our financial instruments consist primarily of cash and cash equivalents, short-term and long-term restricted cash and investments, short-term and long-term investments, customer accounts receivable, margin deposits and guaranty funds, short-term and long-term debt and other short-term assets and liabilities.

Foreign Currency Translation Adjustments and Foreign Currency Transaction Gains and Losses

Our functional and reporting currency is the U.S. dollar. We have foreign currency translation risk equal to our net investment in certain U.K., continental European, Asian and Canadian subsidiaries. The revenues, expenses and financial results of these subsidiaries are recorded in the functional currency of the countries that these subsidiaries are located in, which are primarily pounds sterling and euros. The financial statements of these subsidiaries are translated into U.S. dollars using a current rate of exchange, with gains or losses, net of tax as applicable, included in the cumulative translation adjustment account, a component of equity. As of December 31, 2016 and 2015, the portion of our equity attributable to accumulated other comprehensive loss from foreign currency translation adjustments was $345 million and $45 million, respectively.

We have foreign currency transaction gains and losses related to the settlement of foreign currency denominated assets, liabilities and payables that occur through our operations, which are received in or paid in pounds sterling or euros. The transaction gain and losses are due to the increase or decrease in the foreign currency exchange rates between periods. Forward contracts on foreign currencies are entered into to manage the foreign currency exchange rate risk. Gains and losses from foreign currency transactions are included in other income (expense) in the accompanying consolidated statements of income and resulted in net losses of $1 million, $14 million and $2 million for the years ended December 31, 2016, 2015 and 2014, respectively.

Earnings Per Common Share

Basic earnings per common share is calculated using the weighted average common shares outstanding during the year. Common equivalent shares from stock options and restricted stock awards, using the treasury stock method, are included in the diluted per share calculations unless the effect of inclusion would be antidilutive (Note 19).

Recently Adopted and New Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board, or FASB, issued Accounting Standards Update No. 2014-09, Revenue from Contracts with Customers (Topic 606), or ASU 606. ASU 606 provides guidance outlining a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers that supersedes most current revenue recognition guidance. This guidance requires us to recognize revenue when we transfer promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The original effective date of the guidance would have required us to adopt at the beginning of our first quarter of fiscal 2017; however, the FASB approved an optional one-year deferral of the effective date. Additionally, the new guidance requires enhanced disclosures, including revenue recognition policies to identify performance obligations to customers and significant judgments in measurement and recognition. The new guidance may be applied retrospectively to each prior period presented or retrospectively with the cumulative effect recognized as of the date of adoption. We are currently evaluating the overall impact this guidance will have on our consolidated financial statements, as well as the method of adoption. Based on our preliminary assessment, we expect that the adoption may accelerate the timing of recognition of original and supplemental listing fees related to our NYSE businesses, which are currently deferred over a pre-defined customer life of five or nine years. We are continuing our assessment, which may identify other impacts of the adoption of ASU 606.

In April 2015, the FASB issued Accounting Standards Update No. 2015-03, Simplifying the Presentation of Debt Issuance Costs, or ASU 2015-03. This standard amends the existing guidance to require that debt issuance costs be presented in the balance sheet as a deduction from the carrying amount of the related debt liability instead of as a deferred asset. The amortization of the debt issuance costs will continue to be expensed as interest expense over the term of the related debt. ASU 2015-03 will be effective on a retrospective basis for annual reporting periods beginning after December 15, 2015, but early adoption is permitted. We decided to early adopt ASU 2015-03 on a retrospective basis for the annual period ended December 31, 2015 and the adoption did not have a material effect on our consolidated financial statements. See Note 9 for disclosure and related impact to the consolidated financial statements under this new guidance.

In November 2015, the FASB issued Accounting Standards Update, Balance Sheet Classification of Deferred Taxes, or ASU 2015-17. ASU 2015-17 is part of the FASB's simplification initiative aimed at reducing complexity in accounting standards. This new standard requires that all deferred tax assets and liabilities, along with any related valuation allowance, be classified as non-current on the balance sheet. ASU 2015-17 was required to be effective on a

retrospective basis for annual reporting periods beginning after December 15, 2016, but early adoption is permitted. We decided to early adopt ASU 2015-17 on a retrospective basis for the annual period ended December 31, 2015 and the adoption did not have a material effect on our consolidated financial statements. See Note 11 for deferred taxes disclosure and related impact to the consolidated financial statements under this new guidance.

In January 2016, the FASB issued Accounting Standards Update No. 2016-01, Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities, or ASU 2016-01. ASU 2016-01 provides updated guidance for the recognition, measurement, presentation, and disclosure of certain financial assets and liabilities, including the requirement that equity investments (except those accounted for under the equity method of accounting or those that result in consolidation of the investee) are to be measured at fair value with changes in fair value recognized in net income. ASU 2016-01 is

effective for annual and interim reporting periods beginning after December 15, 2017. On the adoption of ASU 2016-01, changes in the fair value of our equity investment in Cetip will no longer be reflected in accumulated other comprehensive income but will be recognized in net income. As of December 31, 2016, our investment in Cetip included an accumulated unrealized gain of $108 million (Note 5). During the year ended December 31, 2016, the change in the fair value of the Cetip investment was an increase of $134 million. Once adopted, such fair value changes will be reported as other income (expense) under ASU 2016-01. We are currently evaluating this guidance to determine any additional potential impact on our consolidated financial statements upon adoption.

In February 2016, the FASB issued Accounting Standards Update No. 2016-02, Leases, or ASU 2016-02. ASU 2016-02 requires an entity to recognize both assets and liabilities arising from financing and operating leases, along with additional qualitative and quantitative disclosures. A lessee should recognize in its balance sheet a liability to make lease payments (the lease liability) and a right-of-use asset representing its right to use the underlying asset for the lease term. In transition, lessees and lessors are required to recognize and measure leases at the beginning of the earliest period presented using a modified retrospective approach. ASU 2016-02 is effective for annual and interim reporting periods beginning after December 15, 2018, with early adoption permitted. We are currently evaluating this guidance to determine the potential impact on our consolidated financial statements and whether we will adopt this guidance early.

In March 2016, the FASB issued Accounting Standards Update No. 2016-09, Stock Compensation (Topic 718) - Improvements to Employee Share-Based Payment Accounting, or ASU 2016-09. ASU 2016-09 provides updated guidance for the recognition, measurement, presentation, and disclosure of certain components of stock compensation. The guidance includes the recognition of all excess tax benefits/deficiencies in the statement of income and classification as operating activities within the statement of cash flows, as well as the option to account for forfeitures based on awards expected to vest or as they occur. ASU 2016-09 is effective for annual and interim reporting periods beginning after December 15, 2017, with early adoption permitted. We elected to early adopt ASU 2016-09 in the first quarter of 2016 on a prospective basis. As a result, for the year ended December 31, 2016, we recorded $15 million in excess tax benefits within our consolidated statement of income. No other terms of the adopted guidance resulted in any significant impact on our consolidated financial statements.

In November 2016, the FASB issued Accounting Standards Update No. 2016-18, Statement of Cash Flows: Restricted Cash, or ASU 2016-18, that will require entities to show the changes in the total of cash, cash equivalents, restricted cash and restricted cash equivalents in the statement of cash flows. As a result, entities will no longer present transfers between cash and cash equivalents and restricted cash and restricted cash equivalents in the statement of cash flows. When cash, cash equivalents, restricted cash and restricted cash equivalents are presented in more than one line item on the balance sheet, the new guidance requires a reconciliation of the totals in the statement of cash flows to the related captions in the balance sheet. This reconciliation can be presented either on the face of the statement of cash flows or in the notes to the financial statements. Entities will also have to disclose the nature of their restricted cash and restricted cash equivalent balances. ASU 2016-18 becomes effective for us in fiscal years beginning after December 15, 2017, and interim periods within those years, with early adoption permitted. Early adoption in an interim period is permitted, but any adjustments must be reflected as of the beginning of the fiscal year that includes that interim period. We will be required to apply the guidance retrospectively when adopted, and provide the relevant disclosures in the first interim and annual periods in which we adopt the guidance. We have not yet determined if we will adopt ASU 2016-18 early, but do expect to be impacted by the new presentation and disclosure requirements required by ASU 2016-18 due to our restricted and unrestricted cash balances.

3. Acquisitions

Securities Evaluations and Credit Market Analysis Acquisitions

On October 3, 2016, we acquired from S&P Global 100% of Standard & Poor’s Securities Evaluations, Inc., or SPSE, and 100% of Credit Market Analysis for $431 million in cash. The cash consideration was funded from borrowings under our commercial paper program. SPSE, which has been renamed Securities Evaluations, is a provider of fixed income evaluated pricing and Credit Market Analysis is a provider of independent data for the OTC markets, including credit derivatives and bonds. Securities Evaluations and Credit Market Analysis are part of the suite of pricing and analytics products and services that comprise ICE Data Services. In order to comply with an Order of the

Securities and Exchange Commission, services offered by Securities Evaluations will be managed and operated separately from the existing fixed income evaluated pricing services offered by ICE Data Services, including Interactive Data, until further notice. The acquisitions will enable us to offer customers new data and valuation services.

The total purchase price was allocated to Securities Evaluations and Credit Market Analysis' preliminary tangible and identifiable intangible assets and liabilities based on the estimated fair values of those assets as of October 3, 2016, as set forth below. The excess of the purchase price over the preliminary net tangible and identifiable intangible assets was recorded as goodwill and was recorded in our data and listing reporting unit. Goodwill represents potential revenue synergies related to new product development, expense synergies related to technology and opportunities to enter new markets. The preliminary purchase price allocation is as follows (in millions):

Goodwill	$307
Identifiable intangible assets	180
Other assets and liabilities, net	12
Deferred tax liabilities on identifiable intangible assets	(68)
Total purchase price	$431

In performing the preliminary purchase price allocation, we considered, among other factors, the intended future use of acquired assets, analysis of historical financial performance and estimates of future performance of the Securities Evaluations and Credit Market Analysis businesses. We have not yet obtained all of the information related to the fair value of the acquired assets and liabilities related to the acquisition to finalize the purchase price allocation. The primary areas of the preliminary purchase price allocation that are not yet finalized relate to the valuation of the identifiable intangible assets, income taxes (including uncertain tax positions) and certain other tangible assets and liabilities. The allocation of the purchase price will be finalized upon the completion of the analysis of the acquired assets and liabilities during the year ended December 31, 2017.

The following table sets forth the components of the preliminary intangible assets associated with the acquisitions as of December 31, 2016 (in millions, except years):

Preliminary Intangible Assets	Acquisition-Date Preliminary Fair Value	Accumulated Amortization	Net Book Value	Useful Life (Years)
Customer relationships	$ 129	$ (2)	$ 127	15 to 20
Data/databases	36	(1)	35	5 to 10
Developed technology	13	(1)	12	6 to 7
Non-compete agreements	2	—	2	3
Total	$ 180	$ (4)	$ 176	

An average 19-year useful life for customer relationships has been estimated based on the projected economic benefits associated with these assets. The average 19-year estimated useful life represents the approximate point in the projection period in which a majority of the asset’s cash flows are expected to be realized based on assumed attrition rates. Data/databases represents the underlying current and historical market data relating to daily pricing, intraday pricing and the evaluations and reference data. Developed technology represents completed software related to internal and external software platforms. The customer relationship intangible asset was valued using the multi period excess earnings method, the data/databases intangible assets were valued using the replacement cost approach, the developed technology intangible asset was valued using the relief from royalty income approach, and the non-compete agreements were valued using the with and without method within the income approach. The intangible assets will be amortized using the straight-line method over their estimated useful lives.

Interactive Data Acquisition

On December 14, 2015, we acquired 100% of Interactive Data in a stock and cash transaction. The total purchase price was $5.6 billion comprised of cash consideration of $4.1 billion and 32.3 million shares of our common stock. The cash consideration is gross of $301 million of cash held by Interactive Data on the date of the acquisition. Of the cash consideration, $2.6 billion was paid to retire Interactive Data's outstanding debt (Note 9). The fair value of the shares issued was $1.6 billion based on the average share price of our common stock of $48.90 per share on December 14, 2015. The cash consideration was funded from $2.5 billion of net proceeds received on November 24, 2015 in connection with the offering of new senior notes and $1.6 billion of borrowing under our commercial paper program. We valued the shares issued for the acquisition using a volume-weighted average share price as the acquisition closed during the trading day on December 14, 2015. The acquisition has been accounted for as a purchase business combination.

Interactive Data, now part of ICE Data Services, is a leading provider of financial market data, analytics and related trading solutions, serving the mutual fund, bank, asset management, hedge fund, securities and financial instrument processing and administration sectors. The acquisition builds on our global market data growth strategy by expanding

the markets served, adding technology platforms and increasing new data and valuation services. Our combined company will offer customers efficiencies in accessing data on an integrated platform while serving the growing demand for data, analysis, valuation and connectivity globally.

The total purchase price was allocated to Interactive Data’s tangible and identifiable intangible assets and liabilities based on the estimated fair values of those assets as of December 14, 2015, as set forth below. In performing the purchase price allocation, we considered, among other factors, the intended future use of acquired assets, analysis of historical financial performance and estimates of future performance of Interactive Data's business. The excess of the purchase price over the net tangible and identifiable intangible

assets was recorded as goodwill and was assigned to the data and listings reporting unit. Goodwill represents potential revenue synergies related to new product development, expense synergies related to technology and opportunities to enter new markets. The purchase price allocation is as follows (in millions):

Cash and cash equivalents	$301
Goodwill	3,242
Identifiable intangible assets	2,883
Other assets and liabilities, net	259
Deferred tax liabilities on identifiable intangible assets	(1,057)
Total purchase price	$5,628

The following table sets forth the components of the intangible assets associated with the acquisition as of December 31, 2016 (in millions, except years):

Intangible Assets	Acquisition-Date Fair Value	Foreign Currency Translation	Accumulated Amortization	Net Book Value	Useful Life (Years)
Customer relationships	$ 2,452	$ (67)	$ (104)	$2,281	20 to 25
Developed technology	168	(4)	(26)	138	5 to 8
In-process research and development	129	(4)	—	125	N/A
Data/databases	109	(3)	(28)	78	4
Trade names and trademarks	12	—	(11)	1	2
Market data provider relationships	11	—	(1)	10	20
Non-compete agreements	2	—	(2)	—	1
Total	$ 2,883	$ (78)	$ (172)	$2,633	

An average 25-year useful life for customer relationships has been estimated based on the projected economic benefits associated with these assets. The customer relationship intangible asset was valued using the multi period excess earnings method, the market data provider relationships and data/databases intangible assets were valued using the replacement cost approach, the trade names and trademarks and the developed technology (including in-process research and development) intangible assets were valued using the relief from royalty income approach, and the non-compete agreements were valued using the with and without method within the income approach. The intangible assets will be amortized using the straight-line method over their estimated useful lives.

Developed technology represents completed software related to internal and external software platforms. In-process research and development represents the value assigned to acquired research and development projects that, as of the acquisition date, had not established technological feasibility and had no alternative future use. The in-process research and development intangible assets are capitalized and accounted for as indefinite-lived intangible assets and are subject to impairment testing until completion or abandonment of the projects. Upon successful completion of each project and launch of the product, we will make a separate determination of useful life of the in-process research and development intangible assets and the related amortization will be recorded as an expense over the estimated useful life of the specific projects. For the year ended December 31, 2016, $17 million of the in-process research and development has been moved to developed technology with a useful life of seven years.

Data/databases represents the underlying current and historical market data relating to daily pricing, intraday pricing and the evaluations and reference data. Market data provider relationships represents the unique relationships that Interactive Data has with exchanges and brokers worldwide.

Trayport Acquisition

On December 11, 2015, we acquired 100% of Trayport in a stock transaction. The total purchase price was $620 million, comprised of 12.6 million shares of our common stock based on the average share price of our common stock of $49.05 per share on December 11, 2015. We valued the shares issued for the acquisition using a volume-weighted average share price as the acquisition closed during the trading day on December 11, 2015. The acquisition has been

accounted for as a purchase business combination. Trayport is a software company that licenses its technology to serve exchanges, OTC brokers and traders to facilitate electronic and hybrid trade execution primarily in the energy markets. The transaction is expected to enable us to provide new technology and software-related services to our energy customers.

The U.K. Competition and Markets Authority, or the CMA, undertook a review of our acquisition of Trayport under the merger control laws of the U.K. During the pendency of the review, we did not integrate Trayport into our existing business operations. On

October 17, 2016, the CMA issued its findings and ordered a divestment of Trayport to remedy what the CMA indicated it believed to be a substantial lessening of competition in the supply of trade execution services and trade clearing services to energy traders in the European Economic Area. In November 2016, we filed an appeal to challenge the CMA's decision. The outcome of the appeal is expected to be determined in 2017. If our appeal is successful, the matter will be sent back to the CMA for additional review. If our appeal is not successful, we will be forced to sell Trayport and there is no certainty of the price we could receive if a sale were required. The timing of a final decision is uncertain at this time.

The functional currency of Trayport is the pound sterling, as this is the currency in which Trayport operates. The $620 million in Trayport net assets were recorded on our December 11, 2015 opening balance sheet at a pound sterling/U.S. dollar exchange rate of 1.5218 (£407 million). Because our consolidated financial statements are presented in U.S. dollars, we must translate the Trayport net assets into U.S. dollars at exchange rates in effect at the end of each reporting period. Therefore, increases or decreases in the value of the U.S. dollar against the pound sterling will affect the value of the Trayport balance sheet, with gains or losses included in the cumulative translation adjustment account, a component of equity. As of the result of the decrease in the pounds sterling/U.S. dollar exchange rate to 1.2336 as of December 31, 2016, the portion of our equity attributable to the Trayport net assets in accumulated other comprehensive loss from foreign currency translation was $117 million as of December 31, 2016. If we are required to sell Trayport, we would include the accumulated translation adjustment when computing the gain or loss from the sale.

The total purchase price was allocated to Trayport's tangible and identifiable intangible assets and liabilities based on the estimated fair values of those assets as of December 11, 2015, as set forth below. In performing the purchase price allocation, we considered, among other factors, the intended future use of acquired assets, analysis of historical financial performance and estimates of future performance of Trayport's business. The excess of the purchase price over the net tangible and identifiable intangible assets was recorded as goodwill and was assigned to the data and listings reporting unit. Goodwill represents potential revenue synergies related to new product development and opportunities to enter new markets. The purchase price allocation is as follows (in millions):

Goodwill	387
Identifiable intangible assets	274
Other assets and liabilities, net	9
Deferred tax liabilities on identifiable intangible assets	(50)
Total purchase price	$620

The following table sets forth the components of the intangible assets associated with the acquisition as of December 31, 2016 (in millions, except years):

Intangible Assets	Acquisition-Date Fair Value	Foreign Currency Translation	Accumulated Amortization	Net Book Value	Useful Life (Years)
Customer relationships	$ 242	$ (45)	$ (11)	$ 186	20
Developed technology	14	(2)	(3)	9	3 to 5
Trade names and trademarks	18	(4)	—	14	Indefinite
Total	$ 274	$ (51)	$ (14)	$ 209	

The customer relationships intangible asset was valued using the multi period excess earnings method, and the developed technology and the trade names and trademarks intangible assets were valued using the relief from royalty income approach. The intangible assets will be amortized using the straight-line method over their estimated useful lives, except for the trade names and trademarks, which have indefinite lives. A 20-year useful life for customer relationships has been estimated based on the projected economic benefits associated with these assets. Developed technology represents completed software related to internal and external software platforms. Indefinite useful lives have been assigned for the Trayport trade names and trademarks based on their long history in the marketplace, their continued use following the acquisition, and their importance to the business and prominence in the industry.

Pro Forma Information

The financial information in the table below summarizes the combined results of operations of ICE, Interactive Data and Trayport, on a pro forma basis, as though the companies had been combined as of the beginning of the period presented. The pro forma financial information is presented for informational purposes only and is not indicative of the results of operations that would have been achieved if the acquisition had taken place at the beginning of the period presented. Such pro forma financial information is based on the historical financial statements of ICE, Interactive Data and Trayport. This pro forma financial information is based on estimates and assumptions that have been made solely for purposes of developing such pro forma information, including, without limitation, purchase accounting adjustments. The pro forma financial information does not reflect any synergies or operating cost reductions that have been and may be achieved from the combined operations. The pro forma financial information combines the

historical results for us and Interactive Data and Trayport for the years ended December 31, 2015 and 2014 in the following table (in millions, except per share amounts).

	Year Ended December 31,	
	2015	2014
Total revenues, less transaction-based expenses	$4,308	$4,097
Operating income	1,997	1,700
Income from continuing operations attributable to ICE	1,379	1,085
Income from discontinued operations, net of tax	—	11
Net income attributable to ICE	1,379	1,096
Basic earnings per common share:		
Continuing operations	$2.30	$1.76
Discontinued operations	—	0.02
Basic earnings per share	$2.30	$1.78
Diluted earnings per share		
Continuing operations	$2.29	$1.76
Discontinued operations	—	0.02
Diluted earnings per share	$2.29	$1.78

Other Acquisitions

On June 30, 2016, we acquired a majority equity position in MERS, owner of Mortgage Electronic Registrations Systems, Inc. MERS is a privately held, member-based organization that owns and manages the MERS® System and is made up of thousands of lenders, servicers, sub-servicers, investors and government institutions. In addition, we have entered into a software development agreement to rebuild the MERS® System to benefit the U.S. residential mortgage finance market. The MERS® System is a national electronic registry that tracks the changes in servicing rights and beneficial ownership interests in U.S.-based mortgage loans.

The terms of the MERS acquisition include a right for us to purchase all of the remaining equity interests of MERS after we satisfy our deliverables under the software development agreement. In addition, the MERS equity holders may exercise a put option to require us to purchase all of the remaining equity interests of MERS. Each of these terms is subject to certain price provisions. Because we do not have the ability to control MERS' operations, we have recorded the purchase as an equity method investment and our ratable share of net income (loss) in MERS in future periods will be recorded in our consolidated statements of income as equity earnings of our unconsolidated subsidiaries, below operating income in other income (loss).

On October 7, 2014, we acquired 100% of the outstanding common stock of SuperDerivatives, a leading provider of risk management analytics, financial market data and valuation services for $358 million in cash. The acquisition is intended to accelerate our multi-asset class clearing, risk management and market data strategy.

On February 3, 2014, we acquired 100% of the outstanding common stock of Singapore Mercantile Exchange (which has been renamed ICE Futures Singapore). The acquisition included Singapore Mercantile Exchange Clearing Corporation (which has been renamed ICE Clear Singapore), a wholly-owned subsidiary of ICE Futures Singapore, which was the clearing house for all of its trades. ICE Futures Singapore operates commodity futures markets in Singapore. ICE Futures Singapore and ICE Clear Singapore retain licenses to operate as an approved exchange and an approved clearing house, regulated by the Monetary Authority of Singapore. These licenses provided us with exchange and clearing licenses in Asia.

On December 2, 2014, we acquired 75% of the outstanding common stock of Holland Clearing House (which has been renamed ICE Clear Netherlands) to support our clearing strategy for financial products. ABN AMRO Clearing Bank N.V., or ABN AMRO, retained the remaining 25% minority interest in ICE Clear Netherlands. ICE Clear Netherlands is a continental European derivatives clearing house based in Amsterdam and is the primary clearing house for The Order Machine, or TOM, a multi-lateral trading facility for equity options. ICE Clear Netherlands is regulated and supervised in the Netherlands by the Authority for the Financial Markets and the Dutch Central Bank and is also European Market Infrastructure Regulation, or EMIR, authorized. ABN AMRO's 25% ownership has been recorded as "redeemable non-controlling interest" in the accompanying consolidated balance sheets.

4. Short-Term and Long-Term Restricted Cash and Investments

We own ICE Futures Europe, which operates as a U.K. Recognized Investment Exchange. As a U.K. Recognized Investment Exchange, ICE Futures Europe is required by the Financial Conduct Authority in the U.K. to restrict the use of the equivalent of six months of operating expenditures, subject to certain deductions, in cash or cash equivalents or investments at all times. As of December 31, 2016 and 2015, this amount for ICE Futures Europe was $77 million and $57 million, respectively. Such amounts are

reflected as short-term restricted cash and investments in the accompanying consolidated balance sheets. The increase in the regulatory capital restricted cash at ICE Futures Europe as of December 31, 2016 was primarily due to additional costs incurred due to the growth of our trading businesses and the consequential additional regulatory capital buffers required by the Financial Conduct Authority.

We own LIFFE Administration and Management, or Liffe, which also operated as a U.K. Recognized Investment Exchange. In November 2014, we completed the transition of Liffe’s contracts to ICE Futures Europe. We applied for a de-recognition order after the transition of Liffe's contracts to ICE Futures Europe but the regulatory capital for Liffe was required to be maintained until the de-recognition order was received. As of December 31, 2015, the regulatory capital for Liffe, which was held in pounds sterling, was $106 million (£72 million). The regulatory capital for Liffe was reflected as short-term restricted cash and investments in our consolidated balance sheet as of December 31, 2015. We received a de-recognition order for Liffe from the Financial Conduct Authority in August 2016, which resulted in the release of the Liffe regulatory capital, a decrease in our restricted cash and an increase in our cash and cash equivalents.

As a U.K. Recognized Clearing House, ICE Clear Europe was required by the Bank of England to restrict the use of the equivalent of six months of operating expenditures, subject to certain deductions, in cash or cash equivalents or investments at all times. When EMIR became effective in September 2016, the Bank of England restricted cash capital requirements for ICE Clear Europe were superseded by the EMIR capital requirements. Restricted capital under EMIR is calculated to reflect an estimate of the capital required to wind down or restructure the activities of the clearing house, cover operational, legal and business risks and to reserve capital to meet credit, counterparty and market risks not covered by the members margin and guaranty funds. As such, it is calculated taking into account the operating expenditures, revenues and credit exposures associated with the assets and investments. As of December 31, 2016 and 2015, the regulatory capital restricted cash for ICE Clear Europe was $352 million and $274 million, respectively, and were reflected as short-term restricted cash and investments in the accompanying consolidated balance sheets. Even though the EMIR capital requirements did not become effective until September 2016, we funded the regulatory capital restricted cash for ICE Clear Europe at $274 million as of December 31, 2015, which is what the capital requirements would have been for EMIR as of that date. The increase in the regulatory capital restricted cash at ICE Clear Europe as of December 31, 2016 was primarily due to additional costs incurred due to the growth of our clearing businesses and the consequential additional regulatory capital buffers required by the Bank of England. ICE Clear Europe, in addition to being regulated by the Bank of England, is also regulated by the Commodity Futures Trading Commission, or CFTC, as a U.S. Derivatives Clearing Organizations, or DCO. The regulatory capital available to ICE Clear Europe, as described above, exceeds the CFTC requirements.

Our CFTC regulated U.S. Designated Contract Market, or DCM, ICE Futures U.S., our CFTC regulated U.S. DCOs, ICE Clear U.S. and ICE Clear Credit, our CFTC regulated U.S. Swap Data Repository, or SDR, ICE Trade Vault, and our U.S. Swap Execution Facility, or SEF, ICE Swap Trade, are required to maintain financial resources with a value at least equal to the amount that would cover certain operating costs for a one-year period, including maintaining cash or a committed line of credit, subject to certain deductions, to satisfy at least six months of such operating costs at all times. As of December 31, 2016 and 2015, the financial resources reserved necessary to satisfy CFTC financial resource requirements for the DCM, U.S. DCOs, SDR and SEF were $192 million and $142 million, respectively. For our U.S. DCOs, ICE Clear U.S. and ICE Clear Credit, we have voluntarily chosen to reserve an additional $24 million as of December 31, 2016 (which is included in the $192 million above) consistent with the EMIR requirements to cover operational, legal and business risks and to reserve capital to meet credit, counterparty and market risks not covered by the member margin and guaranty funds.

Our clearing houses require that each clearing member make deposits to a fund known as the guaranty fund. The amounts in the guaranty fund will serve to secure the obligations of a clearing member to our clearing houses and may be used to cover losses in excess of the margin and clearing firm accounts sustained by our clearing houses in the event of a default of a clearing member. As of December 31, 2016 and 2015; ICE Clear Europe has contributed $100 million of its own cash as part of its futures and options guaranty fund; ICE Clear Europe has contributed $50 million as part of its CDS guaranty fund; ICE Clear Credit has contributed $50 million as part of its CDS guaranty fund; ICE Clear U.S. has contributed $50 million as part of its futures and options guaranty fund; and ICE Clear Canada, ICE Clear Netherlands and ICE Clear Singapore have each also contributed a combined $3 million in cash to their

respective guaranty funds. These cash contributions to the guaranty funds are reflected as long-term restricted cash in the accompanying consolidated balance sheets as of December 31, 2016 and 2015. See Note 12 for additional information on the guaranty funds and our contributions of cash to our clearing houses guaranty funds.

As of December 31, 2016 and 2015, there is $44 million and $39 million, respectively, of additional combined cash reflected as short-term restricted cash and investment in the accompanying consolidated balance sheets related to other regulated entities and exchanges, including ICE Benchmark Administration, ICE Clear Netherlands, ICE Clear Canada, ICE Trade Vault U.K., ICE Endex and ICE Clear Singapore. The increase in the regulatory capital restricted cash as of December 31, 2016 was primarily due to additional costs incurred due to the growth of ICE Benchmark Administration's business and the consequential additional regulatory capital buffers required by the Financial Conduct Authority.

As of December 31, 2016 and 2015, there is $24 million and $50 million, respectively, of additional restricted cash, primarily related to escrow for recent acquisitions, including the SuperDerivatives acquisition that is reflected as short-term and long-term

restricted cash and investments in the accompanying consolidated balance sheets. The decrease during 2016 was primarily due to the release of a portion of the cash held as escrow for the SuperDerivatives acquisition during the year ended December 31, 2016.

5. Short-Term and Long-Term Investments

As of December 31, 2016, our short-term and long-term investments primarily consist of available-for-sale securities as follows (in millions):

	Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Cetip equity securities	$324	$ 108	$ —	$ 432
Mutual funds	23	—	—	23
Total available-for-sale securities	$347	$ 108	$ —	$ 455

As of December 31, 2015, our short-term and long-term investments primarily consist of available-for-sale securities as follows (in millions):

	Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Cetip equity securities	$324	$ —	$ (25)	$ 299
Mutual funds	29	—	—	29
Total available-for-sale securities	$353	$ —	$ (25)	$ 328

We own 31.6 million shares, or 12%, of the common stock of Cetip. We account for our investment in Cetip as an available-for-sale investment and we classify it as a long-term investment in the accompanying consolidated balance sheets. The balance as of December 31, 2016 includes an unrealized gain of $108 million. Changes in the fair value of available-for-sale securities are reflected in accumulated other comprehensive income, and include the effects of both stock price and foreign currency translation fluctuations. The unrealized holding gains and losses are excluded from earnings and reported in other comprehensive income until realized. Realized gains and losses, and declines in value deemed to be other-than-temporary, are recognized in earnings. We recognized $19 million, $16 million, and $23 million in dividend income for the years ended December 31, 2016, 2015 and 2014, respectively, primarily related to our investment in Cetip, S.A., or Cetip, as other income.

In April 2016, Cetip and BM&FBOVESPA in Brazil entered into a merger agreement. Consummation of the merger remains subject to approval by the regulatory bodies of the Central Bank of Brazil, the Securities and Exchange Commission of Brazil and Brazil's Council for Economic Defense. The proposed merger values Cetip at R$47.61 per share based upon the December 31, 2016 BM&FBOVESPA closing stock price. Under the terms of the merger agreement, Cetip shareholders will receive a combination of cash (75%) and BM&FBOVESPA stock (25%). Given that a portion of the purchase price consists of BM&FBOVESPA stock, the merger agreement includes an adjustment mechanism that provides for a stock valuation based on the BM&FBOVESPA average trading price during the 30 trading days preceding the last required regulatory approval, with a minimum stock valuation of R$42.00 per share and a maximum stock valuation of R$48.51 per share.

Equity and fixed income mutual funds are held for the purpose of providing future payments for the supplemental executive savings plan and the supplemental executive retirement plan (Note 14) are classified as available-for-sale securities.

6. Property and Equipment

Property and equipment consisted of the following as of December 31, 2016 and 2015 (in millions, except years):

	As of December 31,		Depreciation Period
	2016	2015	(Years)
Software and internally developed software	$600	$474	1 to 8
Computer and network equipment	483	410	1 to 5
Land	136	138	N/A
Buildings and building improvements	259	188	2.5 to 40
Leasehold improvements	216	216	1 to 17
Equipment, aircraft and office furniture	242	197	1 to 15
	1,936	1,623	
Less accumulated depreciation and amortization	(807)	(586)	
Property and equipment, net	$1,129	$1,037	

For the years ended December 31, 2016, 2015 and 2014, amortization of software and internally developed software was $113 million, $89 million and $81 million, respectively, and depreciation of all other property and equipment was $142 million, $124 million and $100 million, respectively. The unamortized software and internally developed software balances were $207 million and $171 million as of December 31, 2016 and 2015, respectively. The increase in the property and equipment as of December 31, 2016 is primarily due to building improvements at the corporate headquarters in Atlanta and New York during the year ended December 31, 2016.

7. Goodwill and Other Intangible Assets

The following is a summary of the activity in the goodwill balance for the years ended December 31, 2016 and 2015 (in millions):

Goodwill balance at January 1, 2015	$8,535
Acquisitions	3,589
Foreign currency translation	(39)
Other activity, net	(6)
Goodwill balance at December 31, 2015	12,079
Acquisitions	307
Foreign currency translation	(135)
Other activity, net	40
Goodwill balance at December 31, 2016	$12,291

The following is a summary of the activity in the other intangible assets balance for the years ended December 31, 2016 and 2015 (in millions):

Other intangible assets balance at January 1, 2015	$7,780
Acquisitions	3,163
Foreign currency translation	(25)
Amortization of other intangible assets	(160)
Other intangible assets balance at December 31, 2015	10,758
Acquisitions	180
Foreign currency translation	(155)
Creditex customer relationship intangible asset impairment	(33)
Amortization of other intangible assets	(323)
Other activity, net	(7)
Other intangible assets balance at December 31, 2016	$10,420

We completed the Securities Evaluations and Credit Market Analysis acquisitions during the year ended December 31, 2016; completed the Interactive Data and Trayport acquisitions during the year ended December 31, 2015; and completed the SuperDerivatives, ICE Futures Singapore, ICE Clear Netherlands and True Office acquisitions and purchased certain patent rights during the year ended December 31, 2014 (Note 3). The changes in

other activity, net in the tables above primarily relate to adjustments to the fair value of the net tangible and identifiable intangible assets and liabilities relating to the acquisitions, with a corresponding adjustment to goodwill.

The foreign currency translation adjustments in the tables above resulted from a portion of our goodwill and other intangible assets being held at our U.K., Continental European and Canadian subsidiaries, some of whose functional currencies are not the U.S. dollar. The foreign currency translation decrease for the year ended December 31, 2016 is primarily due to certain of our goodwill and intangible assets being recorded in pounds sterling, which decreased in value due to the weakening pound sterling exchange rate following the U.K. referendum vote in June 2016 to leave the European Union.

In August 2016, we sold certain of Creditex's U.S. voice brokerage operations to Tullett Prebon. During the third quarter of 2016, we discontinued Creditex's U.K. voice brokerage operations. We continue to operate Creditex's electronically traded markets and systems, post-trade connectivity platforms and intellectual property. We continued to monitor potential triggering events in our CDS trade execution business during 2016, including the impacts of divesting the brokerage business, changes in the business and regulatory climate in which the remaining business operates, the volatility in the capital markets, our recent operating performance and our current financial projections. Based on an analysis of these factors, it was determined that the carrying value of the Creditex customer relationship intangible asset was not fully recoverable and an impairment of the asset was recorded in September 2016 for $33 million based on a discounted cash flow calculation. The impairment was recorded as amortization expense within our Trading and Clearing segment in the accompanying consolidated statement of income for the year ended December 31, 2016. As of December 31, 2016, the remaining Creditex customer relationship intangible asset is $14 million and will continue to be amortized over the remaining useful life through August 2020.

Other intangible assets and the related accumulated amortization consisted of the following as of December 31, 2016 and 2015 (in millions, except years):

	As of December 31,		Useful Life (Years)
	2016	2015	
Customer relationships	$ 4,063	$ 3,952	3 to 25
Technology	438	391	2.5 to 11
Trading products with finite lives	237	237	20
Russell licensing rights	184	184	10
Data/databases	145	76	4 to 10
Market data provider relationships	11	11	20
Non-compete agreements	38	37	1 to 5
Other	31	53	1 to 5
	5,147	4,941	
Less accumulated amortization	(1,220)	(703)	
Total finite-lived intangible assets, net	3,927	4,238	
Exchange registrations, licenses and contracts with indefinite lives	6,083	6,086	
Trade names and trademarks with indefinite lives	294	297	
In-process research and development	108	129	
Other	8	8	
Total indefinite-lived intangible assets	6,493	6,520	
Total other intangible assets, net	$ 10,420	$ 10,758	

For the years ended December 31, 2016, 2015 and 2014, amortization of other intangible assets was $323 million, $160 million and $151 million, respectively. Collectively, the remaining weighted average useful lives of the finite-lived intangible assets is 19.8 years as of December 31, 2016. We expect future amortization expense from the finite-lived intangible assets as of December 31, 2016 to be as follows (in millions):

2017	$270
2018	257
2019	250

2020	212
2021	199
Thereafter	2,739
	$3,927

8. Deferred Revenue

Deferred revenue represents cash received that is yet to be recognized as revenue. Total deferred revenue was $237 million as of December 31, 2016, including $114 million in current deferred revenue and $123 million in non-current deferred revenue. Total deferred revenue was $190 million as of December 31, 2015, including $98 million in current deferred revenue and $92 million in non-current deferred revenue. See Note 2 for a description of our annual listing, original listing, other listings and data services revenues and the revenue recognition policy for each of these revenue streams. The changes in our deferred revenue during the years ended December 31, 2016 and 2015 are as follows (in millions):

	Annual Listing Revenue	Original Listing Revenues	Other Listing Revenues	Data Services and Other Revenues	Total
Deferred revenue balance at January 1, 2015	$ —	$ 35	$ 46	$ 55	$136
Additions	358	20	29	181	588
Amortization	(358)	(5)	(16)	(155)	(534)
Deferred revenue balance at December 31, 2015	—	50	59	81	190
Additions	363	25	71	467	926
Amortization	(363)	(9)	(47)	(460)	(879)
Deferred revenue balance at December 31, 2016	$ —	$ 66	$ 83	$ 88	$237

As of December 31, 2016, we estimate that our deferred revenue will be recognized in the following years (in millions):

	Original Listing Revenues	Other Listing Revenues	Data Services and Other Revenues	Total
2017	$ 13	$ 19	$ 82	$114
2018	9	21	2	32
2019	9	19	1	29
2020	9	14	1	24
2021	8	8	—	16
Thereafter	18	2	2	22
Total	$ 66	$ 83	$ 88	$237

9. Debt

Our total debt, including short-term and long-term debt, consisted of the following as of December 31, 2016 and 2015 (in millions):

	As of December 31,	
	2016	2015
Debt:		
Commercial Paper	$1,642	$2,591
NYSE USD Notes (2.00% senior unsecured notes due October 5, 2017)	851	—
Short-term debt	2,493	2,591
NYSE USD Notes (2.00% senior unsecured notes due October 5, 2017)	—	852
2018 Senior Notes (2.50% senior unsecured notes due October 15, 2018)	598	597
2020 Senior Notes (2.75% senior unsecured notes due December 1, 2020)	1,242	1,239

2023 Senior Notes (4.00% senior unsecured notes due October 15, 2023)	790	789
2025 Senior Notes (3.75% senior unsecured notes due December 1, 2025)	1,241	1,240
Long-term debt	3,871	4,717
Total debt	$6,364	$7,308

Credit Facility

We have entered into a $3.0 billion senior unsecured revolving credit facility, or the Credit Facility, with a maturity date of November 13, 2020, pursuant to a credit agreement with Wells Fargo Bank, National Association, or Wells Fargo, as administrative

agent, issuing lender and swing line lender, Bank of America, N.A., as syndication agent, and the lenders party thereto. The Credit Facility includes an option for us to propose an increase in the aggregate amount available for borrowing by up to $1.0 billion, subject to the consent of the lenders funding the increase and certain other conditions. On November 13, 2015, we utilized this option to increase the amount of the Credit Facility to $3.4 billion. The commitments under the Credit Facility will automatically reduce to $3.17 billion on April 3, 2019. No amounts were outstanding under the Credit Facility as of December 31, 2016.

Amounts borrowed under the Credit Facility may be prepaid at any time without premium or penalty. The Credit Facility provides for a $3.4 billion multi-currency revolving facility, with sub-limits for non-dollar borrowings and letters of credit and with a swing-line facility available on a same-day basis. Of the $3.4 billion that is currently available for borrowing under the Credit Facility, $1.6 billion is required to back-stop the amount outstanding under our Commercial Paper Program as of December 31, 2016. The amount required to back-stop the amounts outstanding under the Commercial Paper Program will fluctuate as we increase or decrease our commercial paper borrowings. The remaining $1.8 billion available under the Credit Facility as of December 31, 2016 is available to us to use for working capital and general corporate purposes including, but not limited to, acting as a back-stop to future increases in the amounts outstanding under the Commercial Paper Program.

Borrowings under the Credit Facility will bear interest on the principal amount outstanding at either (a) LIBOR plus an applicable margin rate or (b) a “base rate” plus an applicable margin rate; provided, however, that all loans denominated in a foreign currency will bear interest at LIBOR plus an applicable margin rate. The “base rate” equals the higher of (i) Wells Fargo’s prime rate, (ii) the federal funds rate plus 0.50%, or (iii) the one month LIBOR rate plus 1.00%. The applicable margin rate is based upon our public long term debt ratings and ranges from 0.875% to 1.50% on LIBOR borrowings and from 0.00% to 0.50% on base rate borrowings.

The Credit Facility includes an unutilized revolving credit commitment fee that is equal to the unused maximum revolver amount, multiplied by an applicable commitment fee rate and is payable in arrears on a quarterly basis. The applicable commitment fee rate ranges from 0.08% to 0.20% and is determined based on our long term debt rating. As of December 31, 2016, the applicable commitment fee rate was 0.125% based on our current long term debt ratings.

The Credit Facility contains customary representations and warranties, covenants and events of default, including a leverage ratio, as well as limitations on liens on our assets, indebtedness of non-obligor subsidiaries, the sale of all or substantially all of our assets, and other matters.

Commercial Paper Program

We have entered into a U.S. dollar commercial paper program, or the Commercial Paper Program. Our Commercial Paper Program is currently backed by the borrowing capacity available under the Credit Facility, equal to the amount of the commercial paper that is issued and outstanding at any given point in time. The effective interest rate of commercial paper issuances does not materially differ from short term interest rates (such as USD LIBOR). The fluctuation of these rates due to market conditions may impact our interest expense.

We used net proceeds from notes issued under the Commercial Paper Program during the year ended December 31, 2016 for the $431 million cash purchase price of the Securities Evaluations and Credit Market Analysis acquisitions and for general corporate purposes. We used net proceeds from notes issued under the Commercial Paper Program during the year ended December 31, 2015 to finance part of the cash portion of the purchase price of the Interactive Data acquisition and to pay related fees and expenses, to repurchase our common stock, and for general corporate purposes. We used net proceeds from notes issued under the Commercial Paper Program during the year ended December 31, 2014 to repay amounts outstanding under our prior credit facilities that were terminated in connection with us entering into the Credit Facility, to fund certain of our acquisitions, and to repurchase our common stock. We repaid a portion of the amounts outstanding under the Commercial Paper Program during the years ended December 31, 2016, 2015 and 2014 with cash flows from operations and a portion of our unrestricted cash balances. We also repaid a portion of the amounts outstanding under the Commercial Paper Program during the year ended December 31, 2014 using a combination of the cash proceeds received from the IPO and sale of Euronext, and the sale of NYSE Technologies.

Commercial paper notes of $1.6 billion with original maturities ranging from 3 to 68 days were outstanding as of December 31, 2016 under the Commercial Paper Program. As of December 31, 2016, the weighted average interest rate on the $1.6 billion outstanding under the Commercial Paper Program was 0.74% per annum, with a weighted

average maturity of 18 days. Commercial paper notes with original maturities ranging from 2 to 89 days were outstanding as of December 31, 2015 under the Commercial Paper Program. As of December 31, 2015, the weighted average interest rate on the amounts outstanding under the Commercial Paper Program was 0.60% per annum, with a weighted average maturity of 19 days.

364 Day Facility

On November 13, 2015, we entered into a $500 million 364 day senior unsecured revolving credit facility, or the 364 Day Facility, pursuant to a credit agreement with Wells Fargo, as administrative agent, Bank of America, N.A., as syndication agent, and

the lenders signatory thereto. The amounts available under the 364 Day Facility were available for use by us for working capital and general corporate purposes but specifically excluding any use to back-stop amounts issued under the Commercial Paper Program. The 364 Day Credit Facility expired on November 13, 2016.

Senior Notes

In November 2015, we issued $2.5 billion in aggregate senior notes, including $1.25 billion principal amount of 2.75% senior unsecured fixed rate notes due November 2020, or the 2020 Senior Notes, and $1.25 billion principal amount of 3.75% senior unsecured fixed rate notes due November 2025, or the 2025 Senior Notes. We used the net proceeds from the 2020 Senior Notes and 2025 Senior Notes offering, together with $1.6 billion of borrowings under our Commercial Paper Program, to finance the $4.1 billion cash portion of the purchase price of the acquisition of Interactive Data. The 2020 Senior Notes and 2025 Senior Notes contain affirmative and negative covenants, including, but not limited to, certain redemption rights, limitations on liens and indebtedness, limitations on certain mergers, sales, dispositions and lease-back transactions.

In October 2013, we issued $600 million principal amount of 2.50% senior unsecured fixed rate notes due October 2018, or the 2018 Senior Notes, and $800 million principal amount of 4.00% senior unsecured fixed rate notes due October 2023, or the 2023 Senior Notes. We used the net proceeds from the 2018 Senior Notes and 2023 Senior Notes offering to finance, together with cash on hand, the $2.7 billion cash portion of the purchase price of the acquisition of NYSE. The 2018 Senior Notes and 2023 Senior Notes contain affirmative and negative covenants, including, but not limited to, certain redemption rights, limitations on liens and indebtedness, limitations on certain mergers, sales, dispositions and lease-back transactions.

NYSE Notes

In connection with our acquisition of NYSE, one of our subsidiaries assumed the outstanding NYSE debt instruments, which included $850 million of 2.0% senior unsecured fixed rate notes due in October 2017, or the NYSE USD Notes, and €920 million ($1.1 billion) of 5.375% senior unsecured fixed rate notes due in June 2015, or the NYSE EUR Notes, and together with the NYSE USD Notes, the NYSE Notes.

On June 30, 2015, we repaid the NYSE EUR Notes using cash that had been set aside in July 2014 from the proceeds of the Euronext IPO. The cash, in the amount of €969 million ($1.2 billion) had been placed in term deposits that matured on June 25, 2015. The cash was sufficient to settle the principal maturity of €920 million ($1.1 billion) and the final interest coupon of €49 million ($60 million).

During the years ended December 31, 2015 and 2014, the amortization of the increase in the fair value of the NYSE Notes that was recorded in connection with the NYSE acquisition purchase accounting was $23 million and $55 million, respectively. No further amortization expense was recorded after the repayment of the NYSE EUR Notes in June 2015.

The terms of the bonds do not contain any financial covenants. The bonds may be redeemed by us or the bond holders under certain customary circumstances, including a change in control accompanied by a downgrade of the bonds below an investment grade rating. The terms of the bonds also provide for customary events of default and a negative pledge covenant.

Debt Repayment Schedule

As of December 31, 2016, the outstanding debt repayment schedule is as follows (in millions):

2017	$2,494
2018	600
2019	—
2020	1,250
2021	—
Thereafter	2,050
Principal amounts repayable	6,394
Debt issuance costs	(23)
Unamortized balance of fair value adjustments and discounts on bonds, net	(7)
Total debt outstanding	$6,364

Debt Issuance Cost Presentation

In April 2015, the FASB issued ASU 2015-03, which amends the existing guidance to require that debt issuance costs be presented in the balance sheet as a deduction from the carrying amount of the related debt liability instead of as a deferred asset (Note 2). We decided to early adopt ASU 2015-03 on a retrospective basis for the annual period ended December 31, 2015. As of

December 31, 2016 and 2015, there are $23 million and $27 million, respectively, in debt issuance costs shown above as a deduction of the carrying value of the related debt liability or facilities. The $23 million in debt issuance costs as of December 31, 2016 will be amortized over a weighted average life of 6.3 years as interest expense.

Interactive Data Debt Retirement

At the date of the acquisition, Interactive Data had $2.6 billion of outstanding debt consisting of $1.9 billion under a credit facility, or the Interactive Data Credit Facility, and $700 million of senior notes, or the Interactive Data Senior Notes, all of which were repaid from the cash portion of the purchase price. In connection with the closing of the acquisition on December 14, 2015, the Interactive Data Credit Facility was repaid and terminated.

On December 7, 2015, Interactive Data issued a notice of redemption with respect to the Interactive Data Senior Notes. On December 14, 2015, an amount sufficient to fully redeem the Interactive Data Senior Notes, plus accrued interest, was deposited with the Interactive Data Senior Notes trustee in trust, solely for the benefit of the holders of the Interactive Data Senior Notes. As a result, the indentures governing the Interactive Data Senior Notes were satisfied and discharged. Neither the cash deposited into the trust or the Interactive Data Senior Notes have been reflected on our consolidated balance sheet as of the acquisition date or December 31, 2015. The trustee paid the full amount held in the trust to holders of the Interactive Data Senior Notes at the redemption date on January 6, 2016.

10. Equity

We currently sponsor employee and director stock option and restricted stock plans. Employee and director stock-based compensation expenses recognized for both stock options and restricted stock in the accompanying consolidated statements of income was $123 million, $111 million and $82 million for the years ended December 31, 2016, 2015 and 2014, respectively. The amount expensed for the years ended December 31, 2016, 2015 and 2014 is net of $13 million, $11 million and $7 million, respectively, of stock-based compensation that was capitalized as software development costs.

In March 2016, we early adopted ASU 2016-09, Stock Compensation (Topic 718) - Improvements to Employee Share-Based Payment Accounting, on a prospective basis (Note 2). Under the requirements of ASU 2016-09, we recognized $15 million in excess tax benefits for tax deductions in excess of cumulative compensation expenses for financial reporting purposes for the year ended December 31, 2016 through our consolidated statement of income. In addition, according to the guidance of ASU 2016-09, we made no adjustments for any excess tax benefits previously recorded in equity. For the years ended December 31, 2015 and 2014, we recognized excess tax benefits of $19 million and $26 million, respectively, as an increase to the additional paid-in capital balance.

As of December 31, 2016, we had 14.3 million shares in total under various equity plans that are available for future issuance as stock option and restricted stock awards.

Stock Split

As discussed in Note 2, on November 3, 2016, a 5-for-1 split of our common stock was effected in the form of a four share stock dividend per share of common stock to shareholders of record as of the close of market on October 27, 2016. All share and earnings per share information has been retroactively adjusted to reflect the stock split.

Stock Option Plans

Stock options are granted at the discretion of the compensation committee of the board of directors. All stock options are granted at an exercise price equal to the fair value of the common stock on the date of grant. The grant date fair value is based on the closing stock price on the date of grant as well as certain other assumptions. The fair value of the stock options on the date of grant is recognized as expense ratably over the vesting period, net of estimated forfeitures. We may grant, under provisions of the plans, both incentive stock options and nonqualified stock options. The options generally vest over three years, but can vest at different intervals based on the compensation committee’s determination and the terms of the equity plans. Generally, options may be exercised up to ten years after the date of grant, but expire either 14 or 60 days after termination of employment unless an employee's employment agreement specifies otherwise. The shares of common stock issued under our stock option plans are made available from authorized and unissued common stock or treasury shares. The following is a summary of stock options for the years ended December 31, 2016, 2015 and 2014:

	Number of Options	Weighted Average Exercise Price per Option
Outstanding at January 1, 2014	4,361,735	$ 19.58
Granted	771,010	41.37
Exercised	(1,318,410)	10.37
Outstanding at December 31, 2014	3,814,335	27.21
Granted	882,335	41.59
Exercised	(823,915)	20.40
Outstanding at December 31, 2015	3,872,755	31.93
Granted	751,615	50.01
Exercised	(745,665)	28.73
Outstanding at December 31, 2016	3,878,705	36.05

Details of stock options outstanding as of December 31, 2016 are as follows:

	Number of Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value (In millions)
Vested or expected to vest	3,878,705	$ 36.05	6.6	$ 79
Exercisable	2,787,525	$ 31.61	5.8	$ 69

The total intrinsic value of stock options exercised during the years ended December 31, 2016, 2015 and 2014 was $18 million, $22 million and $39 million, respectively. As of December 31, 2016, there was $8 million in total unrecognized compensation costs related to stock options. These costs are expected to be recognized over a weighted average period of 1.7 years as the stock options vest.

Of the options outstanding at December 31, 2016, 2,787,525 were exercisable at a weighted-average exercise price of $31.61. Of the options outstanding at December 31, 2015, 2,699,865 were exercisable at a weighted-average exercise price of $27.87. Of the options outstanding at December 31, 2014, 2,809,220 were exercisable at a weighted-average exercise price of $23.33.

We use the Black-Scholes option pricing model for purposes of valuing stock option awards. During the years ended December 31, 2016, 2015 and 2014, we used the assumptions in the table below to compute the value of all options for shares of common stock granted to employees:

	Year Ended December 31,		
Assumptions	2016	2015	2014
Risk-free interest rate	1.51 %	1.08 %	1.23 %
Expected life in years	5.0	5.0	5.0
Expected volatility	24 %	24 %	27 %
Expected dividend yield	1.36 %	1.25 %	1.26 %
Estimated fair value of options granted per share	$9.88	$8.19	$9.05

The risk-free interest rate is based on the zero-coupon U.S. Treasury yield curve in effect at the time of grant. The expected life computation is derived from historical exercise patterns and anticipated future patterns. Expected volatilities are based on historical volatility of our stock.

Restricted Stock Plans

Restricted stock units are granted at the discretion of the compensation committee of the board of directors. We granted 3,251,017, 3,457,590 and 2,801,900 time-based and performance-based restricted stock units during the years ended December 31, 2016, 2015 and 2014, respectively, including 2,325,985, 1,871,785 and 1,929,485 time-based restricted stock units during the years ended December 31, 2016, 2015 and 2014, respectively. The grant date fair value of each award is based on the closing stock price at the date of grant. The fair value of the time-based restricted stock units on the date of grant is recognized as expense ratably over the vesting period, which is typically three years, net of forfeitures. Granted but unvested shares are generally forfeited upon termination of employment. When

restricted stock is forfeited, compensation costs previously recognized for unvested shares are reversed. Until the shares vest and are issued, the participants have no voting or dividend rights and the shares may not be sold, assigned, transferred, pledged or otherwise encumbered. Unvested restricted stock earns dividend equivalents which are paid in cash on the vesting date.

We recognize compensation costs, net of forfeitures, using an accelerated attribution method over the vesting period for awards with performance conditions. Compensation costs for such awards are recognized only if it is probable that the condition will be satisfied. If we initially determine that it is not probable that the performance condition will be satisfied and later determine that it is probable that the performance condition will be satisfied, or vice versa, the effect of the change in estimate is accounted for in the period of change by recording a cumulative catch-up adjustment to retroactively apply the new estimate. We recognize the remaining compensation costs over the remaining vesting period. Our compensation committee, pursuant to the terms of the equity plans and the authority delegated to it by our board of directors, can make equitable adjustments to the performance condition in recognition of unusual or non-recurring events.

In January 2017, we reserved a maximum of 1,534,218 restricted shares for potential issuance as performance-based restricted shares to certain of our employees. The number of shares that will ultimately be granted under this award will be based on our actual financial performance as compared to financial performance targets set by our board of directors and compensation committee for the year ending December 31, 2017, as well as our total 2017 shareholder return as compared to that of the S&P 500 Index.

The grant date of this award was January 18, 2017, which was the date when we and our employees reached a mutual understanding of award terms, and the service inception date as that is the date when the requisite service period began. The maximum compensation expense to be recognized under these performance-based restricted shares is $85 million if the maximum financial performance target is met and all 1,534,218 shares vest. The compensation expense to be recognized under these performance-based restricted shares will be $42 million if the target financial performance is met, which would result in 767,109 shares vesting. We will recognize expense on an accelerated basis over the three-year vesting period based on our quarterly assessment of the probable 2017 actual financial performance as compared to the 2017 financial performance targets. If the market condition is not achieved, the grant date fair value of the award will not be affected since the grant date fair value gave consideration to the probability of market condition achievement.

In January 2016, we reserved a maximum of 1,654,620 restricted shares for potential issuance as performance-based restricted shares for certain of our employees. These restricted shares were subject to a market condition that could have reduced the number of shares that were granted if our 2016 total shareholder return fell below that of the 2016 return of the S&P 500 Index and if we achieved above target financial performance level. Our total shareholder return for the year ended December 31, 2016 was higher than the 2016 return of the S&P 500 Index. Therefore, no share reduction was required. Based on our actual 2016 financial performance as compared to the 2016 financial performance level thresholds, 925,032 restricted shares were granted, which resulted in $45 million in compensation expenses that will be expensed over the three-year accelerated vesting period, including $26 million that was expensed during the year ended December 31, 2016.

The grant date fair values of the awards with a market condition were estimated based on our stock price on the grant date, the valuation of historical awards with market conditions, the relatively low likelihood that the market condition will affect the number of shares granted (as the market condition only affects shares granted in excess of certain financial performance targets), and our expectation of achieving the financial performance targets. The grant date fair value of the awards, when considering the impact of the market condition on fair value, was determined to not be materially different from our stock price on the respective grant dates.

Restricted shares are used as an incentive to attract and retain qualified employees and to increase shareholder returns with actual performance linked to both short and long-term shareholder return. Our equity plans include a change in control provision that may accelerate vesting on both the time-based and performance-based restricted shares if the awards are not assumed by an acquirer in the case of a change in control. The following is a summary of the nonvested restricted shares under all plans discussed above for the years ended December 31, 2016, 2015 and 2014:

	Number of Restricted Stock Shares	Weighted Average Grant-Date Fair Value per Share
Nonvested at January 1, 2014	6,172,760	$ 29.40
Granted	2,801,900	40.98
Vested	(3,276,460)	29.23
Forfeited	(343,225)	32.57
Nonvested at December 31, 2014	5,354,975	35.36
Granted	3,457,590	42.09
Vested	(2,182,805)	31.98
Forfeited	(358,585)	33.90
Nonvested at December 31, 2015	6,271,175	39.99
Granted	3,251,017	50.06
Vested	(2,640,640)	38.05
Forfeited	(443,210)	45.51
Nonvested at December 31, 2016	6,438,342	45.33

Restricted stock shares granted in the table above include both time-based and performance-based grants. Performance-based shares have been presented to reflect the actual shares to be issued based on the achievement of past performance targets. Non-vested performance-based restricted shares granted are presented in the table above at the maximum number of restricted shares that would vest if the maximum performance targets are met. As of December 31, 2016, there were $119 million in total unrecognized compensation costs related to the time-based restricted stock and the performance-based restricted stock. These costs are expected to be recognized over a weighted-average period of 1.2 years as the restricted stock vests. These unrecognized compensation costs assume that a target performance level will be met on the performance-based restricted shares granted in January 2017. During the years ended December 31, 2016, 2015 and 2014, the total fair value of restricted stock vested under all restricted stock plans was $130 million, $96 million and $138 million, respectively.

Treasury Stock

During the years ended December 31, 2016, 2015 and 2014, we received 1,074,162 shares, 979,295 shares and 1,203,380 shares, respectively, of common stock from certain of our employees related to tax withholdings made by us on our employee's behalf for restricted stock and stock option exercises. We recorded the receipt of the shares as treasury stock. Treasury stock activity is presented in the accompanying consolidated statements of changes in equity, accumulated other comprehensive income (loss) and redeemable non-controlling interest.

In connection with the record date for the 5-for-1 stock split on October 27, 2016, all shares of common stock held by us as treasury shares were canceled and extinguished. Therefore, as of the close of market on October 27, 2016, all 35,273,515 outstanding treasury stock shares were retired. In connection with the retirement, of the $1.5 billion value assigned to the treasury stock shares, $1.1 billion was allocated to additional paid-in capital and $370 million was allocated to retained earnings. The amount allocated to additional paid-in capital was determined based on the paid-in capital per share generated from the historical issuances of these treasury shares.

Stock Repurchase Program

During the years ended December 31, 2016, 2015 and 2014, we repurchased 902,920 shares, 14,343,845 shares and 16,157,420 shares, respectively, of our outstanding common stock at a cost of $50 million, $660 million and $645 million, respectively. These repurchases were completed under stock repurchase plans authorized by our board of directors. In connection with our acquisition of Interactive Data during the fourth quarter of 2015, we suspended our stock repurchase plan and it expired shortly thereafter. The timing and extent of future repurchases that are not made pursuant to a Rule 10b5-1 trading plan will be at our discretion and will depend upon many conditions. Our management and board of directors periodically review whether or not to be active in repurchasing our stock. In making a determination regarding any stock repurchases, we consider multiple factors. The factors may include: overall stock market conditions, our common stock price movements, the remaining amount authorized for repurchases by our board of directors, the potential impact of a stock repurchase program on our corporate debt ratings, our expected free cash flow and working capital needs, our current and future planned strategic growth

initiatives, and other potential uses of our cash and capital resources.

In August 2016, our board of directors approved an aggregate of $1.0 billion for future repurchases of our common stock with no fixed expiration date, subject to applicable laws and regulations. The shares repurchased are held in treasury stock. As of December 31, 2016, the remaining board authorization permits repurchases of up to $950 million of our common stock with no fixed

expiration date. We expect funding for any share repurchases to come from our operating cash flow or borrowings under our debt facilities or commercial paper program.

Repurchases may be made from time to time on the open market, through established plans, in privately-negotiated transactions or otherwise, in accordance with all applicable securities laws, rules and regulations. We have entered into a Rule 10b5-1 trading plan, as authorized by our board of directors, to govern some or all of the repurchases of our shares of common stock, and we began to repurchase shares in October 2016. We may discontinue the stock repurchases at any time and may amend or terminate the Rule 10b5-1 trading plan at any time. The approval of our board of directors for the share repurchases does not obligate us to acquire any particular amount of our common stock. In addition, our board of directors may increase or decrease the amount of capacity we have for repurchases from time to time. We repurchased shares of our common stock in the open market during the periods presented as follows:

	Number of Shares	Average Repurchase Price Per Share	Amount (in millions)
2016			
Fourth quarter	902,920	$ 55.42	$ 50
Total open market common stock repurchases	902,920		$ 50
2015			
Fourth quarter	1,163,975	$ 47.14	$ 56
Third quarter	4,455,675	46.27	206
Second quarter	4,362,695	46.44	202
First quarter	4,361,500	45.06	196
Total open market common stock repurchases	14,343,845		$ 660

Dividends

The declaration of dividends is subject to the discretion of our board of directors, and may be affected by various factors, including our future earnings, financial condition, capital requirements, levels of indebtedness, credit ratings and other considerations our board of directors deem relevant. Our board of directors has adopted a quarterly dividend declaration policy providing that the declaration of any dividends will be determined quarterly by the board or audit committee of the board of directors taking into account such factors as our evolving business model, prevailing business conditions and our financial results and capital requirements, without a predetermined annual net income payout ratio. We declared and paid cash dividends per share during the periods presented as follows:

	Dividends Per Share	Amount (in millions)
2016		
Fourth quarter	$ 0.17	$ 102
Third quarter	0.17	102
Second quarter	0.17	103
First quarter	0.17	102
Total cash dividends declared and paid	0.68	$ 409
2015		
Fourth quarter	$ 0.15	$ 90
Third quarter	0.15	83
Second quarter	0.15	85
First quarter	0.13	73
Total cash dividends declared and paid	$ 0.58	$ 331

11. Income Taxes

Income from continuing operations before income taxes and the income tax provision consisted of the following for the years ended December 31, 2016, 2015 and 2014 (in millions):

	Year Ended December 31,		
	2016	2015	2014
Income from continuing operations before income taxes			
Domestic	$1,043	$824	$623
Foreign	986	829	784
	$2,029	$1,653	$1,407
Income tax provision			
Current tax expense:			
Federal	$258	$250	$151
State	5	46	61
Foreign	203	170	169
	466	466	381
Deferred tax expense (benefit):			
Federal	65	(7)	39
State	76	(40)	(20)
Foreign	(27)	(61)	2
	114	(108)	21
Total income tax expense	$580	$358	$402

A reconciliation of the statutory U.S. federal income tax rate to our effective income tax rate for the years ended December 31, 2016, 2015 and 2014 is as follows:

	Year Ended December 31,		
	2016	2015	2014
Statutory federal income tax rate	35 %	35 %	35 %
State and local income taxes, net of federal benefit	3	2	3
Foreign tax rate differential	(7)	(7)	(7)
Benefit to deferred tax asset and liabilities for foreign tax law change	(2)	(4)	—
Uncertain tax positions	—	(3)	1
Other	—	(1)	(3)
Total provision for income taxes	29 %	22 %	29 %

The effective tax rates for the years ended December 31, 2016, 2015 and 2014 are lower than the federal statutory rate primarily due to the favorable foreign income tax rate differentials and favorable tax law changes, partially offset by state income taxes. Favorable foreign income tax rate differentials result primarily from lower income tax rates in the U.K. and various other lower tax jurisdictions as compared to the income tax rates in the U.S. During the fourth quarter of 2015, the U.K. reduced the corporate income tax rate from 20% to 19% effective April 1, 2017 and to 18% effective April 1, 2020. During the third quarter of 2016, the U.K. further reduced their corporate income tax rate from 18% to 17% effective April 1, 2020. The reduction in the future U.K. corporate income tax rates resulted in deferred tax benefits. The impact of the deferred tax benefit for the years ended December 31, 2016 and 2015 lowered the effective tax rates by 2% and 4%, respectively.

The increase in the effective tax rate for the year ended December 31, 2016, from the comparable period in 2015, is primarily due to the tax impact of foreign versus U.S. based pre-tax income, lower deferred tax benefit associated with the future U.K. income tax rate reduction, and greater favorable settlements with various taxing authorities in 2015, partially offset by a tax benefit from the early adoption of ASU 2016-09 in 2016. The decrease in the effective tax rate for the year ended December 31, 2015, compared to the year ended December 31, 2014, is primarily due to the deferred tax benefit associated with future U.K. income tax rate reductions (representing $60 million of the $61 million deferred tax benefit in the income tax provision table above) along with certain favorable settlements with various taxing authorities.

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. We decided to early adopt ASU 2015-17 retrospectively and classified all deferred taxes and liabilities, along with any related valuation allowance, as non-current on the

balance sheet as of December 31, 2015 (Note 2). The following table reflected the requirements under ASU 2015-17 and summarizes the significant components of our deferred tax liabilities and assets as of December 31, 2016 and 2015 (in millions):

	December 31,	
	2016	2015
Deferred tax assets:		
Deferred and stock-based compensation	$166	$160
Pension	89	100
Liability reserve	52	58
Tax credits	64	59
Loss carryforward	127	259
Deferred revenue	38	29
Other	47	67
Total	583	732
Valuation allowance	(122)	(72)
Total deferred tax assets, net of valuation allowance	461	660
Deferred tax liabilities:		
Property and equipment	(113)	(82)
Acquired intangibles	(3,302)	(3,397)
Total deferred tax liabilities	(3,415)	(3,479)
Net deferred tax liabilities	$(2,954)	$(2,819)
Reported as:		
Net non-current deferred tax assets	$4	$18
Net non-current deferred tax liabilities	(2,958)	(2,837)
Net deferred tax liabilities	$(2,954)	$(2,819)

A reconciliation of the beginning and ending amount of deferred income tax valuation allowance is as follows for the years ended December 31, 2016, 2015 and 2014 (in millions):

	Year Ended December 31,		
	2016	2015	2014
Beginning balance of deferred income tax valuation allowance	$72	$75	$95
Increases charged to income tax expense	28	1	—
Charges against goodwill	22	1	—
Decreases	—	(5)	(20)
Ending balance of deferred income tax valuation allowance	$122	$72	$75

We recognize valuation allowances on deferred tax assets if, based on the weight of the evidence, we believe that it is more likely than not that some or all of the deferred tax assets will not be realized. We recorded a valuation allowance for deferred tax assets of $122 million and $72 million as of December 31, 2016 and 2015, respectively. Increases charged to income tax expense in the table above primarily relate to deferred tax assets on foreign net operating and capital losses that we do not expect to be realizable in future periods. Increases charged against goodwill in the table above primarily relate to deferred tax assets arising on the acquisition of a foreign branch that we do not expect to be realizable in future periods. Decreases in the table above for the years ended December 31, 2015 and 2014 relate to net operating loss carryforwards that we determined would be available to offset income in future periods.

Our non-U.S. subsidiaries had $3.6 billion in cumulative undistributed earnings as of December 31, 2016. This amount represents the post-income tax earnings under U.S. GAAP adjusted for previously taxed income. The earnings from our non-U.S. subsidiaries are considered to be indefinitely reinvested. Accordingly, no provision for U.S. federal and state income taxes has been made in the accompanying consolidated financial statements. Further, a determination of the unrecognized deferred tax liability is not practicable. Any future distribution by way of dividend of these non-U.S. earnings may subject us to both U.S. federal and state income taxes, as adjusted for non-U.S. tax credits, and withholding taxes payable to various non-U.S. countries.

As of December 31, 2016 and 2015, we have gross U.S. federal net operating loss carryforwards of $59 million and $340 million, respectively, and gross state and local net operating loss carryforwards of $293 million and $1.0 billion, respectively. The significant reduction of federal, state and local net operating losses results from their current year utilization. These carryforwards are

available to offset future taxable income until they begin to expire in 2019. In addition, as of December 31, 2016 and 2015, we have gross foreign net operating loss carryforwards of $116 million and $105 million, respectively. The majority of gross foreign net operating losses are not expected to be realizable in future periods and have related valuation allowances.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows for the years ended December 31, 2016, 2015 and 2014 (in millions):

	Year Ended December 31,		
	2016	2015	2014
Beginning balance of unrecognized tax benefits	$107	$145	$228
Additions related to acquisitions	22	7	—
Additions based on tax positions taken in current year	9	9	33
Additions based on tax positions taken in prior years	—	34	1
Reductions related to divestitures (Euronext IPO)	—	—	(104)
Reductions based on tax positions taken in prior years	(1)	(51)	(3)
Reductions resulting from statute of limitation lapses	(3)	(12)	(2)
Reductions related to settlements with taxing authorities	(22)	(25)	(8)
Ending balance of unrecognized tax benefits	$112	$107	$145

As of December 31, 2016 and 2015, the balance of unrecognized tax benefits which would, if recognized, affect our effective tax rate was $76 million and $72 million, respectively. It is reasonably possible, as a result of settlements of ongoing audits or statute of limitations expirations, unrecognized tax benefits could increase as much as $9 million and decrease as much as $39 million within the next twelve months. Of the $112 million in unrecognized tax benefits as of December 31, 2016, $84 million is recorded as other non-current liabilities and $28 million is recorded as other current liabilities in the accompanying consolidated balance sheet.

We recognize interest accrued on income tax uncertainties and accrued penalties as a component of income tax expense. For the years ended December 31, 2016, 2015 and 2014, we recognized $1 million, $12 million and $4 million, respectively, of income tax expense for interest and penalties. Accrued interest and penalties were $35 million and $33 million as of December 31, 2016 and 2015, respectively. Of the $35 million in accrued interest and penalties as of December 31, 2016, $12 million is recorded as other non-current liabilities and $23 million is recorded as other current liabilities in the accompanying consolidated balance sheet.

We or one of our subsidiaries files income tax returns in the U.S. federal jurisdiction and various state and foreign jurisdictions. The following table summarizes open tax years by major jurisdiction:

Jurisdiction	Open Tax Years
U.S. Federal	2012 - 2016
U.S. States	2007 - 2016
U.K.	2015 - 2016
Netherlands	2011 - 2016

Although the outcome of tax audits is always uncertain, we believe that adequate amounts of tax, including interest and penalties, have been provided for any adjustments expected to result from open tax years.

12. Clearing Organizations

We operate regulated central counterparty clearing houses for the settlement and clearance of derivative contracts. The clearing houses include ICE Clear Europe, ICE Clear Credit, ICE Clear U.S., ICE Clear Canada, ICE Clear Netherlands and ICE Clear Singapore (referred to herein collectively as the “ICE Clearing Houses”).

- ICE Clear Europe performs the clearing and settlement for all futures and options contracts traded through ICE Futures Europe and ICE Endex, for energy futures and options contracts trading through ICE Futures U.S., and for CDS contracts submitted for clearing in Europe.
- ICE Clear Credit performs the clearing and settlement for CDS contracts submitted for clearing in North America.
- ICE Clear U.S. performs the clearing and settlement of agricultural, metals, currencies and financial futures and options contracts traded through ICE Futures U.S.

- ICE Clear Canada performs the clearing and settlement for all futures and options contracts traded through ICE Futures Canada.
- ICE Clear Netherlands offers clearing for The Order Machine, a multi-lateral trading facility for equity options.

- ICE Clear Singapore performs the clearing and settlement for all futures and options contracts traded through ICE Futures Singapore.

Each of the ICE Clearing Houses requires all clearing members to maintain cash on deposit or pledge certain assets, which may include government obligations, non-government obligations or gold to guarantee performance of the clearing members' open positions. Such amounts in total are known as "original margin". The ICE Clearing Houses may make intraday original margin calls in circumstances where market conditions require additional protection. The daily profits and losses from and to the ICE Clearing Houses due to the marking-to-market of open contracts is known as "variation margin". The ICE Clearing Houses mark all outstanding contracts to market, and therefore pay and collect variation margin, at least once daily, and in some cases multiple times throughout the day. Marking-to-market allows the ICE Clearing Houses to identify any clearing members that may be unable to satisfy the financial obligations resulting from changes in the prices of their open contracts before those financial obligations become exceptionally large and jeopardize the ability of the ICE Clearing Houses to ensure financial performance of clearing members' open positions.

Each of the ICE Clearing Houses requires that each clearing member make deposits into a fund known as a "guaranty fund", which is maintained by the relevant ICE Clearing House. These amounts serve to secure the obligations of a clearing member to the ICE Clearing House to which it has made the guaranty fund deposit and may be used to cover losses sustained by the respective ICE Clearing House in the event of a default of a clearing member.

Each of the ICE Clearing Houses has equal and offsetting claims to and from their respective clearing members on opposite sides of each cleared contract. This arrangement allows the ICE Clearing Houses to serve as the central financial counterparty on every cleared contract. Each ICE Clearing House bears financial counterparty credit risk in the event that market movements create conditions that lead to its clearing members failing to meet their financial obligations to that ICE Clearing House. Accordingly, the ICE Clearing Houses account for this central counterparty guarantee as a performance guarantee. Given that each contract is margined and marked-to-market or settled at least once daily for each clearing member, the ICE Clearing Houses' maximum estimated exposure for this guarantee, excluding the effects of original and variation margin requirements and mandatory deposits to the applicable guaranty fund by clearing members, is $84.7 billion as of December 31, 2016, which represents the maximum estimated value by the ICE Clearing Houses of a hypothetical one day movement in pricing of the underlying unsettled contracts. This amount is based on calculations determined using proprietary risk management software that simulates gains and losses based on historical market prices, volatility and other factors present at that point in time for those particular unsettled contracts. Future actual market price volatility could result in the exposure being significantly different than the amount estimated by the ICE Clearing Houses. The net notional value of unsettled contracts was $2.5 trillion as of December 31, 2016. We performed calculations to determine the fair value of our counterparty performance guarantee taking into consideration factors such as daily settlement of contracts, margining requirements, other elements of our risk management program, historical evidence of default payments, and estimated probability of potential default payouts by the ICE Clearing Houses. Based on these analyses, the estimated counterparty performance guaranty liability was determined to be nominal and no liability was recorded as of December 31, 2016 and 2015.

The ICE Clearing Houses seek to reduce their exposure through a risk management program that includes initial and ongoing financial standards for clearing member admission and continued membership, original and variation margin requirements, and mandatory deposits to the guaranty fund. The amounts that the clearing members are required to maintain in the original margin and guaranty fund accounts are determined by standardized parameters established by the risk management departments and reviewed by the risk committees and the boards of directors of each of the ICE Clearing Houses and may fluctuate over time. As of December 31, 2016 and 2015, the ICE Clearing Houses have received or have been pledged $95.7 billion and $87.2 billion, respectively, in cash and non-cash collateral in original margin and guaranty fund deposits to cover price movements of underlying contracts for both periods. The ICE Clearing Houses also have powers of assessment that provide the ability to collect additional funds from their clearing members to cover a defaulting member's remaining obligations up to the limits established under the respective rules of each ICE Clearing House.

Should a particular clearing member fail to deposit original margin, or fail to make a variation margin payment, when and as required, the relevant ICE Clearing House may liquidate or hedge the clearing member's open positions and use the clearing member's original margin and guaranty fund deposits to make up any amount owed. In the event that those

deposits are not sufficient to pay the amount owed in full, the ICE Clearing Houses may utilize the respective guaranty fund deposits of their respective clearing members on a pro-rata basis for that purpose.

We have contributed $150 million, $50 million and $50 million in cash to the ICE Clear Europe, ICE Clear Credit and ICE Clear U.S. guaranty funds, respectively, as of December 31, 2016, and such amounts are at risk and could be used in the event of a clearing member default where the amount of the defaulting clearing member's original margin and guaranty fund deposits are insufficient. ICE Clear Canada, ICE Clear Netherlands and ICE Clear Singapore have each also contributed a combined $3 million in cash to their respective guaranty funds. The $253 million combined contributions to the guaranty funds as of December 31, 2016 and 2015 are included in long-term restricted cash in the accompanying consolidated balance sheets (Note 4).

For ICE Clear Europe, if a futures and options clearing member's deposits are depleted and a default occurs, then a $100 million contribution made by us to the ICE Clear Europe guaranty fund would be utilized after the available funds of the defaulting clearing

member but before all other amounts within the guaranty fund. The $100 million is solely available in the event of an ICE Clear Europe futures and options clearing member default. The $50 million contribution to the ICE Clear U.S. guaranty fund and the $50 million contribution to the ICE Clear Credit guaranty fund would be utilized after the available funds of the defaulting clearing member but before all other amounts within the guaranty fund.

We have contributed $50 million to the ICE Clear Europe CDS guaranty fund. The first $33 million contributed to the ICE Clear Europe CDS guaranty fund will be utilized after the available funds of the defaulting CDS clearing member but before all other amounts within the guaranty fund. The additional $17 million contributed to the ICE Clear Europe CDS guaranty fund will be utilized pro-rata along with other non-defaulting CDS clearing members' deposits in the guaranty fund. Subject to regulatory approval, ICE Clear Europe plans to move the total $50 million contribution to the CDS guaranty fund to be utilized after the available funds of the defaulting clearing member but before all other amounts within the guaranty fund.

As of December 31, 2016, our cash margin deposits and guaranty fund are as follows for the ICE Clearing Houses (in millions):

	ICE Clear Europe	ICE Clear Credit	ICE Clear U.S.	Other ICE Clearing Houses	Total
Original margin	$27,046	$16,833	$ 6,184	$ 107	$50,170
Guaranty fund	2,444	2,135	316	85	4,980
Total	$29,490	$18,968	$ 6,500	$ 192	$55,150

As of December 31, 2015, our cash margin deposits and guaranty fund are as follows for the ICE Clearing Houses (in millions):

	ICE Clear Europe	ICE Clear Credit	ICE Clear U.S.	Other ICE Clearing Houses	Total
Original margin	$28,454	$13,750	$ 3,882	$ 159	$46,245
Guaranty fund	2,589	2,011	311	13	4,924
Total	$31,043	$15,761	$ 4,193	$ 172	$51,169

We have recorded these cash deposits in the accompanying consolidated balance sheets as current assets with corresponding current liabilities to the clearing members of the relevant ICE Clearing House. All cash and securities are available only to meet the financial obligations of that clearing member to the relevant ICE Clearing House. ICE Clear Europe, ICE Clear Credit, ICE Clear U.S., ICE Clear Canada, ICE Clear Netherlands and ICE Clear Singapore are separate legal entities and are not subject to the liabilities of the other ICE Clearing Houses or the obligations of the members of the other ICE Clearing Houses. The amount of these cash deposits may fluctuate due to the types of margin collateral choices available to clearing members and the change in the amount of deposits required. As a result, these assets and corresponding liabilities may vary significantly over time.

Of the cash held by the ICE Clearing Houses, as of December 31, 2016, $44.0 billion is secured in reverse repurchase agreements with primarily overnight maturities or direct investment in government securities. ICE Clear Credit, as a systemically important financial market utility by the Financial Stability Oversight Council, held $7.3 billion of its U.S. dollar cash in the guaranty fund and in original margin in the cash account at the Federal Reserve Bank of Chicago as of December 31, 2016 (Note 2). The remaining cash deposits at the ICE Clearing Houses are held in demand deposit accounts at large, highly rated financial institutions and directly in U.S. Treasury securities with original maturities of less than 12 months. The carrying value of these securities approximates their fair value due to the short-term nature of the instruments and repurchase agreements.

Of the $29.5 billion of ICE Clear Europe cash deposits as of December 31, 2016, which are primarily held in U.S. dollars, euros and pounds sterling, $24.5 billion relates to futures and options products and $5.0 billion relates to cleared OTC European CDS instruments. ICE Clear Europe offers a separate clearing platform, risk model and risk pool for futures and options products that is distinct from those associated with cleared OTC European CDS instruments.

In addition to the cash deposits for original margin and the guaranty fund, the ICE Clearing Houses have also received other assets from clearing members, which include government obligations, and may include other non-cash collateral such as certain agency and corporate debt or gold to mitigate credit risk. These assets are not reflected in the accompanying consolidated balance sheets as the risks and rewards of these assets remain with the clearing members unless the ICE Clearing Houses have sold or re-pledged the assets or in the event of a clearing member default, where the clearing member is no longer entitled to redeem the assets. Any income, gain or loss accrues to the clearing member. For certain non-cash deposits, the ICE Clearing Houses may impose discount or “haircut” rates to ensure adequate collateral levels to account for fluctuations in the market value of these deposits. As of December 31, 2016 and 2015, the assets pledged by the clearing members as original margin and guaranty fund deposits for each of the ICE Clearing Houses are detailed below (in millions):

	As of December 31, 2016				As of December 31, 2015			
	ICE Clear Europe	ICE Clear Credit	ICE Clear U.S.	Other ICE Clearing Houses	ICE Clear Europe	ICE Clear Credit	ICE Clear U.S.	Other ICE Clearing Houses
Original margin:								
Government securities at face value	$22,961	$6,013	$10,542	$ 37	$21,690	$4,989	$8,161	$ 97
Other	—	—	—	368	—	—	—	381
Total	$22,961	$6,013	$10,542	$ 405	$21,690	$4,989	$8,161	$ 478
Guaranty fund:								
Government securities at face value	$217	$178	$147	$ 40	$267	$229	$158	$ 61

13. Commitments and Contingencies

Leases

We lease office space, equipment facilities and certain computer equipment under lease agreements that expire at various dates through 2028. Our leases typically contain terms which may include renewal options, rent escalations, rent holidays and leasehold improvement incentives. We had no capital leases as of December 31, 2016 and 2015. Rental expense under these leases, included in the accompanying consolidated statements of income in rent and occupancy and technology and communication expenses, totaled $65 million, $53 million and $76 million for the years ended December 31, 2016, 2015, and 2014, respectively. As of December 31, 2016, future minimum lease payments under these non-cancelable operating agreements are as follows (in millions):

2017	$85
2018	82
2019	66
2020	60
2021	53
Thereafter	266
Total	$612

Redeemable Non-controlling Interest

As part of the ICE Endex purchase agreement, Gasunie has a put option to sell to us, and we have a call option to purchase from Gasunie, Gasunie's entire 21% remaining ownership in ICE Endex at fair market value provided that the fair value falls between a stated cap and floor. Both the call and put option became exercisable on March 26, 2015 and they both expire on March 26, 2018. As part of the ICE Clear Netherlands acquisition (Note 3), ABN AMRO has a put option to sell to us, and we have a call option to purchase from ABN AMRO, ABN AMRO's entire remaining 25% ownership in ICE Clear Netherlands at fair market value subject to a stated floor. Both the call and put option become exercisable after the third anniversary of the date of closing of the acquisition which was December 2, 2014. Since the likelihood of us acquiring both of the non-controlling interests in the future is probable, we have recorded the full redemption fair value of $36 million and $35 million as of December 31, 2016 and 2015, respectively, relating to ICE Endex and ICE Clear Netherlands as mezzanine equity and classified the related balance as "redeemable non-controlling interest" in the accompanying consolidated balance sheets and the proportionate share of profits was recorded as net income from continuing operations attributable to non-controlling interest in the consolidated statements of income. Changes in the redemption value of the non-controlling interest are recorded to the redeemable non-controlling interest balance in full as they occur.

Prior to the our acquisition of NYSE, NYSE completed the sale of a significant equity interest in NYSE Amex Options, one of our two U.S. options exchanges, to seven external investors. Under the terms of the sale, the external investors had the option to require us to repurchase a portion of the equity interest on an annual basis. Since the likelihood of us acquiring the non-controlling interest was probable, the full redemption fair value had been recorded as mezzanine equity and the related balance as "redeemable non-controlling interest" in the consolidated balance sheets and the proportionate share of profits was recorded as net income from continuing operations attributable to non-controlling interest in the consolidated statements of income. In July 2014 we repurchased 16% of the interest

held by the seven external investors for $129 million in cash, and in June 2015 we repurchased the remaining 16% of the interest for $128 million in cash. Effective from July 1, 2015, all of the profits from NYSE Amex Options are retained by us as we now own 100% of NYSE Amex Options.

Legal Proceedings

We are subject to legal proceedings and claims that arise in the course of our business. Typically, we do not believe that the resolution of ordinary course matters, including the matters described below, will have a material adverse effect on our consolidated financial condition, results of operations, or liquidity. It is possible, however, that future results of operations for any particular

quarterly or annual period could be materially and adversely affected by any developments relating to the legal proceedings and claims. The matters described below all relate to our operation of NYSE. A range of possible losses related to the cases below cannot be reasonably estimated at this time, except as otherwise disclosed below.

In April 2014, New York Stock Exchange LLC and NYSE Arca, Inc., two of our subsidiaries, were among more than 40 financial institutions and exchanges named as defendants in four purported class action lawsuits filed in the U.S. District Court for the Southern District of New York, or the Southern District, by the City of Providence, Rhode Island, and other plaintiffs. In subsequent consolidated amended complaints, the plaintiffs asserted claims against the exchange defendants and Barclays PLC, or Barclays, a subsidiary of which operates an alternative trading system known as Barclays LX, on behalf of a class of "all public investors" who bought or sold stock from April 18, 2009 to the present on the U.S.-based equity exchanges operated by the exchange defendants or on Barclays LX.

In August 2015, the court issued an opinion and order granting the defendants' motions to dismiss and dismissing the second amended complaint in its entirety with prejudice. The court held that the plaintiffs had failed to sufficiently state a claim against the defendants under Sections 10(b) and 6(b) of the Exchange Act, and additionally that some of the claims against the exchanges were barred by the doctrine of self-regulatory organization immunity. In September 2015, the plaintiffs filed a notice of appeal of the dismissal of the lawsuit to the U.S. Court of Appeals for the Second Circuit, or the Second Circuit. The appeal was briefed and argued during 2016, and the parties are awaiting a decision.

In May 2014, three purported class action lawsuits were filed (and later amended) in the Southern District by Harold Lanier against the securities exchanges that are participants in each of the three national market system data distribution plans - the Consolidated Tape Association/Consolidated Quotation Plan, the Nasdaq UTP Plan, and the Options Price Reporting Authority, or the Plans, - which are established under the Exchange Act and regulated by the SEC. New York Stock Exchange LLC, NYSE Arca, Inc. and NYSE MKT LLC, which are our subsidiaries, were among the defendants named in one or more of the suits, in which Lanier claimed to sue on behalf of himself and all other similarly situated subscribers to the market data disseminated by the Plans. Lanier's allegations included that the exchange participants in the Plans breached agreements with subscribers by disseminating market data in a discriminatory manner in that other "preferred" customers allegedly received their data faster than the proposed class. In September 2014, the defendants moved to dismiss the amended complaints, and in April 2015, the court issued an opinion and order granting the motion and dismissing the three lawsuits with prejudice. In September 2016, the Second Circuit entered an order affirming the dismissal of the lawsuits. In November 2016, the Second Circuit denied a petition filed by Lanier, relating only to the lawsuit involving the Options Price Reporting Authority plan, seeking a rehearing by the panel of judges that decided the appeal or, in the alternative, for review by the full Second Circuit.

In December 2015, our subsidiaries New York Stock Exchange LLC and NYSE MKT LLC received an inquiry from the Enforcement staff of the New York regional office (the "Staff") of the SEC regarding a July 8, 2015 outage on the NYSE markets, during which trading was suspended for approximately 3.5 hours in all symbols. The Staff's investigation proceeded throughout 2016. On December 29, 2016, NYSE received a Wells Notice stating that the Staff have made a preliminary determination to recommend that the SEC file an enforcement action in connection with how NYSE responded on July 8, 2015 to the circumstances leading into the suspension of trading that day. NYSE disputes the appropriateness of the proposed charges, believes there are substantial defenses, and has made a written submission to the Staff in response to the Wells Notice setting forth such points. If the Staff determines to maintain its recommendation contained in the Wells Notice, the Commissioners of the SEC will need to determine whether to authorize the filing of an enforcement action.

Tax Audits

We are engaged in ongoing discussions and audits with taxing authorities on various tax matters, the resolutions of which are uncertain. Currently, there are matters that may lead to assessments involving us or one of our subsidiaries, some of which may not be resolved for several years. Based on currently available information, we believe we have adequately provided for any assessments that could result from those proceedings where it is more likely than not that we will be assessed. We continuously review our positions as these matters progress.

14. Pension and Other Benefit Programs

Defined Benefit Pension Plan

We have a pension plan covering certain of our U.S. operations. The benefit accrual for the pension plan is frozen. Retirement benefits are derived from a formula, which is based on length of service and compensation. Based on this calculation, we may contribute to our pension plan to the extent such contributions may be deducted for income tax purposes. During the years ended December 31, 2016, 2015 and 2014, we contributed $10 million, $10 million and $51 million, respectively, to our pension plan. Our practice is to fund our frozen defined benefit pension plan each year at the level above the minimum required contribution but within tax deductible limits. Based on actuarial projections, we estimate that a contribution of $10 million during the year ended December 31, 2017 will allow us to meet our funding goal. However, the actual contribution is contingent on the actual plan performance relative to assumptions.

During the year ended December 31, 2014, as part of certain plan amendments, lump sum payments were offered to certain terminated vested participants as part of a de-risking strategy in the pension plan. The offer was made to 2,725 participants, of whom 935, or 34%, elected to receive a lump sum. The total amount paid to this group was $55 million and when combined with other lump sum payments made during the year, it exceeded the total interest cost and service cost for the year. We recognized a loss of $4 million for the year ended December 31, 2014 in connection with these plan settlements, which is included in acquisition-related transaction and integration cost in our consolidated statement of income.

We base our investment policy and objectives on a review of the actuarial and funding characteristics of the retirement plan, the demographic profile of plan participants, and our business and financial characteristics. Capital market risk/return opportunities and tradeoffs also are considered as part of the determination. The primary investment objective of our plan is to achieve a long-term rate of return that meets the actuarial funding requirements of the plan and maintain an asset level sufficient to meet all benefit obligations of the plan. The target allocations for the U.S. plan assets are 65 percent equity securities and 35 percent U.S. fixed income securities. Equity securities primarily include investments in large-cap and small-cap companies primarily located in the U.S., which include corporate bonds of companies from diversified industries and U.S. treasuries. Based on the valuation techniques described in Note 15, the fair values of our pension plan assets as of December 31, 2016, by asset category, are as follows (in millions):

	Fair Value Measurements			
Asset Category	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Cash	$21	$ —	$ —	$21
Equity securities:				
U.S. large-cap	—	247	—	247
U.S. small-cap	—	68	—	68
International	—	134	—	134
Fixed income securities	106	102	3	211
Total	$127	$ 551	$ 3	$681

The fair values of our pension plan assets as of December 31, 2015, by asset category, are as follows (in millions):

	Fair Value Measurements			
Asset Category	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Cash	$11	$ —	$ —	$11
Equity securities:				
U.S. large-cap	—	244	—	244
U.S. small-cap	—	69	—	69
International	—	128	—	128
Fixed income securities	128	83	3	214
Total	$139	$ 524	$ 3	$666

The measurement dates for the pension plan are December 31, 2016 and 2015. The following table provides a summary of the changes in the pension plan's benefit obligations and the fair value of assets as of December 31, 2016 and 2015 and a statement of funded status of the pension plan as of December 31, 2016 and 2015 (in millions):

	As of December 31,	
	2016	2015
Asset Category		
Change in benefit obligation:		
Benefit obligation at beginning of year	$861	$916
Interest cost	27	34
Actuarial (gain) loss	14	(38)
Benefits paid	(49)	(51)
Benefit obligation at year end	$853	$861
Change in plan assets:		
Fair value of plan assets at beginning of year	$666	$718
Actual return (loss) on plan assets	54	(11)
Contributions	10	10
Benefits paid	(49)	(51)
Fair value of plan assets at end of year	$681	$666
Funded status	$(172)	$(195)
Accumulated benefit obligation	$853	$861
Amounts recognized in the accompanying consolidated balance sheets:		
Accrued employee benefits	$(172)	$(195)

The components of the pension plan expense (benefit) in the accompanying consolidated statements of income are set forth below for the years ended December 31, 2016, 2015 and 2014 (in millions):

	Year Ended December 31,		
	2016	2015	2014
Interest cost	$27	$34	$37
Estimated return on plan assets	(44)	(46)	(47)
Amortization of loss	1	2	—
Settlement loss	—	—	4
Aggregate pension benefit	$(16)	$(10)	$(6)

We use a market-related value of plan assets when determining the estimated return on plan assets. Gains/losses on plan assets are amortized over a four year period and accumulate in other comprehensive income. We recognize deferred gains and losses in future net income based on a “corridor” approach, where the corridor is equal to 10% of the greater of the benefit obligation or the market-related value of plan assets at the beginning of the year.

The following table shows the projected payments for the pension plan based on actuarial assumptions (in millions):

2017	$50
2018	50
2019	49
2020	49
2021	49
Next 5 years	248

Supplemental Executive Retirement Plan

We have a U.S. nonqualified supplemental executive retirement plan, or SERP, which provides supplemental retirement benefits for certain employees. The future benefit accrual of the SERP plan is frozen. To provide for the future payments of these benefits, we have purchased insurance on the lives of certain of the participants through company-owned policies. As of December 31, 2016 and 2015, the cash surrender value of such policies was $53 million and $51 million, respectively, and is included in other non-current assets in the accompanying consolidated balance sheets. The following table provides a summary of the changes in the SERP benefit obligations (in millions):

	As of December 31,	
	2016	2015
Change in benefit obligation:		
Benefit obligation at beginning of year	$61	$73
Interest cost	1	2
Actuarial (gain) loss	1	(3)
Benefits paid	(9)	(11)
Benefit obligation at year end	$54	$61
Funded status	$(54)	$(61)
Amounts recognized in the accompanying consolidated balance sheets:		
Other current liabilities	$(8)	$(9)
Accrued employee benefits	(46)	(52)

SERP plan expense in the accompanying consolidated statements of income was $1 million, $2 million and $3 million for the years ended December 31, 2016, 2015 and 2014, respectively, and primarily consisted of interest cost. The following table shows the projected payments for the SERP plan based on the actuarial assumptions (in millions):

Projected SERP Plan Payments	
2017	$8
2018	7
2019	5
2020	5
2021	5
Next 5 years	17

Pension and SERP Plans Assumptions

The weighted-average assumptions used to develop the actuarial present value of the projected benefit obligation and net periodic pension/SERP costs for years ended December 31, 2016, 2015 and 2014 are set forth below:

	Year Ended December 31,		
	2016	2015	2014
Weighted-average discount rate for determining benefit obligations (pension/SERP plans)	3.9%/3.4%	4.0%/3.4%	3.8%/3.2%
Weighted-average discount rate for determining interest costs (pension/SERP plans)	3.3%/2.5%	3.8%/3.2%	4.6%/3.8%
Expected long-term rate of return on plan assets (pension/SERP plans)	6.5%/N/A	6.5%/N/A	6.5%/N/A
Rate of compensation increase	N/A	N/A	N/A

The assumed discount rate reflects the market rates for high-quality corporate bonds currently available. The discount rate was determined by considering the average of pension yield curves constructed on a large population of high quality corporate bonds. The resulting discount rates reflect the matching of plan liability cash flows to yield curves. To develop the expected long-term rate of return on assets assumption, we considered the historical returns and the future expectations for returns for each asset class as well as the target asset allocation of the pension portfolio.

In the fourth quarter of 2015, we changed the method we used to estimate the interest component of net periodic benefit cost for pension and other postretirement benefits. We made this change to provide a more precise measurement of interest cost by improving the correlation between projected benefit cash flows to the corresponding spot yield curve rates. This change does not affect the measurement of our total benefit obligations. Historically, we estimated the interest cost component utilizing a single weighted-average discount rate derived from the yield curve used to measure the benefit obligation at the beginning of the period. We have elected to utilize a full yield curve approach in the estimation of these components by applying the specific spot rates along the yield curve used in the determination of the benefit obligation to the relevant projected cash flows. We accounted for this change as a change in accounting estimate that is inseparable from a change in accounting principle and accordingly have accounted for it prospectively.

Post-retirement Benefit Plans

Our defined benefit plans provide certain health care and life insurance benefits for certain eligible retired NYSE U.S. employees. These post-retirement benefit plans, which may be modified in accordance with their terms, are fully frozen. The net periodic post-retirement benefit costs were $7 million, $8 million and $9 million for the years ended December 31, 2016, 2015 and 2014, respectively. The defined benefit plans are unfunded and we currently do not expect to fund the post-retirement benefit plans. The weighted-average discount rate for determining the benefit obligation as of December 31, 2016 and 2015 is 3.9% and 4.1%, respectively. The weighted-average discount rate for determining the interest cost as of December 31, 2016 and 2015 is 3.3% and 3.8%, respectively. The following table shows the actuarial determined benefit obligation, interest costs, employee contributions, actuarial (gain) loss, benefits paid during the periods and the accrued employee benefits (in millions):

	As of December 31,	
	2016	2015
Benefit obligation at the end of year	$200	$224
Interest cost	7	8
Actuarial gain	(20)	(12)
Employee contributions	3	3
Benefits paid	(14)	(14)
Amounts recognized in the accompanying consolidated balance sheets:		
Other current liabilities	$(11)	$(12)
Accrued employee benefits	$(189)	$(212)

The following table shows the payments projected for our post-retirement benefit plans (net of expected Medicare subsidy receipts of $11 million in aggregate over the next ten fiscal years) based on actuarial assumptions (in millions):

2017	$12
2018	12
2019	12
2020	12
2021	12
Next 5 years	63

For measurement purposes, we assumed an 8.1% annual rate of increase in the per capita cost of covered health care benefits in 2016 which will decrease on a graduated basis to 4.5% in the year 2038 and thereafter. The following table shows the effect of a one-percentage-point increase and decrease in assumed health care cost trend rates (in millions):

Assumed Health Care Cost Trend Rate	1% Increase	1% Decrease
Effect of post-retirement benefit obligation	$ 24	$ (20)
Effect on total of service and interest cost components	1	(1)

Accumulated Other Comprehensive Loss

The accumulated other comprehensive loss, after tax, as of December 31, 2016, consisted of the following amounts that have not yet been recognized in net periodic benefit cost (in millions):

	Pension Plans	SERP Plans	Post-retirement Benefit Plans	Total
Unrecognized net actuarial losses, after tax	$ 103	$ 3	$ 3	$109

The amount of prior actuarial loss included in accumulated other comprehensive income related to the pension, SERP and postretirement plans as of December 31, 2016, which are expected to be recognized in net periodic benefit cost in the coming year, is estimated to be (in millions):

	Pension Plans	SERP Plans	Post-retirement Benefit Plans	Total
Loss recognition	$ 2	$ —	$ —	$ 2

Other Benefit Plans and Defined Contribution Plans

Our U.S. employees are eligible to participate in 401(k) and profit sharing plans and our non-U.S employees are eligible to participate in defined contribution pension plans. Total contributions under the 401(k), profit sharing and defined contribution pension plans were $31 million, $21 million and $29 million for the years ended December 31, 2016, 2015 and 2014, respectively. No discretionary or profit sharing contributions were made during the years ended December 31, 2016, 2015 or 2014.

15. Fair Value Measurements

Our financial instruments consist primarily of cash and cash equivalents, short-term and long-term restricted cash and investments, short-term and long-term investments, customer accounts receivable, margin deposits and guaranty funds, cost and equity method investments, short-term and long-term debt and certain other short-term assets and

liabilities. The fair value of our financial instruments are measured based on a three-level hierarchy:

- Level 1 inputs — quoted prices for identical assets or liabilities in active markets.
- Level 2 inputs — observable inputs other than Level 1 inputs such as quoted prices for similar assets and liabilities in active markets or inputs other than quoted prices that are directly observable.

- Level 3 inputs — unobservable inputs supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

We use Level 1 inputs to determine fair value. The Level 1 assets consist of U.S. Treasury securities, equity and other securities listed in active markets, and investments in publicly traded mutual funds held for the purpose of providing future payments of the SERP and SESP plans.

Financial assets and liabilities recorded in the accompanying consolidated balance sheets as of December 31, 2016 and 2015 are classified in their entirety based on the lowest level of input that is significant to the asset or liability's fair value measurement. Financial instruments measured at fair value on a recurring basis as of December 31, 2016 are as follows (in millions):

	Level 1	Level 2	Level 3	Total
Assets at fair value:				
Long-term investment in equity securities	$432	$—	$—	$432
U.S. Treasury securities	500	—	—	500
Mutual Funds	23	—	—	23
Total assets at fair value	$955	$—	$—	$955

Financial instruments measured at fair value on a recurring basis as of December 31, 2015 are as follows (in millions):

	Level 1	Level 2	Level 3	Total
Assets at fair value:				
Long-term investment in equity securities	$299	$—	$—	$299
U.S. Treasury securities	449	—	—	449
Mutual Funds	29	—	—	29
Total assets at fair value	$777	$—	$—	$777

As of December 31, 2016, the fair value of our $1.24 billion 2020 Senior Notes was $1.27 billion, the fair value of our $1.24 billion 2025 Senior Notes was $1.29 billion, the fair value of our $851 million NYSE USD Notes was $855 million, the fair value of our $790 million 2023 Senior notes was $836 million, and the fair value of our $598 million 2018 Senior Notes was $607 million. The fair values of these fixed rate notes were estimated using quoted market prices for these instruments. The fair value of our commercial paper approximates the carrying value since the rates of interest on this short-term debt approximate market rates as of December 31, 2016. All other financial instruments are determined to approximate carrying value due to the short period of time to their maturities.

The long-term investment in equity securities as of December 31, 2016 and 2015 represents our investment in Cetip, recorded at its fair value using its quoted market price (Note 5). The mutual funds represent equity and fixed income mutual funds held for the purpose of providing future payments to the SERP and SESP (Note 14).

As of December 31, 2016, we were holding $500 million in U.S. Treasury securities, all of which had original maturities of less than one year from the date of purchase. Of these securities, $350 million were recorded as short-term restricted cash and investments and $150 million were recorded as long-term restricted cash and investments in the accompanying consolidated balance sheet as of December 31, 2016. As of December 31, 2015, we were holding $449 million in U.S. Treasury securities, all of which had original maturities of less than one year from the date of purchase. Of these securities, $25 million were recorded as cash and cash equivalents, $274 million were recorded as short-term restricted cash and investments and $150 million were recorded as long-term restricted cash and investments in the accompanying consolidated balance sheet as of December 31, 2015. We account for the U.S. Treasury securities held using the available-for-sale method. All of the U.S. Treasury securities recorded as cash and cash equivalents have original maturities of less than 90 days.

We did not use Level 2 and 3 inputs to determine the fair value of assets or liabilities measured at fair value on a recurring basis as of December 31, 2016 and 2015. We measure certain assets, such as intangible assets and cost and equity method investments, at fair value on a non-recurring basis. These assets are recognized at fair value if they are deemed to be impaired. As of December 31, 2016 and 2015, none of these assets were required to be recorded at fair value since none of these assets were deemed impaired.

16. Discontinued Operations

On June 24, 2014, we sold an aggregate 65.8 million shares of common stock of our wholly-owned subsidiary Euronext N.V., or Euronext, representing 94% of Euronext's outstanding shares, and on December 9, 2014, we sold our remaining 6%, or 4.2 million shares of Euronext common stock. We no longer hold any shares of Euronext stock and the sale of Euronext generated an aggregate €1.5 billion ($2.1 billion) of net cash proceeds for us. The net cash proceeds received included cash of $220 million distributed from

Euronext as part of the separation of Euronext. On July 23, 2014, we sold Wombat, a unit of NYSE Technologies, to SR Labs. On September 19, 2014 we sold NYFIX and Metabit, the remaining businesses of NYSE Technologies, to ULLINK. These agreements completed our previously announced intention to divest non-core NYSE Technologies assets. We used the cash proceeds from the sale of Euronext and NYSE Technologies to repay debt (Note 9).

Due to the sale of Euronext and the sales of the three companies comprising NYSE Technologies, we included the financial results of these entities in discontinued operations in the accompanying consolidated financial statements. There was no gain or loss recognized on the sale of Euronext or on the sale of the NYSE Technologies companies, as any differences in the carrying value of these net assets was adjusted in the NYSE purchase price allocation.

The results below include external advisory costs and professional services costs related to the sales of Euronext and NYSE Technologies of $51 million for the year ended December 31, 2014, which have been included below with acquisition-related transaction and integration costs, from discontinued operations. The results below also include deal-related compensation and severance costs related to the sales of Euronext and NYSE Technologies of $42 million for the year ended December 31, 2014, which have also been included with acquisition-related transaction and integration costs below from discontinued operations. Results of discontinued operations were as follows for the years ended December 31, 2014 (in millions):

	Year Ended December 31, 2014
Total revenues, less transaction-based expenses	$ 347
Operating expenses:	
Compensation and benefits	105
Technology and communication	31
Professional services	31
Rent and occupancy	12
Acquisition-related transaction and integration costs	103
Selling, general, administrative	16
Depreciation and amortization	16
Total operating expenses	314
Operating income	33
Other income, net	5
Income tax expense	27
Income from discontinued operations, net of tax	$ 11

17. Condensed Consolidating Financial Statements

In connection with our acquisition of NYSE, Intercontinental Exchange, Inc., or ICE, and NYSE Holdings LLC, or NYSE Holdings, established various guarantees to protect against structural subordination of each entity's existing indebtedness. NYSE Holdings is our 100% owned subsidiary and fully and unconditionally guarantees, on an unsecured and unsubordinated basis, the payment of principal, premium, if any, and interest of our senior notes. Similarly, ICE fully and unconditionally guarantees, on an unsecured and unsubordinated basis, the payment of principal, premium, if any, and interest of the NYSE USD Notes. The guarantees will remain in place until the NYSE USD Notes mature in October 2017.

The following consolidating financial information sets forth, under the equity method of accounting, the condensed consolidating statements of income and comprehensive income, the condensed consolidating balance sheets, and the condensed consolidating statements of cash flows for (i) ICE (Parent); (ii) NYSE Holdings; (iii) the subsidiary non-guarantors; (iv) elimination entries necessary to consolidate each of ICE (Parent) and NYSE Holdings with the

non-guarantor subsidiaries; and (v) on a consolidated basis. The condensed consolidating financial information should be read in conjunction with the accompanying consolidated financial statements.

Intercontinental Exchange, Inc.
Condensed Consolidating Balance Sheets
As of December 31, 2016
(in millions)

	ICE (Parent)	Subsidiary Guarantor - NYSE Holdings	Subsidiary Non-Guarantors	Consolidating Adjustments	Consolidated Total
Current assets:					
Cash and cash equivalents	$1	$ —	$ 406	$ —	$ 407
Intercompany receivable	2,340	—	—	(2,340)	—
Margin deposits and guaranty funds	—	—	55,150	—	55,150
Notes receivable from affiliate, current	—	281	23	(304)	—
Other current assets	—	—	1,576	—	1,576
Total current assets	2,341	281	57,155	(2,644)	57,133
Property and equipment, net	—	—	1,129	—	1,129
Other non-current assets:					
Goodwill and other intangible assets, net	—	—	22,711	—	22,711
Investment in subsidiaries	23,266	13,238	—	(36,504)	—
Notes receivable from affiliate, non-current	620	5,958	6,373	(12,951)	—
Other non-current assets	100	11	919	—	1,030
Total other non-current assets	23,986	19,207	30,003	(49,455)	23,741
Total assets	$26,327	$ 19,488	$ 88,287	$ (52,099)	$ 82,003
Current liabilities:					
Short-term debt	$1,642	$ 851	$ —	$ —	$ 2,493
Margin deposits and guaranty funds	—	—	55,150	—	55,150
Intercompany payable	—	1,935	405	(2,340)	—
Notes payable to affiliates, current	281	23	—	(304)	—
Other current liabilities	31	—	943	—	974
Total current liabilities	1,954	2,809	56,498	(2,644)	58,617
Non-current liabilities:					
Long-term debt	3,871	—	—	—	3,871
Notes payable to affiliates, non-current	4,781	1,592	6,578	(12,951)	—
Other non-current liabilities	4	—	3,721	—	3,725
Total non-current liabilities	8,656	1,592	10,299	(12,951)	7,596
Total liabilities	10,610	4,401	66,797	(15,595)	66,213
Redeemable non-controlling interest	—	—	36	—	36
Equity:					
Total shareholders' equity	15,717	15,087	21,417	(36,504)	15,717
Non-controlling interest in consolidated subsidiaries	—	—	37	—	37
Total equity	15,717	15,087	21,454	(36,504)	15,754
Total liabilities and equity	$26,327	$ 19,488	$ 88,287	$ (52,099)	$ 82,003

Intercontinental Exchange, Inc.
Condensed Consolidating Balance Sheets
As of December 31, 2015
(in millions)

	ICE (Parent)	Subsidiary Guarantor - NYSE Holdings	Subsidiary Non-Guarantors	Consolidating Adjustments	Consolidated Total
Current assets:					
Cash and cash equivalents	$1	$ —	$ 626	$ —	$ 627
Intercompany receivable	3,176	—	—	(3,176)	—
Margin deposits and guaranty funds	—	—	51,169	—	51,169
Notes receivable from affiliate, current	—	705	77	(782)	—
Other current assets	5	—	1,512	—	1,517
Total current assets	3,182	705	53,384	(3,958)	53,313
Property and equipment, net	—	—	1,037	—	1,037
Other non-current assets:					
Goodwill and other intangible assets, net	—	—	22,837	—	22,837
Investment in subsidiaries	21,120	9,840	—	(30,960)	—
Notes receivable from affiliate, non-current	—	3,128	3,370	(6,498)	—
Other non-current assets	20	10	770	—	800
Total other non-current assets	21,140	12,978	26,977	(37,458)	23,637
Total assets	$24,322	$ 13,683	$ 81,398	$ (41,416)	$ 77,987
Current liabilities:					
Short-term debt	$2,591	$ —	$ —	$ —	$ 2,591
Margin deposits and guaranty funds	—	—	51,169	—	51,169
Intercompany payable	—	1,784	1,392	(3,176)	—
Notes payable to affiliates, current	358	—	424	(782)	—
Other current liabilities	36	—	947	—	983
Total current liabilities	2,985	1,784	53,932	(3,958)	54,743
Non-current liabilities:					
Long-term debt	3,865	852	—	—	4,717
Notes payable to affiliates, non-current	2,629	741	3,128	(6,498)	—
Other non-current liabilities	35	—	3,617	—	3,652
Total non-current liabilities	6,529	1,593	6,745	(6,498)	8,369
Total liabilities	9,514	3,377	60,677	(10,456)	63,112
Redeemable non-controlling interest	—	—	35	—	35
Equity:					
Total shareholders' equity	14,808	10,306	20,654	(30,960)	14,808
Non-controlling interest in consolidated subsidiaries	—	—	32	—	32
Total equity	14,808	10,306	20,686	(30,960)	14,840
Total liabilities and equity	$24,322	$ 13,683	$ 81,398	$ (41,416)	$ 77,987

Intercontinental Exchange, Inc.
Condensed Consolidating Statements of Income
Year Ended December 31, 2016
(in millions)

	ICE (Parent)	Subsidiary Guarantor - NYSE Holdings	Subsidiary Non-Guarantors	Consolidating Adjustments	Consolidated Total
Revenues:					
Transaction and clearing, net	$—	$ —	$ 3,384	$ —	$ 3,384
Data services	—	—	1,978	—	1,978
Listings and other revenues	—	—	596	—	596
Revenues	—	—	5,958	—	5,958
Transaction-based expenses	—	—	1,459	—	1,459
Revenues, less transaction-based expenses	—	—	4,499	—	4,499
Operating expenses:					
Compensation and benefits	1	—	944	—	945
Acquisition-related transaction and integration costs	—	—	80	—	80
Technology and communication	—	—	374	—	374
Selling, general, administrative and other	1	—	322	—	323
Depreciation and amortization	—	—	610	—	610
Operating expenses	2	—	2,330	—	2,332
Operating income (loss)	(2)	—	2,169	—	2,167
Intercompany interest on loans	(21)	49	(28)	—	—
Other income (expense), net	(145)	(16)	23	—	(138)
Total other income (expense), net	(166)	33	(5)	—	(138)
Income (loss) before income taxes	(168)	33	2,164	—	2,029
Income tax expense (benefit)	—	—	580	—	580
Equity earnings from subsidiaries	1,590	1,201	—	(2,791)	—
Net income	$1,422	$ 1,234	$ 1,584	$ (2,791)	$ 1,449
Net income attributable to non-controlling interest	—	—	(27)	—	(27)
Net income attributable to ICE	$1,422	$ 1,234	$ 1,557	$ (2,791)	1,422

Intercontinental Exchange, Inc.
Condensed Consolidating Statements of Comprehensive Income
Year Ended December 31, 2016
(in millions)

	ICE (Parent)	Subsidiary Guarantor - NYSE Holdings	Subsidiary Non-Guarantors	Consolidating Adjustments	Consolidated Total
Net income	$1,422	$ 1,234	$ 1,584	$ (2,791)	$ 1,449
Other comprehensive income (loss):					
Foreign currency translation adjustments	—	—	(300)	—	(300)
Change in fair value of available-for-sale securities	—	—	134	—	134
Employee benefit plan adjustments	—	—	10	—	10
Total other comprehensive loss	—	—	(156)	—	(156)
Comprehensive loss of subsidiaries	(156)	(83)	—	239	—

Comprehensive income	1,266	1,151	1,428	(2,552)	1,293
Comprehensive income attributable to non-controlling interests	—	—	(27)	—	(27)
Comprehensive income attributable to ICE	$ 1,266	$ 1,151	$ 1,401	$ (2,552)	$ 1,266

Intercontinental Exchange, Inc.
Condensed Consolidating Statements of Income
Year Ended December 31, 2015
(in millions)

	ICE (Parent)	Subsidiary Guarantor - NYSE Holdings	Subsidiary Non-Guarantors	Consolidating Adjustments	Consolidated Total
Revenues:					
Transaction and clearing, net	$—	$ —	$ 3,228	$ —	$ 3,228
Data services	—	—	871	—	871
Listings and other revenues	—	—	583	—	583
Revenues	—	—	4,682	—	4,682
Transaction-based expenses	—	—	1,344	—	1,344
Revenues, less transaction-based expenses	—	—	3,338	—	3,338
Operating expenses:					
Compensation and benefits	1	—	610	—	611
Acquisition-related transaction and integration costs	12	—	76	—	88
Technology and communication	—	—	203	—	203
Selling, general, administrative and other	1	—	311	—	312
Depreciation and amortization	—	—	374	—	374
Operating expenses	14	—	1,574	—	1,588
Operating income (loss)	(14)	—	1,764	—	1,750
Intercompany interest on loans	(5)	36	(31)	—	—
Other income (expense), net	(39)	(59)	1	—	(97)
Total other income (expense), net	(44)	(23)	(30)	—	(97)
Income (loss) before income taxes	(58)	(23)	1,734	—	1,653
Income tax expense	—	—	358	—	358
Equity earnings from subsidiaries	1,332	417	—	(1,749)	—
Net income	$1,274	$ 394	$ 1,376	$ (1,749)	$ 1,295
Net income attributable to non-controlling interest	—	—	(21)	—	(21)
Net income attributable to ICE	$1,274	$ 394	$ 1,355	$ (1,749)	$ 1,274

Intercontinental Exchange, Inc.
Condensed Consolidating Statements of Comprehensive Income
Year Ended December 31, 2015
(in millions)

	ICE (Parent)	Subsidiary Guarantor - NYSE Holdings	Subsidiary Non-Guarantors	Consolidating Adjustments	Consolidated Total
Net income	$1,274	$ 394	$ 1,376	$ (1,749)	$ 1,295
Other comprehensive income (loss):					
Foreign currency translation adjustments	—	—	(58)	—	(58)
Comprehensive income from equity method investment	—	—	2	—	2
Change in fair value of available-for-sale securities	—	—	(81)	—	(81)
Employee benefit plan adjustments	—	—	(5)	—	(5)

Total other comprehensive loss	—	—	(142)	—	(142)
Comprehensive loss of subsidiaries	(142)	(18)	—	160	—
Comprehensive income	1,132	376	1,234	(1,589)	1,153
Comprehensive income attributable to non-controlling interests	—	—	(21)	—	(21)
Comprehensive income attributable to ICE	$1,132	$ 376	$ 1,213	$ (1,589)	$ 1,132

Intercontinental Exchange, Inc.
Condensed Consolidating Statements of Income
Year Ended December 31, 2014
(in millions)

	ICE (Parent)	Subsidiary Guarantor - NYSE Holdings	Subsidiary Non-Guarantors	Consolidating Adjustments	Consolidated Total
Revenues:					
Transaction and clearing, net	$ —	$ —	$ 3,144	$ —	$ 3,144
Data services	—	—	691	—	691
Listings and other revenues	—	—	517	—	517
Revenues	—	—	4,352	—	4,352
Transaction-based expenses	—	—	1,260	—	1,260
Revenues, less transaction-based expenses	—	—	3,092	—	3,092
Operating expenses:					
Compensation and benefits	1	—	591	—	592
Acquisition-related transaction and integration costs	—	12	117	—	129
Technology and communication	—	—	188	—	188
Selling, general, administrative and other	1	—	401	—	402
Depreciation and amortization	—	—	333	—	333
Operating expenses	2	12	1,630	—	1,644
Operating income (loss)	(2)	(12)	1,462	—	1,448
Intercompany interest on loans	(2)	35	(33)	—	—
Other income (expense), net	(15)	(80)	54	—	(41)
Total other income (expense), net	(17)	(45)	21	—	(41)
Income (loss) from continuing operations before income taxes	(19)	(57)	1,483	—	1,407
Income tax expense (benefit)	(2)	—	404	—	402
Equity earnings from subsidiaries	998	535	—	(1,533)	—
Income from continuing operations	981	478	1,079	(1,533)	1,005
Income from discontinued operations, net of tax	—	—	11	—	11
Net income	$ 981	$ 478	$ 1,090	$ (1,533)	$ 1,016
Net income attributable to non-controlling interest	—	—	(35)	—	(35)
Net income attributable to ICE	$ 981	$ 478	$ 1,055	$ (1,533)	$ 981

Intercontinental Exchange, Inc.
Condensed Consolidating Statements of Comprehensive Income
Year Ended December 31, 2014
(in millions)

	ICE (Parent)	Subsidiary Guarantor - NYSE Holdings	Subsidiary Non-Guarantors	Consolidating Adjustments	Consolidated Total
Net income (loss)	$ 981	$ 478	$ 1,090	$ (1,533)	$ 1,016
Other comprehensive income (loss):					
Foreign currency translation adjustments	—	1	(131)	—	(130)
Change in fair value of net investment hedge	—	—	21	—	21
Change in fair value of available-for-sale securities	—	—	55	—	55

Employee benefit plan adjustments	—	—	(117)	—	(117)
Total other comprehensive income (loss)	—	1	(172)	—	(171)
Comprehensive income of subsidiaries	1,362	185	—	(1,547)	—
Comprehensive income	2,343	664	918	(3,080)	845
Comprehensive income attributable to non-controlling interests	—	—	(35)	—	(35)
Comprehensive income attributable to ICE	$ 2,343	$ 664	$ 883	$ (3,080)	$ 810

Intercontinental Exchange, Inc.
Condensed Consolidating Statements of Cash Flows
Year Ended December 31, 2016
(in millions)

	ICE (Parent)	Subsidiary Guarantor - NYSE Holdings	Subsidiary Non-Guarantors	Consolidating Adjustments	Consolidated Total
Net cash provided by (used in) operating activities	$ (850)	$ 1,381	$ 3,312	$ (1,694)	$ 2,149
Investing activities:					
Cash paid for acquisitions, net of cash acquired	—	—	(425)	—	(425)
Loans to subsidiaries	216	(2,406)	(2,949)	5,139	—
Capital expenditures and capitalized software development costs	—	—	(365)	—	(365)
Increase in restricted cash and investments	—	—	(38)	—	(38)
Other investing activities	—	—	(70)	—	(70)
Net cash provided by (used in) investing activities	216	(2,406)	(3,847)	5,139	(898)
Financing activities:					
Repayments of commercial paper, net	(949)	—	—	—	(949)
Intercompany borrowing	2,075	1,025	2,039	(5,139)	—
Dividends to shareholders	(409)	—	—	—	(409)
Intercompany dividends	—	—	(1,694)	1,694	—
Repurchases of common stock	(50)	—	—	—	(50)
Other financing activities	(33)	—	(21)	—	(54)
Net cash provided by (used in) financing activities	634	1,025	324	(3,445)	(1,462)
Effect of exchange rates on cash and cash equivalents	—	—	(9)	—	(9)
Net decrease in cash and cash equivalents	—	—	(220)	—	(220)
Cash and cash equivalents, beginning of year	1	—	626	—	627
Cash and cash equivalents, end of year	$ 1	$ —	$ 406	$ —	$ 407

Intercontinental Exchange, Inc.
Condensed Consolidating Statements of Cash Flows
Year Ended December 31, 2015
(in millions)

	ICE (Parent)	Subsidiary Guarantor - NYSE Holdings	Subsidiary Non-Guarantors	Consolidating Adjustments	Consolidated Total
Net cash provided by (used in) operating activities	$ (162)	$ 77	$ 1,518	$ (122)	$ 1,311
Investing activities:					
Cash paid for acquisitions, net of cash acquired	(3,751)	—	—	—	(3,751)
Loans to subsidiaries	(383)	(730)	(1,371)	2,484	—
Proceeds from term deposits, net	—	1,084	—	—	1,084
Capital expenditures and capitalized software development costs	—	—	(277)	—	(277)
Increase in restricted cash and investments	5	—	(299)	—	(294)
Other investing activities	—	—	(60)	—	(60)
Net cash provided by (used in) investing activities	(4,129)	354	(2,007)	2,484	(3,298)
Financing activities:					

Proceeds from debt facilities and commercial paper, net	4,158	—	—	—	4,158
Repayments of debt facilities	—	(1,028)	—	—	(1,028)
Intercompany borrowing	1,127	592	765	(2,484)	—
Dividends to shareholders	(331)	—	—	—	(331)
Intercompany dividends	—	—	(122)	122	—
Purchase of subsidiary shares from non-controlling interest	—	—	(128)	—	(128)
Repurchases of common stock	(660)	—	—	—	(660)
Other financing activities	(8)	—	(27)	—	(35)
Net provided by (cash used) in financing activities	4,286	(436)	488	(2,362)	1,976
Effect of exchange rates on cash and cash equivalents	—	—	(14)	—	(14)
Net decrease in cash and cash equivalents	(5)	(5)	(15)	—	(25)
Cash and cash equivalents, beginning of year	6	5	641	—	652
Cash and cash equivalents, end of year	$ 1	$ —	$ 626	$ —	$ 627

Intercontinental Exchange, Inc.
Condensed Consolidating Statements of Cash Flows
Year Ended December 31, 2014
(in millions)

	ICE (Parent)	Subsidiary Guarantor - NYSE Holdings	Subsidiary Non-Guarantors	Consolidating Adjustments	Consolidated Total
Net cash provided by operating activities from continuing operations	$ (350)	$ 4,651	$ (2,399)	$ (439)	$ 1,463
Investing activities:					
Cash paid for acquisitions, net of cash acquired	—	—	(577)	—	(577)
Loans to subsidiaries	—	(3,103)	(950)	4,053	—
Proceeds from IPO and sale of Euronext and sale of NYSE Technologies	—	—	2,274	—	2,274
Purchases of term deposits, net	—	(1,304)	54	—	(1,250)
Capital expenditures and capitalized software development costs	—	—	(250)	—	(250)
Increase in restricted cash and investments	—	—	(161)	—	(161)
Net cash provided by investing activities from continuing operations	—	(4,407)	390	4,053	36
Financing activities:					
Repayments of debt facilities and commercial paper, net	(174)	—	(378)	—	(552)
Intercompany borrowing	1,502	(239)	2,790	(4,053)	—
Dividends to shareholders	(299)	—	—	—	(299)
Intercompany dividends	—	—	(439)	439	—
Purchase of subsidiary shares from non-recurring interest	—		(129)		(129)
Repurchase of common stock	(645)	—	—	—	(645)
Other financing activities	(30)	—	(18)	—	(48)
Net cash used in financing activities from continuing operations	354	(239)	1,826	(3,614)	(1,673)
Cash and cash equivalents from discontinued operations	—	—	(114)	—	(114)
Effect of exchange rates on cash and cash equivalents	—	—	(21)	—	(21)
Net increase (decrease) in cash and cash equivalents	4	5	(318)	—	(309)
Cash and cash equivalents, beginning of year	2	—	959	—	961
Cash and cash equivalents, end of year	$ 6	$ 5	$ 641	$ —	$ 652

18. Segment Reporting

We operated as a single reportable business segment as of December 31, 2015 but began operating as two operating segments in the first quarter of 2016 following our acquisition of Interactive Data. As of December 31, 2016, we continue to operate as two business segments: our Trading and Clearing segment and our Data and Listings segment. This presentation is reflective of how our chief operating decision maker reviews and operates our business. Our Trading and Clearing segment comprises our transaction-based execution and clearing businesses. Our Data and Listings segment comprises our subscription-based data services and securities listings businesses. Our chief operating decision maker does not review total assets or statements of income below operating income by segments; therefore, such information is not presented below. Our two segments do not engage in intersegment transactions. Financial data for our business segments is as follows for the years ended December 31, 2016, 2015 and 2014 (in millions):

	Trading and	Data and Listings	Consolidated

	Clearing Segment	Segment	
Year Ended December 31, 2016			
Revenues, less transaction-based expenses	$ 2,102	$ 2,397	$ 4,499
Operating expenses	880	1,452	2,332
Operating income	1,222	945	2,167
Year Ended December 31, 2015			
Revenues, less transaction-based expenses	$ 2,062	$ 1,276	$ 3,338
Operating expenses	915	673	1,588
Operating income	1,147	603	1,750
Year Ended December 31, 2014			
Revenues, less transaction-based expenses	$ 2,034	$ 1,058	$ 3,092
Operating expenses	1,011	633	1,644
Operating income	1,023	425	1,448

Revenue from one clearing member of the Trading and Clearing segment comprised 10% of our Trading and Clearing revenues for the year ended December 31, 2016. Clearing members are primarily intermediaries and represent a broad range of principal trading firms. If a clearing member ceased its operations, we believe that the trading firms would continue to conduct transactions and would clear those transactions through another clearing member firm. No additional customers or clearing members accounted for more than 10% of our segment revenues or consolidated revenues for the years ended December 31, 2016, 2015 and 2014.

Geographical Information

The following represents our revenues, less transaction-based expenses, net assets and net property and equipment based on the geographic location (in millions):

	United States	Foreign Countries	Total
Revenues, less transaction-based expenses:			
Year ended December 31, 2016	$ 2,744	$ 1,755	$4,499
Year ended December 31, 2015	$ 1,973	$ 1,365	$3,338
Year ended December 31, 2014	$ 1,859	$ 1,233	$3,092
Net assets:			
As of December 31, 2016	$ 7,877	$ 7,913	$15,790
As of December 31, 2015	$ 6,827	$ 8,048	$14,875
Property and equipment, net:			
As of December 31, 2016	$ 1,009	$ 120	$1,129
As of December 31, 2015	$ 904	$ 133	$1,037

The foreign countries category above primarily relates to the U.K. and to a lesser extent, Continental Europe, Israel, Canada and Singapore.

19. Earnings Per Common Share

The following is a reconciliation of the numerators and denominators of the basic and diluted earnings per common share computations for the years ended December 31, 2016, 2015 and 2014 (in millions, except per share amounts):

	Year Ended December 31,		
	2016	2015	2014
Income from continuing operations	$1,449	$1,295	$1,005
Net income from continuing operations attributable to non-controlling interest	(27)	(21)	(35)
Net income from continuing operations attributable to ICE	1,422	1,274	970
Net income from discontinued operations attributable to ICE	—	—	11
Net income attributable to ICE	$1,422	$1,274	$981
Basic earnings per share attributable to ICE common shareholders:			
Continuing operations	$2.39	$2.29	$1.70
Discontinued operations	—	—	0.02
Basic earnings per share	$2.39	$2.29	$1.72
Basic weighted average common shares outstanding	595	556	570
Diluted earnings per share attributable to ICE common shareholders:			
Continuing operations	$2.37	$2.28	$1.69
Discontinued operations	—	—	0.02
Diluted earnings per share	$2.37	$2.28	$1.71
Diluted weighted average common shares outstanding	599	559	573
Basic weighted average common shares outstanding	595	556	570
Effect of dilutive securities - stock options and restricted stock	4	3	3
Diluted weighted average common shares outstanding	599	559	573

Basic earnings per common share is calculated using the weighted average common shares outstanding during the periods. The weighted average common shares outstanding increased for the year ended December 31, 2016, over the prior year period, primarily due to stock issued for the Interactive Data and Trayport acquisitions, partially offset by stock repurchases. The weighted average common shares outstanding decreased for the year ended December 31, 2015, from the prior year period, primarily due to stock repurchases during 2015, partially offset by the stock issued for the Interactive Data and Trayport acquisitions at the end of 2015. We issued 32.3 million shares of our common stock to Interactive Data stockholders and 12.6 million shares of our common stock to Trayport stockholders, weighted to show these additional shares outstanding for periods after the respective acquisition dates (Note 3). Common equivalent shares from stock options and restricted stock awards, using the treasury stock method, are included in the diluted per share calculations unless the effect of their inclusion would be antidilutive. During the years ended December 31, 2016, 2015 and 2014, 724,918, 836,405 and 773,436 outstanding stock options, respectively, were not included in the computation of diluted earnings per common share, because to do so would have had an antidilutive effect. As of December 31, 2016 and 2015, there were 110,265 and 227,330 restricted stock units, respectively, that were vested but have not been issued that are included in the computation of basic and diluted earnings per share. Certain figures in the table above may not recalculate due to rounding.

20. Quarterly Financial Data (Unaudited)

The following table has been prepared from our financial records and reflects all adjustments that are necessary for a fair presentation of the results of operations for the interim periods presented (in millions, except per share amounts):

	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
Year Ended December 31, 2016[a]				
Revenues, less transaction-based expenses	$1,154	$1,129	$1,078	$1,138
Operating income	584	551	474	558
Net income attributable to Intercontinental Exchange, Inc.	369	357	344	352
Earnings per common share[b]:				
Basic	$0.62	$0.60	$0.58	$0.59
Diluted	$0.62	$0.60	$0.57	$0.59
Year Ended December 31, 2015[a]				
Revenues, less transaction-based expenses	$850	$797	$816	$875
Operating income	462	430	440	418
Net income attributable to Intercontinental Exchange, Inc.	315	283	306	370
Earnings per common share[b]:				
Basic	$0.56	$0.51	$0.55	$0.66
Diluted	$0.56	$0.51	$0.55	$0.66

(a) We acquired Securities Evaluations and Credit Market Analysis on October 3, 2016, Interactive Data on December 14, 2015 and Trayport on December 11, 2015 and we have included their results with our consolidated results above effective from the acquisition dates (Note 3).

(b) The annual earnings per common share may not equal the sum of the individual quarter's earnings per common share due to rounding, and, during the year ended December 31, 2015, due to the 32.3 million and 12.6 million shares of our common stock issued to Interactive Data and Trayport stockholders, respectively, in connection with our acquisitions, weighted to show these additional shares outstanding for the period from the acquisition dates to December 31, 2015.

21. Subsequent Events

We have evaluated subsequent events and determined that no events or transactions met the definition of a subsequent event for purposes of recognition or disclosure in the accompanying consolidated financial statements.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE
None.

ITEM 9 (A). CONTROLS AND PROCEDURES
(a) Evaluation of Disclosure Controls and Procedures. As of the end of the period covered by this report, an evaluation was carried out by our management, with the participation of our Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934). Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that these disclosure controls and procedures were effective as of the end of the period covered by this report.
(b) Management's Annual Report on Internal Control over Financial Reporting and the Attestation Report of the Independent Registered Public Accounting Firm. Management's report on its assessment of the effectiveness of our internal control over financial reporting as of December 31, 2016 and the attestation report of Ernst & Young LLP on our internal control over financial reporting are set forth in Part II, Item 8 of this Annual Report.
(c) Changes in Internal Controls over Financial Reporting. There were no changes in our internal controls over financial reporting that occurred during our most recent fiscal quarter that have materially affected, or are reasonably likely to materially affect, our internal controls over financial reporting. As a result, no corrective actions were taken.

ITEM 9 (B). OTHER INFORMATION
Not applicable.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE
Information relating to our Board of Directors set forth under the caption "Item 1 — Election of Directors — Nominees for Election as Directors at the 2016 Annual Meeting" in our Proxy Statement for our 2017 Annual Meeting of Stockholders ("2017 Proxy Statement") is incorporated herein by reference. Information relating to our executive officers is, pursuant to Instruction 3 of Item 401(b) of Regulation S-K and General Instruction G(3) of Form 10-K, set forth below under the caption "Executive Officers." Information regarding compliance by our directors and executive officers and owners of more than ten percent of our Common Stock with the reporting requirements of Section 16(a) of the Exchange Act (Item 405 of Regulation S-K), set forth under the caption "Section 16(a) of the Securities Exchange Act Beneficial Ownership Reporting Compliance" in the 2017 Proxy Statement is incorporated herein by reference. Information relating to our financial expert serving on our Audit Committee (Item 407(d)(5) of Regulation S-K), our Nominating and Corporate Governance Committee (Item 407(c)(3) of Regulation S-K), and our Audit Committee (Item 407(d)(4) of Regulation S-K) is set forth under the caption "Meetings and Committees of the Board of Directors" in our 2017 Proxy Statement and is incorporated herein by reference.
Executive Officers
Set forth below, in accordance with General Instruction G(3) of Form 10-K and Instruction 3 to Item 401(b) of Regulation S-K, is information regarding our executive officers:

Name	Age	Title
Jeffrey C. Sprecher	61	Chairman of the Board and Chief Executive Officer
Charles A. Vice	53	President and Chief Operating Officer
Scott A. Hill	49	Chief Financial Officer
David S. Goone	56	Chief Strategy Officer
Johnathan H. Short	51	General Counsel and Corporate Secretary
Thomas W. Farley	41	President of NYSE

Jeffrey C. Sprecher. Mr. Sprecher has been a director and our Chief Executive Officer since our inception and has served as Chairman of our Board of Directors since November 2002. As our Chief Executive Officer, he is responsible

for our strategic direction, operational and financial performance. Mr. Sprecher acquired Continental Power Exchange (CPEX), our predecessor company, in 1997. Prior to acquiring CPEX, Mr. Sprecher held a number of positions, including President, over a fourteen-year period with Western Power Group, Inc., a developer, owner and operator of large central-station power plants. While with Western Power, he

was responsible for a number of significant financings. Mr. Sprecher holds a B.S. degree in Chemical Engineering from the University of Wisconsin and an MBA from Pepperdine University.

Charles A. Vice. Mr. Vice has served as Chief Operating Officer since July 2001 and President since October 2005. As President and Chief Operating Officer, Mr. Vice works with the executive management team in setting corporate objectives and strategies and has day-to-day responsibility for technology, operations, cyber security, and product development. For over 25 years, he has been a leader in the application of information technology in the energy and financial services industries. Prior to the founding of ICE in 2000, Mr. Vice was a Director at CPEX, an electronic market for trading electric power. Before joining the CPEX startup in 1994, he was a Principal at Energy Management Associates, where he provided consulting services to the electric power and natural gas industries. Mr. Vice earned a BS degree in Mechanical Engineering from the University of Alabama and an MBA from the Owen Graduate School of Management at Vanderbilt University. He serves on the Board of Visitors at the Owen School and the Leadership Board of the University of Alabama College of Engineering where he is a Distinguished Engineering Fellow.

Scott A. Hill. Mr. Hill has served as Chief Financial Officer since May 2007. As our Chief Financial Officer, he is responsible for overseeing all aspects of our finance and accounting functions, including treasury, tax, cash management and investor relations. In addition, Mr. Hill oversees our global clearing operations. Prior to joining us, Mr. Hill spent 16 years as an international finance executive for IBM. He oversaw IBM’s worldwide financial forecasts and measurements from 2006 through 2007, working alongside the Chief Financial Officer of IBM and with all of the company’s global business units. Prior to that, Mr. Hill was Vice President and Controller of IBM’s Japan multi-billion dollar business operation from 2003 through 2005. Mr. Hill earned his BBA in Finance from the University of Texas at Austin and his MBA from New York University.

David S. Goone. Mr. Goone has served as Chief Strategy Officer since March 2001. He is responsible for all aspects of our product line, including futures products and capabilities for ICE's electronic platform. Mr. Goone joined the Board of Directors at Cetip following our 2011 investment in the Brazilian clearing house and is currently the Vice-Chairman at Cetip and he serves on the Board of Directors of MERS. Mr. Goone also represents us on industry boards including the Options Clearing Corporation, National Futures Association and the Depository Trust & Clearing Corporation. Prior to joining us, Mr. Goone served as the Managing Director and Head of Product Development and Sales at the Chicago Mercantile Exchange where he worked for nine years. From 1989 through 1992, Mr. Goone was Vice President at Indosuez Carr Futures, where he developed institutional and corporate business. Prior to joining Indosuez, Mr. Goone worked at Chase Manhattan Bank, where he developed and managed their exchange-traded foreign currency options operation at the Chicago Mercantile Exchange. Mr. Goone holds a B.S. degree in Accountancy from the University of Illinois at Urbana-Champaign.

Johnathan H. Short. Mr. Short has served as General Counsel and Corporate Secretary since June 2004. In his role as General Counsel, he is responsible for managing our legal, regulatory and government affairs. As Corporate Secretary, he is also responsible for a variety of our corporate governance matters. Prior to joining us, Mr. Short was a partner at McKenna Long & Aldridge LLP, a national law firm. Mr. Short practiced in the corporate law group of McKenna, Long & Aldridge (and its predecessor firm, Long Aldridge & Norman LLP) from November 1994 until he joined us in June 2004. From April 1991 until October 1994, he practiced in the commercial litigation department of Long Aldridge & Norman LLP. Mr. Short holds a J.D. degree from the University of Florida, College of Law, and a B.S. in Accounting from the University of Florida, Fisher School of Accounting.

Thomas W. Farley. Mr. Farley has served as President of the NYSE since May 2014. He joined the NYSE as Chief Operating Officer following the closing of the NYSE Euronext acquisition in November 2013. Prior to this role, Mr. Farley served as our Senior Vice President of Financial Markets from June 2012 to November 2013 where he oversaw the development of initiatives within our OTC financial markets. Mr. Farley joined Intercontinental Exchange, Inc. in February 2007 as President of ICE Futures U.S., a position that he held until June 2012. Mr. Farley also represents us on the Options Clearing Corporation Board of Directors. From July 2006 to January 2007, Mr. Farley was President of SunGard Kiodex, a risk management technology provider to the commodity derivatives markets. From October 2000 to July 2006, Mr. Farley served as Kiodex’s Chief Financial Officer and he also served as Kiodex’s Chief Operating Officer from January 2003 to July 2006. Prior to Kiodex, Mr. Farley held positions in investment banking and private equity. Mr. Farley holds a B.A. in Political Science from Georgetown University and is a Chartered Financial Analyst.

Code of Ethics

We have adopted a Global Code of Business Conduct that applies to all of our employees, officers and directors. Our Global Code of Business Conduct meets the requirements of a “code of ethics” as defined by Item 406 of Regulation S-K, and applies to our Chief Executive Officer and Chief Financial Officer (who is the principal financial officer), as well as all other employees, as indicated above. Our Global Code of Business Conduct also meets the requirements of a code of ethics and business conduct under the New York Stock Exchange listing standards. Our Global Code of Business Conduct is available on our website at www.theice.com under the heading “About ICE,” “Investors” then “Governance.” We will also provide a copy of the Global Code of Business Conduct to stockholders at no charge upon written request.

ITEM 11. EXECUTIVE COMPENSATION

Information relating to executive compensation set forth under the captions “Item 1 — Election of Directors — Non-Employee Directors Compensation”, “Compensation Discussion & Analysis”, “Compensation Committee Report”, and “Compensation Committee Interlocks and Insider Participation” in our 2017 Proxy Statement is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Information regarding ownership of our common stock by certain persons as set forth under the caption “Security Ownership of Certain Beneficial Owners and Management” in our 2017 Proxy Statement is incorporated herein by reference. In addition, information in tabular form relating to securities authorized for issuance under our equity compensation plans is set forth under the caption “Equity Compensation Plan Information” in this Annual Report and “Equity” and “Pension and Other Benefit Programs” as described in Notes 10 and 14 to our consolidated financial statements in this Annual Report.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Information regarding certain relationships and transactions between our company and certain of our affiliates as set forth under the caption “Certain Relationships and Related Transactions” in our 2017 Proxy Statement is incorporated herein by reference. In addition, information regarding our directors’ independence (Item 407(a) of Regulation S-K) as set forth under the caption “Item 1 — Election of Directors — Nominees for Election as Directors at the 2017 Annual Meeting” in our 2017 Proxy Statement is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

Information regarding principal accountant fees and services of our independent registered public accounting firm, Ernst & Young LLP, is set forth under the caption “Information About the Company’s Independent Registered Public Accounting Firm Fees and Services” in our 2017 Proxy Statement and is incorporated herein by reference.

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. These consolidated financial statements are as follows:

- Consolidated Balance Sheets as of December 31, 2016 and 2015.
- Consolidated Statements of Income for the years ended December 31, 2016, 2015 and 2014.
- Consolidated Statements of Comprehensive Income for the years ended December 31, 2016, 2015 and 2014.
- Consolidated Statements of Changes in Equity, Accumulated Other Comprehensive Income (Loss) and Redeemable Non-Controlling Interest for the years ended December 31, 2016, 2015 and 2014.
- Consolidated Statements of Cash Flows for the years ended December 31, 2016, 2015 and 2014.
- Notes to Consolidated Financial Statements.

(2) Financial Statement Schedules

Schedules have been omitted because they are not applicable or the required information is included in the consolidated financial statements or notes, thereto.

(3) Exhibits

See (b) below.

(b) Exhibits

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The exhibits listed below under “Index to Exhibits” are filed with or incorporated by reference in this Report. Where such filing is made by incorporation by reference to a previously filed registration statement or report, such registration statement or report is identified in parentheses. We will furnish any exhibit upon request to Investor Relations, 5660 New Northside Drive, Atlanta, Georgia 30328.

SIGNATURES

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

Intercontinental Exchange,
Inc.
(Registrant)

Date: February 7, 2017 By: /s/ Jeffrey C. Sprecher
Jeffrey C. Sprecher
Chief Executive Officer

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Jeffrey C. Sprecher and Scott A. Hill, and each of them his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments to this Annual Report for the calendar year ended December 31, 2016 and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite or necessary to be done, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them, or their or his substitute or substitutes, 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 indicated as of the date indicated.

Signatures	Title	Date
/s/ Jeffrey C. Sprecher Jeffrey C. Sprecher	Chairman of the Board and Chief Executive Officer (principal executive officer)	February 7, 2017
/s/ Scott A. Hill Scott A. Hill	Chief Financial Officer (principal financial officer)	February 7, 2017
/s/ Dean S. Mathison Dean S. Mathison	Chief Accounting Officer and Corporate Controller (principal accounting officer)	February 7, 2017
/s/ Charles R. Crisp Charles R. Crisp	Director	February 7, 2017
/s/ Jean-Marc Forneri Jean-Marc Forneri	Director	February 7, 2017
/s/ Fredrick W. Hatfield Fredrick W. Hatfield	Director	February 7, 2017
/s/ Lord Hague of Richmond The Rt. Hon. the Lord Hague of Richmond	Director	February 7, 2017

Signatures	Title	Date
/s/ Thomas Noonan Thomas Noonan	Director	February 7, 2017
/s/ Frederic V. Salerno Frederic V. Salerno	Director	February 7, 2017
/s/ Judith A. Sprieser Judith A. Sprieser	Director	February 7, 2017
/s/ Vincent Tese Vincent Tese	Director	February 7, 2017

INDEX TO EXHIBITS

The following exhibits are filed with this Report. We will furnish any exhibit upon request to Intercontinental Exchange, Inc., Investor Relations, 5660 New Northside Drive, Third Floor, Atlanta, Georgia 30328.

Exhibit Number	Description of Document
2.1	Agreement and Plan of Merger by and among Intercontinental Exchange, Inc., Red Merger Sub Inc., Interactive Data Holdings Corporation, and Igloo Manager Co-Invest, LLC, solely in its capacity as Interactive Data stockholders' and option holders' agent and attorney-in-fact, dated October 26, 2015 (incorporated by referenced to Exhibit 2.1 to Intercontinental Exchange, Inc.'s Current Report on Form 8-K filed with the SEC on October 28, 2015, File No. 001-36198).
3.1	Third Amended and Restated Certificate of Incorporation of Intercontinental Exchange, Inc. effective October 12, 2016 (incorporated by reference to Exhibit 3.1 to Intercontinental Exchange, Inc.'s Current Report on Form 8-K filed with the SEC on October 12, 2016, File No. 001-36198).
3.2	Seventh Amended and Restated Bylaws of Intercontinental Exchange, Inc., effective January 31, 2017 (incorporated by reference to Exhibit 3.1 to Intercontinental Exchange, Inc.'s Current Report on Form 8-K filed with the SEC on February 1, 2017, File No. 001-36198).
4.1	Indenture dated as of October 8, 2013 among Intercontinental Exchange, Inc., as issuer, IntercontinentalExchange Inc. and Baseball Merger Sub, LLC, as guarantors, and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.1 to Intercontinental Exchange, Inc.'s Current Report on Form 8-K filed with the SEC on October 8, 2013, File No. 333-187402).
4.2	First Supplemental Indenture dated as of October 8, 2013 among Intercontinental Exchange, Inc., as issuer, Intercontinental Exchange Holdings, Inc. and Baseball Merger Sub, LLC, as guarantors, and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.2 to Intercontinental Exchange, Inc.'s Current Report on Form 8-K filed with the SEC on October 8, 2013, File No. 333-187402).
4.3	Form of 2.50% Senior Notes due 2018 (incorporated by reference to Exhibit 4.3 to Intercontinental Exchange, Inc.'s Current Report on Form 8-K filed with the SEC on October 8, 2013, File No. 333-187402).
4.4	Form of 4.00% Senior Notes due 2023 (incorporated by reference to Exhibit 4.4 to Intercontinental Exchange, Inc.'s Current Report on Form 8-K filed with the SEC on October 8, 2013, File No. 333-187402).
4.5	Guaranty of Intercontinental Exchange, Inc., dated as of November 13, 2013, relating to the NYSE Euronext Senior Notes (incorporated by reference to Exhibit 4.6 to Intercontinental Exchange, Inc.'s Current Report on Form 8-K filed with the SEC on November 13, 2013, File No. 001-36198).
4.6	Deed Poll Guarantee of Intercontinental Exchange, Inc., dated as of November 13, 2013, relating to the NYSE Euronext Eurobonds (incorporated by reference to Exhibit 4.8 to Intercontinental Exchange, Inc.'s Current Report on Form 8-K filed with the SEC on November 13, 2013, File No. 001-36198).
4.7	Indenture dated as of November 24, 2015 among Intercontinental Exchange, Inc., as issuer, NYSE Holdings LLC, as guarantor, and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.1 to Intercontinental Exchange, Inc.'s Current Report on Form 8-K filed with the SEC on November 24, 2015, File No. 001-36198).
4.8	First Supplemental Indenture dated as of November 24, 2015 among Intercontinental Exchange, Inc., as issuer,

	NYSE Holdings LLC, as guarantor, and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.2 to Intercontinental Exchange, Inc.’s Current Report on Form 8-K filed with the SEC on November 24, 2013, File No. 001-36198).
4.9	Form of 2.75% Senior Notes due 2020 (incorporated by reference to Exhibit 4.3 to Intercontinental Exchange, Inc.’s Current Report on Form 8-K filed with the SEC on November 24, 2015, File No. 001-36198).
4.10	Form of 3.75% Senior Notes due 2025 (incorporated by reference to Exhibit 4.4 to Intercontinental Exchange, Inc.’s Current Report on Form 8-K filed with the SEC on November 24, 2013, File No. 001-36198).
4.11	Form of Guaranty of NYSE Holdings LLC (incorporated by reference to Exhibit 4.5 to Intercontinental Exchange, Inc.’s Current Report on Form 8-K filed with the SEC on November 24, 2015, File No. 001-36198).
10.1	Employment Agreement dated February 24, 2012 between Intercontinental Exchange Holdings, Inc. and Jeffrey C. Sprecher (incorporated by reference to Exhibit 10.1 to Intercontinental Exchange Holdings, Inc.'s Current Report on Form 8-K filed with the SEC on February 24, 2012, File No. 001-32671).
10.2	Employment Agreement dated February 24, 2012 between Intercontinental Exchange Holdings, Inc. and Charles A. Vice (incorporated by reference to Exhibit 10.2 to Intercontinental Exchange Holdings, Inc.'s Current Report on Form 8-K filed with the SEC on February 24, 2012, File No. 001-32671).
10.3	Employment Agreement dated February 24, 2012 between Intercontinental Exchange Holdings, Inc. and David S. Goone (incorporated by reference to Exhibit 10.3 to Intercontinental Exchange Holdings, Inc.'s Current Report on Form 8-K filed with the SEC on February 24, 2012, File No. 001-32671).
10.4	Employment Agreement dated February 24, 2012 between Intercontinental Exchange Holdings, Inc. and Scott A. Hill (incorporated by reference to Exhibit 10.5 to Intercontinental Exchange Holdings, Inc.'s Current Report on Form 8-K filed with the SEC on February 24, 2012, File No. 001-32671).

10.5	Employment Agreement dated June 18, 2012 between Intercontinental Exchange Holdings, Inc. and Thomas W. Farley (incorporated by reference to Exhibit 10.6 to Intercontinental Exchange Holdings, Inc.’s Annual Report on Form 10-K filed with the SEC on February 6, 2013, File No. 001-32671).
10.6	Form of Employment Agreement between Intercontinental Exchange Holdings, Inc. and the other U.S. officers (incorporated by reference to Exhibit 10.6 to Intercontinental Exchange Holdings, Inc.'s Current Report on Form 8-K filed with the SEC on February 24, 2012, File No. 001-32671).
10.7	Intercontinental Exchange Holdings, Inc. 2000 Stock Option Plan, as amended effective December 31, 2008 (incorporated by reference to Exhibit 10.6 to Intercontinental Exchange Holdings, Inc.'s Annual Report on Form 10-K filed with the SEC on February 11, 2009, File No. 001-32671).
10.8	Intercontinental Exchange Holdings, Inc. 2003 Restricted Stock Deferral Plan for Outside Directors, as amended effective December 31, 2008 (incorporated by reference to Exhibit 10.7 to Intercontinental Exchange Holdings, Inc.'s Annual Report on Form 10-K filed with the SEC on February 11, 2009, File No. 001-32671).
10.9	Intercontinental Exchange Holdings, Inc. Executive Bonus Plan (incorporated by reference to Exhibit 10.1 to Intercontinental Exchange Holdings, Inc.'s Quarterly Report on Form 10-Q filed with the SEC on August 5, 2009, File No. 001-32671).
10.10	Intercontinental Exchange Holdings, Inc. 2009 Omnibus Incentive Plan (incorporated by reference to Exhibit 10.2 to Intercontinental Exchange Holdings, Inc.'s Quarterly Report on Form 10-Q filed with the SEC on August 5, 2009, File No. 001-32671).
10.11	Intercontinental Exchange Holdings, Inc. 2013 Omnibus Employee Incentive Plan (incorporated by reference to Exhibit 4.1 to Intercontinental Exchange Holdings, Inc.’s Registration Statement on Form S-8, filed with the SEC on May 24, 2013, File No. 333-188815).
10.12	Intercontinental Exchange Holdings, Inc. 2013 Omnibus Non-Employee Director Incentive Plan (incorporated by reference to Exhibit 4.2 to Intercontinental Exchange Holdings, Inc.’s Registration Statement on Form S-8, filed with the SEC on May 24, 2013, File No. 333-188815).
10.13	NYSE Amended and Restated Omnibus Incentive Plan (as amended and restated effective October 27, 2010) (incorporated by reference to Exhibit 10.33 to NYSE Euronext’s Annual Report on Form 10-K filed with the SEC on February 28, 2011, File No. 001-33392).
10.14	NYSE Euronext 2006 Stock Incentive Plan (as amended and restated effective October 27, 2010) (incorporated by reference to Exhibit 10.19 to NYSE Euronext’s Annual Report on Form 10-K filed with the SEC on February 28, 2011, File No. 001-33392).
10.15	Form of Performance-Based Restricted Stock Unit Award Agreement used with respect to grants of performance-based restricted stock units by the Company under the Intercontinental Exchange Holdings, Inc. 2013 Omnibus Employee Incentive Plan (incorporated by reference to Exhibit 10.11 to Intercontinental Exchange, Inc.’s Current Report on Form 8-K filed with the SEC on November 13, 2013, File No. 001-36198).
10.16	Patent License Agreement, dated as of March 29, 2002, between eSpeed, Inc. and Intercontinental Exchange Holdings, Inc. (incorporated by reference to Exhibit 10.16 to Intercontinental Exchange Holdings, Inc.'s Registration Statement on Form S-1 filed with the SEC on June 6, 2005, File No. 333-123500).
10.17	Contribution and Asset Transfer Agreement, dated as of May 11, 2000, by and between IntercontinentalExchange, LLC, Continental Power Exchange, Inc., and Jeffrey C. Sprecher (incorporated by reference to Exhibit 10.31 to Intercontinental Exchange Holdings, Inc.'s Registration Statement on Form S-1 filed with the SEC on October 25, 2005, File No. 333-123500).
10.18	First Amendment to Contribution and Asset Transfer Agreement, dated as of May 17, 2000, by and among IntercontinentalExchange, LLC, Continental Power Exchange, Inc., and Jeffrey C. Sprecher (incorporated by reference to Exhibit 10.32 to Intercontinental Exchange Holdings, Inc.'s Registration Statement on Form S-1 filed with the SEC on October 25, 2005, File No. 333-123500).
10.19	Second Amendment to Contribution and Asset Transfer Agreement, dated as of October 24, 2005, by and among Intercontinental Exchange Holdings, Inc., Continental Power Exchange, Inc., and Jeffrey C. Sprecher (incorporated by reference to Exhibit 10.33 to Intercontinental Exchange Holdings, Inc.'s Registration Statement on Form S-1 filed with the SEC on October 25, 2005, File No. 333-123500).
10.20	—

Intercontinental Exchange Holdings, Inc. Amended and Restated 1999 Stock Option/Stock Issuance Plan (formerly the Creditex Group Inc. Amended and Restated 1999 Stock Option/Stock Issuance Plan) (incorporated by reference to Exhibit 4.1 to Intercontinental Exchange Holdings, Inc.'s Registration Statement on Form S-8 filed with the SEC on September 2, 2008, File No. 333-153299).

10.21 Aircraft Time Sharing Agreement dated as of February 6, 2012 between Intercontinental Exchange Holdings, Inc. and Jeffrey C. Sprecher (incorporated by reference to Exhibit 10.37 to Intercontinental Exchange Holdings, Inc.'s Annual Report on Form 10-K filed with the SEC on February 8, 2012, File No. 001-32671).

10.22 Aircraft Time Sharing Agreement dated as of February 6, 2012 between Intercontinental Exchange Holdings, Inc. and Charles A. Vice (incorporated by reference to Exhibit 10.38 to Intercontinental Exchange Holdings, Inc.'s Annual Report on Form 10-K filed with the SEC on February 8, 2012, File No. 001-32671).

10.23 Credit Agreement dated as of April 3, 2014 among Intercontinental Exchange, Inc. and ICE Europe Parent Limited, as borrowers, Wells Fargo Bank, National Association, as administrative agent, issuing lender and swingline lender, Bank of America, N.A., as syndication agent, and each of the lenders party thereto for an aggregate $3.0 billion five-year senior unsecured revolving credit facility (incorporated by reference to Exhibit 10.1 to Intercontinental Exchange, Inc.'s Current Report on Form 8-K filed with the SEC on April 7, 2014).

10.24 First Amendment to Credit Agreement dated as of May 15, 2015 amending Credit Agreement originally dated April 3, 2014 among Intercontinental Exchange, Inc. (formerly known as IntercontinentalExchange Group, Inc.) and ICE Europe Parent Limited, as borrowers, Wells Fargo Bank, National Association, as administrative agent, issuing lender and swingline lender, Bank of America N.A., as syndication agent, and each of the lenders party thereto for an aggregate $3.0 billion five-year senior unsecured revolving credit facility (incorporated by reference to Exhibit 10.1 to Intercontinental Exchange, Inc.’s Current Report on Form 8-K filed with the SEC on May 19, 2015, File No. 001-36198).

10.25 Second Amendment to Credit Agreement dated as of November 9, 2015 among Intercontinental Exchange, Inc. and ICE Europe Parent Limited, as borrowers, the lenders party thereto and Wells Fargo Bank, National Association, as administrative agent, amending that certain Credit Agreement, dated April 3, 2014 (as amended by the First Amendment to Credit Agreement, dated as of May 15, 2015) among Intercontinental Exchange, Inc. and ICE Europe Parent Limited, as borrowers, the lenders party thereto and Wells Fargo Bank, National Association, as administrative agent, (incorporated by reference to Exhibit 10.1 to Intercontinental Exchange, Inc.’s Current Report on Form 8-K filed with the SEC on November 13, 2015, File No. 001-36198).

10.26 Third Amendment to Credit Agreement dated as of November 13, 2015 among Intercontinental Exchange, Inc. and ICE Europe Parent Limited, as borrowers, the lenders party thereto and Wells Fargo Bank, National Association, as administrative agent, amending that certain Credit Agreement, dated as of April 3, 2014 (as amended by the First Amendment to Credit Agreement, dated as of May 15, 2015 and the Second Amendment to Credit Agreement, dated as of November 9, 2015) among Intercontinental Exchange, Inc. and ICE Europe Parent Limited, as borrowers, the lenders party thereto and Wells Fargo Bank, National Association, as administrative agent, (incorporated by reference to Exhibit 10.2 to Intercontinental Exchange, Inc.’s Current Report on Form 8-K filed with the SEC on November 13, 2015, File No. 001-36198).

10.27 Credit Agreement dated as of November 13, 2015 among Intercontinental Exchange, Inc., as borrower, Wells Fargo Bank, National Association, as administrative agent, Bank of America, N.A., as syndication agent, and each of the lenders party thereto for a 364 day revolving senior unsecured credit facility in the aggregate principal amount of $500 million (incorporated by reference to Exhibit 10.3 to Intercontinental Exchange, Inc.’s Current Report on Form 8-K filed with the SEC on November 13, 2015, File No. 001-36198).

10.28 Underwriting Agreement dated as of June 19, 2014 among Euronext N.V., Intercontinental Exchange, Inc. and ICE Europe Parent Limited, and the Managers named therein (incorporated by reference to Exhibit 10.1 to Intercontinental Exchange, Inc.'s Current Report on Form 8-K filed with the SEC on June 25, 2014).

10.29 Underwriting Agreement dated as of November 19, 2015 among Intercontinental Exchange, Inc., NYSE Holdings LLC and Merrill Lynch, Pierce, Fenner & Smith Incorporated and Wells Fargo Securities, LLC, as representatives of the underwriters named therein (incorporated by reference to Exhibit 1.1 to Intercontinental Exchange, Inc.'s Current Report on Form 8-K filed with the SEC on November 24, 2015, File No. 001-36198).

10.30 Underwriting Agreement dated December 16, 2015 among Intercontinental Exchange, Inc., Credit Suisse Securities (USA) LLC and certain parties listed therein (incorporated by reference to Exhibit 1.1 to Intercontinental Exchange, Inc.'s Current Report on Form 8-K filed with the SEC on December 22, 2015, File No. 001-36198).

10.31 Stockholders and Registration Rights Agreement, dated December 14, 2015 by and among Intercontinental Exchange, Inc. and the Holders named therein (incorporated by reference to Exhibit 4.1 to Intercontinental

	Exchange, Inc.'s Current Report on Form 8-K filed with the SEC on December 14, 2015, File No. 001-36198).
10.32	Form of Agreement Relating to Noncompetition and Other Covenants signed by each of the non-employee directors and by Intercontinental Exchange, Inc. (incorporated by reference to Exhibit 10.01 to Intercontinental Exchange, Inc.'s Current Report on Form 8-K filed with the SEC on May 17, 2016, File No. 001-36198).
12	Computation of Ratio of Earnings to Fixed Charges
21.1	Subsidiaries of Intercontinental Exchange, Inc.
23.1	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.
24.1	Power of Attorney (included with signature page hereto).
31.1	Rule 13a -14(a)/15d -14(a) Certification of Chief Executive Officer.
31.2	Rule 13a -14(a)/15d -14(a) Certification of Chief Financial Officer.
32.1	Section 1350 Certification of Chief Executive Officer.
32.2	Section 1350 Certification of Chief Financial Officer.
101	The following materials from Intercontinental Exchange, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2016 formatted in XBRL (Extensible Business Reporting Language): (i) the Consolidated Balance Sheets, (ii) the Consolidated Statements of Income, (iii) the Consolidated Statements of Changes in Equity, Accumulated Other Comprehensive Income (Loss) and Redeemable Non-Controlling Interest, (iv) the Consolidated Statements of Comprehensive Income, (v) Consolidated Statements of Cash Flows and (vi) Notes to Consolidated Financial Statements, tagged as blocks of text.**

** As provided in Rule 406T of Regulation S-T, this information is “furnished” and not “filed” for purposes of Sections 11 and 12 of the Securities Act of 1933 and Section 18 of the Securities Exchange Act of 1934. Such exhibit will not be deemed to be incorporated by reference into any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934 unless Intercontinental Exchange, Inc. specifically incorporates it by reference.