CHICAGO MERCANTILE EXCHANGE INC. AND SUBSIDIARIES

Financial Statements

For the Years Ended December 31, 2017 and 2016

CHICAGO MERCANTILE EXCHANGE INC. AND SUBSIDIARIES
FINANCIAL STATEMENTS
INDEX

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Report of Independent Auditors

The Board of Directors and Shareholders of
Chicago Mercantile Exchange Inc. and Subsidiaries

We have audited the accompanying consolidated financial statements of Chicago Mercantile Exchange Inc. and subsidiaries, which comprise the consolidated balance sheets as of December 31, 2017 and 2016, and the related consolidated statements of income, comprehensive income, shareholder's equity and cash flows for the years then ended, and the related notes to the consolidated financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in conformity with U.S. generally accepted accounting principles; this includes the design, implementation and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free of material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the 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 involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Chicago Mercantile Exchange Inc. and subsidiaries at December 31, 2017 and 2016, and the consolidated results of their operations and their cash flows for the years then ended in conformity with U.S. generally accepted accounting principles.

Ernst & Young LLP

March 21, 2018

CHICAGO MERCANTILE EXCHANGE INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS
(in millions, except share and per share data)

	December 31, 2017	December 31, 2016
Assets		
Current Assets:		
Cash and cash equivalents	$ 717.1	$ 721.6
Marketable securities	62.7	56.9
Accounts receivable, net of allowance of $0.5 and $1.0	142.0	145.3
Other current assets	93.0	64.3
Due from affiliates	230.3	287.6
Performance bonds and guaranty fund contributions	44,184.7	37,269.9
Total current assets	45,429.8	38,545.6
Property, net	308.2	325.9
Intangible assets - other, net of accumulated amortization of $9.7 and $8.4	7.3	8.6
Goodwill	17.7	17.7
Other assets	116.7	94.9
Total Assets	$ 45,879.7	$ 38,992.7
Liabilities and Shareholder's Equity		
Current Liabilities:		
Accounts payable	$ 24.1	$ 16.3
Other current liabilities	173.4	159.6
Due to affiliates	73.2	102.0
Performance bonds and guaranty fund contributions	44,184.7	37,269.2
Total current liabilities	44,455.4	37,547.1
Other liabilities	215.2	224.7
Total Liabilities	44,670.6	37,771.8
Shareholder's Equity:		
Common stock, $0.01 par value, 1,000 shares authorized, 100 shares issued and outstanding	—	—
Additional paid-in capital	787.2	739.5
Retained earnings	457.4	519.3
Accumulated other comprehensive income (loss)	(35.5)	(37.9)
Total Shareholder's Equity	1,209.1	1,220.9
Total Liabilities and Shareholder's Equity	$ 45,879.7	$ 38,992.7

See accompanying notes to consolidated financial statements.

CHICAGO MERCANTILE EXCHANGE INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF INCOME
(in millions)

	Year Ended December 31, 2017	Year Ended December 31, 2016
Revenues		
Clearing and transaction fees	$ 1,184.4	$ 1,215.0
Fees from affiliates	552.7	527.5
Market data and information services	136.3	133.3
Access and communication fees	99.5	89.1
Other	36.7	39.3
Total Revenues	2,009.6	2,004.2
Expenses		
Compensation and benefits	429.1	413.4
Communications	16.3	15.8
Technology support services	73.0	65.8
Professional fees and outside services	93.0	105.9
Amortization of purchased intangibles	1.3	1.9
Depreciation and amortization	87.5	97.0
Occupancy and building operations	47.7	50.8
Licensing and other fee agreements	117.7	97.2
Other	292.1	341.4
Total Expenses	1,157.7	1,189.2
Operating Income	851.9	815.0
Non-Operating Income (Expense)		
Investment income	436.4	79.5
Interest and other borrowing costs	(33.9)	(34.4)
Other	(329.7)	(43.5)
Total Non-Operating	72.8	1.6
Income before Income Taxes	924.7	816.6
Income tax provision	358.4	307.0
Net Income	$ 566.3	$ 509.6

See accompanying notes to consolidated financial statements.

CHICAGO MERCANTILE EXCHANGE INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(in millions)

	Year Ended December 31,	
	2017	2016
Net income	$ 566.3	$ 509.6
Other comprehensive income, net of tax:		
Investment securities:		
Net unrealized holding gains (losses) arising during the period	—	0.1
Income tax benefit (expense)	—	—
Investment securities, net	—	0.1
Defined benefit plan:		
Net change in defined benefit plan arising during the period	0.3	(5.1)
Amortization of net actuarial losses and prior service costs included in pension expense	2.9	3.2
Income tax benefit (expense)	(0.8)	0.7
Defined benefit plan, net	2.4	(1.2)
Other comprehensive gain (loss), net of tax	2.4	(1.1)
Comprehensive income	$ 568.7	$ 508.5

See accompanying notes to consolidated financial statements.

CHICAGO MERCANTILE EXCHANGE INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF SHAREHOLDER'S EQUITY
(in millions, except shares)

	Common Stock (shares)	Common Stock and Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Shareholder's Equity
Balance at December 31, 2015	100	$ 675.7	$ 667.7	$ (36.8)	$ 1,306.6
Net income			509.6		509.6
Other comprehensive income (loss)				(1.1)	(1.1)
Cash dividends to CME Group Inc.			(658.0)		(658.0)
Excess tax benefits from option exercises and restricted stock vesting		6.0			6.0
Stock-based compensation		57.8			57.8
Balance at December 31, 2016	100	739.5	519.3	(37.9)	1,220.9
Net income			566.3		566.3
Other comprehensive income				2.4	2.4
Cash dividends to CME Group Inc.			(626.0)		(626.0)
Impact of adoption of standards update on employee share-based payments, net of tax		1.4	(2.2)		(0.8)
Stock-based compensation		46.3			46.3
Balance at December 31, 2017	100	$ 787.2	$ 457.4	$ (35.5)	$ 1,209.1

See accompanying notes to consolidated financial statements.

CHICAGO MERCANTILE EXCHANGE INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS
(in millions)

	Year Ended December 31,	
	2017	**2016**
Cash Flows from Operating Activities		
Net income	$ 566.3	$ 509.6
Adjustments to reconcile net income to net cash provided by operating activities:		
Stock-based compensation	46.3	57.8
Depreciation and amortization	87.5	97.0
Loss on datacenter	—	27.1
Deferred income taxes	64.4	(0.5)
Change in assets and liabilities:		
Net due to or from affiliates	28.5	(61.3)
Accounts receivable	3.8	(10.6)
Other current assets	(28.7)	(2.2)
Other assets	(84.6)	(0.5)
Accounts payable	7.8	(1.1)
Other current liabilities	10.1	(4.2)
Other liabilities	(15.2)	(7.5)
Other	1.5	1.8
Net Cash Provided by Operating Activities	687.7	605.4
Cash Flows from Investing Activities		
Purchases of property, net	(66.2)	(68.2)
Net Cash Used in Investing Activities	(66.2)	(68.2)
Cash Flows from Financing Activities		
Cash dividends to CME Group Inc.	(626.0)	(658.0)
Excess tax benefits from option exercises and restricted stock vesting	—	6.0
Proceeds from finance lease obligation	—	130.0
Receipts from bilateral loan agreement with CME Group Inc.	845.8	480.0
Payments from bilateral loan agreement with CME Group Inc.	(845.8)	(480.0)
Net Cash Used in Financing Activities	(626.0)	(522.0)
Net change in cash and cash equivalents	(4.5)	15.2
Cash and cash equivalents, beginning of period	721.6	706.4
Cash and Cash Equivalents, End of Period	$ 717.1	$ 721.6
Supplemental Disclosure of Cash Flow Information		
Income taxes paid	$ 27.7	$ 73.8
Interest paid	6.6	0.5

See accompanying notes to consolidated financial statements.

CHICAGO MERCANTILE EXCHANGE INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. ORGANIZATION AND BUSINESS

Chicago Mercantile Exchange Inc. (CME, the exchange or the company), a wholly-owned subsidiary of CME Group Inc. (CME Group), is a designated contract market (DCM) for the trading of futures and options on futures contracts. CME offers a wide range of products including those based on interest rates, equities, foreign exchange and agricultural commodities. Trades are executed through electronic trading platforms, open outcry and privately negotiated transactions. CME is also a derivatives clearing organization (DCO). Through its clearing house, CME offers clearing, settlement, and guarantees for all products cleared through the company and its affiliates. CME also provides clearing and other services to non-affiliated third-parties. CME serves as a swap execution facility, which is a regulated platform for swap trading, and serves as a swap data repository, which provides public data on swap transactions and stores confidential swap data for regulatory purposes.

2. SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation. The accompanying consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States and include the accounts of the company and its majority-owned subsidiaries. All intercompany transactions and balances have been eliminated.

Use of Estimates. The preparation of consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts and the disclosure of contingent amounts in the consolidated financial statements and accompanying notes. Estimates are based on historical experience, where applicable, and assumptions management believes are reasonable under the circumstances. Due to the inherent uncertainty involved with estimates, actual results may differ.

Cash and Cash Equivalents. Cash and cash equivalents consist of cash and highly liquid investments with a maturity of three months or less at the time of purchase.

Financial Investments. The company maintains short-term marketable securities, classified as available-for-sale or trading securities. Available-for-sale investments are carried at their fair value, with unrealized gains and losses, net of deferred income taxes, reported as a component of accumulated other comprehensive income. Trading securities held in connection with non-qualified deferred compensation plans are recorded at fair value, with net realized and unrealized gains and losses and dividend income reported as investment income. Also, the company maintains long-term investments within other assets accounted for under the cost method.

The company reviews its investments to determine whether a decline in fair value below the cost basis is other-than-temporary. If events and circumstances indicate that a decline in the value of the assets has occurred and is deemed to be other-than-temporary, the carrying value of the investments is reduced to its fair value and a corresponding impairment is charged to earnings.

Fair Value of Financial Instruments. The company uses a three-level classification hierarchy of fair value measurements that establishes the quality of inputs used to measure fair value. The fair value of a financial instrument is the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value of financial instruments is determined using various techniques that involve some level of estimation and judgment, the degree of which is dependent on the price transparency and the complexity of the instruments.

The hierarchy is broken down into three levels based on the reliability of inputs as follows:

- Level 1 - Inputs consist of quoted prices (unadjusted) for identical assets or liabilities in active markets. Level 1 inputs are considered the most reliable evidence of fair value.
- Level 2 - Inputs consist of observable market data, 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 consist of unobservable inputs which are derived and cannot be corroborated by market data or other entity-specific inputs.

Accounts Receivable. Accounts receivable are comprised of trade receivables and unbilled revenue. All accounts receivable are stated at cost. Exposure to losses on receivables for clearing and transaction fees and other amounts owed by clearing firms is dependent on each clearing firm's financial condition and the memberships that collateralize fees owed to the exchange. The exchange retains the right to liquidate exchange memberships to satisfy a clearing firm's receivable. The allowance for doubtful accounts is calculated based on historical losses and management's assessment of probable future collections.

Performance Bonds and Guaranty Fund Contributions. Performance bonds and guaranty fund contributions held for clearing firms may be in the form of cash, securities or other non-cash deposits.

Performance bonds and guaranty fund contributions received in the form of cash held by CME may be invested in U.S. government securities, U.S. government agency securities and certain foreign government securities acquired through and held by a bank or broker-dealer subsidiary of a bank, a cash account at the Federal Reserve Bank of Chicago, reverse repurchase agreements secured with highly rated government securities, money market funds or through CME's Interest Earning Facility (IEF) program. Any interest earned on CME investments accrues to CME and is included in investment income in the consolidated statements of income. CME may distribute any interest earned on its investments to the clearing firms at its discretion. Because CME has control of the cash collateral and the benefits and risks of ownership accrue to CME, cash performance bonds and guaranty fund contributions are reflected in the consolidated balance sheets. Performance bonds and guaranty fund contributions assets on the consolidated balance sheets can include reinvestments in U.S. Treasury and U.S. government agency securities with maturity dates of 90 days or less. U.S. Treasury and U.S. government agency securities can be purchased by CME, at its discretion, using cash collateral.

Securities and other non-cash deposits may include U.S. Treasury securities, U.S. government agency securities, Eurobonds, corporate bonds, other foreign government securities and gold bullion. Securities and other non-cash deposits are held in safekeeping by a custodian bank. Interest and gains or losses on securities deposited to satisfy performance bond and guaranty fund requirements accrue to the clearing firm. Because the benefits and risks of ownership accrue to the clearing firm, non-cash performance bonds and guaranty fund contributions are not reflected in the consolidated balance sheets.

Property, Equipment and Leasehold Improvements. Property, equipment and leasehold improvements are stated at cost, less accumulated depreciation and amortization. Depreciation and amortization are calculated using the straight-line method, generally over two to thirty-nine years. Property and equipment are depreciated over their estimated useful lives. Leasehold improvements are amortized over the shorter of the remaining term of the respective lease to which they relate or the remaining useful life of the leasehold improvement. Land is reported at cost. Internal and external costs incurred in developing or obtaining computer software for internal use which meet the requirements for capitalization are amortized on a straight-line basis over the estimated useful life of the software, generally two to four years.

Operating Leases. Most leases in which the company is the tenant are accounted for as operating leases. Landlord allowances are recorded as a reduction to rent expense on a straight-line basis over the term of the lease. For sale leaseback transactions, the company evaluates the sale and the lease arrangement based on the company's continuing involvement and recognizes the sale leaseback as either a sale leaseback transaction or under the financing method, which requires the asset to remain on the consolidated balance sheets throughout the term of the lease and the proceeds to be recognized as a finance lease obligation. A portion of the lease payments is recognized as a reduction of the finance lease obligation and a portion is recognized as interest expense based on an imputed interest rate.

Goodwill and Other Intangible Assets. Goodwill represents the excess of the purchase price over the fair value of the net assets acquired in a business combination. The company reviews goodwill and indefinite-lived intangible assets for impairment at least quarterly and whenever events or circumstances indicate that their carrying values may not be recoverable. The company may test goodwill quantitatively for impairment by comparing the carrying value of a reporting unit to its estimated fair value. Estimating the fair value of a reporting unit involves significant judgments inherent in the analysis including estimating the amount and timing of future cash flows and the selection of appropriate discount rates and long-term growth rate assumptions. Changes in these estimates and assumptions could materially affect the determination of fair value for the reporting unit. If the carrying amount exceeds fair value, an impairment loss is recorded. In certain circumstances, goodwill may be reviewed qualitatively for indications of impairment without utilizing valuation techniques to estimate fair value.

The company evaluates the recoverability of indefinite-lived intangible assets at least quarterly by comparing the estimated fair value of the intangible asset to its carrying value. If the indefinite-lived intangible asset carrying value exceeds its fair value, an impairment loss is recognized in an amount equal to that excess. Estimating the fair value of indefinite-lived intangible assets involves the use of valuation techniques that rely on significant estimates and assumptions including forecasted revenue growth rates, forecasted allocations of expense and risk-adjusted discount rates. Changes in these estimates and assumptions could materially affect the determination of fair value for indefinite-lived intangible assets. In certain circumstances, indefinite-lived intangible assets may be reviewed qualitatively for indications of impairment without utilizing valuation techniques to estimate fair value.

Intangible assets subject to amortization are also assessed for impairment at least quarterly or when indicated by a change in economic or operational circumstances. The impairment assessment of these assets requires management to first compare the book value of the amortizing asset to undiscounted cash flows. If the book value exceeds the undiscounted cash flows, management is then required to estimate the fair value of the assets and record an impairment loss for the excess of the carrying value over the fair value and annually challenge the useful lives.

Business Combinations. The company accounts for business combinations using the acquisition method. The method requires the acquirer to recognize the assets acquired, liabilities assumed, and any non-controlling interest in the acquiree at the acquisition date, measured at their fair values as of that date. The company may use independent valuation services to assist in determining the estimated fair values.

Employee Benefit Plans. The company recognizes the funded status of defined benefit postretirement plans in its consolidated balance sheets. Changes in that funded status are recognized in the year of change in other comprehensive income (loss). Plan assets and obligations are measured at year end. The company recognizes future changes in actuarial gains and losses and prior service costs in the year in which the changes occur through accumulated other comprehensive income (loss).

Foreign Currency Accounting. Foreign denominated assets and liabilities are re-measured into the functional currency using period-end exchange rates. Gains and losses from foreign currency transactions are included in other expense in the accompanying consolidated statements of income.

Revenue Recognition. Revenue recognition policies for specific sources of revenue are discussed below.

Clearing and Transaction Fees. Clearing and transaction fees include per-contract charges for trade execution, clearing, trading on the company's electronic trading platform and other fees. Fees are charged at various rates based on the product traded, the method of trade, the exchange trading privileges of the customer making the trade and the type of contract. Clearing and transaction fees are recognized as revenue when a buy and sell order are matched and the trade is cleared. Therefore, unfilled or canceled buy and sell orders have no impact on revenue. On occasion, the customer's exchange trading privileges may not be properly entered by the clearing firm and incorrect fees are charged for the transactions. When this information is corrected within the time period allowed by the exchange, a fee adjustment is provided to the clearing firm. A reserve is established for estimated fee adjustments to reflect corrections to customer exchange trading privileges. The reserve is based on the historical pattern of adjustments processed as well as specific adjustment requests. The company believes the allowances are adequate to cover estimated adjustments.

Market Data and Information Services. Market data and information services represent revenue earned for the dissemination of market information. Revenues are accrued each month based on the number of devices reported by vendors. The exchange conducts periodic examinations of the number of devices reported and assesses additional fees as necessary. On occasion, customers will pay for services in a lump sum payment; however, revenue is recognized as services are provided.

Access and Communication Fees. Access fees are the connectivity charges to customers of the company's electronic trading platform that are also used by market data vendors and customers. The fees include co-location fees, access fees for the electronic trading platform, line charges and hardware rental charges and can vary depending on the type of connection provided. An additional installation fee may be charged depending on the type of service requested and a disconnection fee may also be charged if certain conditions are met. Revenue is generally recognized monthly as the service is provided.

Communication fees consist of equipment rental and usage charges to customers and firms that utilize various telecommunications hubs located internationally as well as networks and services in the Chicago and New York City facilities. Revenue is billed and recognized on a monthly basis.

Other Revenues. Other revenues include fees for collateral management and fees for trade order routing through agreements from various strategic relationships as well as other services to members and clearing firms. Revenue is recognized as services are provided.

Marketing Costs. Marketing costs are incurred for the production and communication of advertising as well as other marketing activities. These costs are expensed when incurred, except for costs related to the production of broadcast advertising, which are expensed when the first broadcast occurs.

Income Taxes. Deferred income taxes arise from temporary differences between the tax basis and book basis of assets and liabilities. A valuation allowance is recognized if it is anticipated that some or all of a deferred tax asset may not be realized. The company accounts for uncertainty in income taxes recognized in its consolidated financial statements by using a more-likely-than-not recognition threshold based on the technical merits of the tax position taken or expected to be taken. The company classifies interest and penalties related to uncertain tax positions in income tax expense.

Newly Adopted and Recently Issued Accounting Pronouncements. In March 2016, the Financial Accounting Standards Board (FASB) issued a standards update that changes certain aspects of accounting for share-based payments to employees. The guidance requires all income tax effects of awards to be recognized in the income statement when the awards vest or are settled. It also allows an employer to repurchase more of an employee's shares for tax withholding purposes without triggering liability accounting and to make a policy election to account for forfeitures as they occur. The company implemented this standards update as of January 1, 2017 on a prospective basis. Starting in the first quarter of 2017, all income tax effects of awards are recognized in the income statement as part of income tax expense when the awards vest or are settled. For the year-ended 2017, the company recognized a net tax benefit of $12.9 million related to the income tax effects of awards as part of income tax expense. The company also adopted a policy to recognize forfeitures as compensation expense as the forfeitures occur. Previously, the company estimated the number of awards that would be forfeited and recognized the estimate as part of compensation expense. This policy change was adopted on a modified retrospective basis with a cumulative-effect adjustment to additional paid in capital and retained earnings as of January 1, 2017. The excess tax benefits are now reported as an operating activity within the change in income taxes payable instead of a financing activity on the statements of cash flows. Prior periods have not been adjusted for this change. The employee taxes paid by the company when the company withholds shares for tax-withholding purposes when restricted stock awards vest are now classified as a financing activity on the statements of cash flows. Prior periods have been adjusted for this change.

In May 2014, the FASB issued a new standard on revenue recognition that replaces numerous, industry-specific requirements and converges U.S. accounting standards with International Financial Reporting Standards. The new standard introduces a framework for recognizing revenue that focuses on the transfer of control rather than risks and rewards. The new standard also requires significant additional disclosures about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments, changes in judgments and assets recognized from costs incurred to obtain or fulfill a contract. The application of the new standard becomes effective in the first annual period beginning after December 15, 2017, with early adoption permitted. This guidance may be adopted using one of two transition methods: retrospectively to each prior reporting period presented (full retrospective method) or retrospectively with the cumulative effect of initially applying the guidance recognized at the date of initial adoption (the modified retrospective approach). The company has completed the contract review and implementation phases and will adopt the standard as of January 1, 2018 using the modified retrospective approach. Management will recognize a $8.3 million reduction to the opening balance of retained earnings as of January 1, 2018 upon adoption of the standard, which it believes to be an immaterial impact to the consolidated financial statements. The adjustment to the opening balance of retained earnings primarily relates to a deferral of a portion of clearing and transaction fees revenue earned and recognized subsequent to the contract trade execution date. The on-going application of the new standard is not expected to have a material impact on the company's financial statements. The adoption of the guidance will also include expanded disclosures within the notes to the consolidated financial statements.

In January 2016, the FASB issued a standards update that will change how entities measure certain equity investments. It does not change the guidance for classifying and measuring investments in debt securities and loans. Under the new guidance, entities will have to measure many equity investments at fair value and recognize any changes in fair value in net income, unless the investments qualify for a practicability exception. Entities will no longer be able to recognize unrealized holding gains and losses on equity securities classified today as available for sale in other comprehensive income. The update is effective for reporting periods beginning after December 15, 2017. Early adoption is permitted. The company does not believe that the adoption of this guidance in 2018 will have a material impact on the consolidated financial statements.

In February 2016, the FASB issued a standards update that requires lessees to recognize on the balance sheet the assets and liabilities associated with the rights and obligations created by those leases. The guidance for lessors is largely unchanged from current U.S. GAAP. Under the new guidance, a lessee will be required to recognize assets and liabilities for leases with lease terms of more than 12 months. Consistent with current U.S. GAAP, the recognition, measurement, and presentation of expenses and cash flows arising from a lease by a lessee primarily will depend on its classification as a finance or operating lease. The update is effective for reporting periods beginning after December 15, 2018. Early adoption is permitted. Adoption of the guidance in 2019 will result in the gross-up of our balance sheet to reflect the present value of the lease payments over the lease term and offsetting lease liability at the lease commencement date. Presentation of lease expense and the pattern of expense recognition in the income statement is expected to remain materially consistent with existing lease accounting guidance.

In June 2016, the FASB issued guidance that changes how credit losses are measured for most financial assets measured at amortized cost and certain other instruments. The standard requires an entity to estimate its lifetime expected credit loss and record an allowance, that when deducted from the amortized cost basis of the financial asset, presents the net amount expected to be collected on the financial asset. This forward-looking expected loss model generally will result in the earlier recognition of allowances for losses. The standard also amends the impairment model for available for sale debt securities and requires entities to determine whether all or a portion of the unrealized loss on an available for sale debt security is a credit loss. Severity and duration of the unrealized loss are no longer permissible factors in concluding whether a credit loss exists. Entities will recognize improvements to estimated credit losses on available for sale debt securities immediately in earnings rather than as interest income over time. The standard is effective for reporting periods beginning after December 15, 2019. The standard’s provisions must be applied as a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is effective. Early adoption is permitted for reporting periods beginning in 2019. The company does not believe that the adoption of this guidance in 2020 will have a material impact on the consolidated financial statements.

In November 2016, the FASB issued a standards update aimed at promoting consistency in the classification and presentation of changes in restricted cash on the statement of cash flows. Previously, there was diversity in practice as to whether the change in restricted cash was included in the reconciliation of beginning-of-period and end-of-period total cash amounts shown on the statement of cash flows. The amendments require that a statement of cash flows explain the change during the period in the total of cash, cash equivalents, as well as amounts described as restricted cash on the balance sheet. This guidance is effective for fiscal years beginning after December 15, 2017 and interim periods within those fiscal years. Early adoption is permitted. The amendments must be applied using a retrospective transition method to each period presented. The adoption of this guidance in 2018 will not have a material impact on the consolidated financial statements.

In March 2017, the FASB issued a standards update that will change certain presentation and disclosure requirements for employers that sponsor defined benefit pension as well as other postretirement benefit plans. Under current accounting rules, defined benefit pension cost and postretirement benefit cost (net benefit cost) comprise several components that reflect different aspects of an employer's financial arrangements as well as the cost of benefits provided to the employees. Those components are aggregated for reporting in the financial statements within compensation and benefits on the income statement. The amendments in the update require that the service cost component is reported in the same line as other compensation costs, whereas the other components of net benefit cost are required to be presented in the income statement separately from the service cost component. The amendments are effective for reporting periods beginning after December 15, 2017. Early adoption is permitted as of the beginning of an annual period for which financial statements have not been issued. The company will change the presentation of certain components of pension cost upon adoption of this guidance in 2018; however, this change will not have a material impact on the consolidated financial statements.

In August 2017, the FASB issued a standards update that amends the existing hedge accounting model to enable entities to better reflect their risk management activities in the financial statements. The amendments expand an entity's ability to hedge nonfinancial and financial risk components and reduce complexity in fair value hedges of interest rate risk. The guidance eliminates the requirement to separately measure and report hedge ineffectiveness and generally requires the entire change in the fair value of a hedging instrument to be presented in the same income statement line as the hedged item. The guidance also eases certain documentation and assessment requirements and modifies the accounting for components excluded from the assessment of hedge effectiveness. The guidance is effective for fiscal years beginning after December 15, 2018. Early adoption is permitted. The company does not believe that the adoption of this standard will have a material impact on the consolidated financial statements.

In December 2017, the staff of the Securities and Exchange Commission (SEC) issued a staff accounting bulletin that addresses situations where the accounting is incomplete for certain income tax effects of the Tax Cuts and Jobs Act (2017 Tax Act) by the time an entity issues its financial statements for 2017. The guidance provides for a measurement period of up to one year after the enactment date to finalize the recording of the related tax impacts. Under existing accounting guidance, entities are required to adjust current and deferred tax liabilities and assets for the effects of changes in tax laws or rates at their date of enactment. However, pursuant to the staff accounting bulletin, if an entity does not have the necessary information available, prepared, or analyzed for certain income tax effects of the 2017 Tax Act at the time an entity's financial statements are issued, an entity may include provisional amounts to reflect its accounting for the change in tax law. The measurement period ends when the company has obtained, prepared and analyzed the information necessary to finalize its accounting, but cannot extend beyond one year. Additional information regarding the adoption of this guidance is contained in note 8.

In February 2018, the FASB issued guidance that gives entities the option to reclassify to retained earnings the tax effects related to items in accumulated other comprehensive income (AOCI) that were previously stranded within AOCI as a result of applying the 2017 Tax Act. An entity that elects to reclassify these amounts must reclassify stranded tax effects related to the change in federal tax rate for all items accounted for within AOCI. Entities can also elect to reclassify other stranded tax effects that relate to the 2017 Tax Act but do not directly relate to the change in federal rate. Tax effects that are stranded in AOCI for other reasons may not be reclassified. These amendments should be applied either in the period of adoption as a cumulative adjustment to the opening balance of retained earnings or retrospectively to each period in which the effect of the 2017 Tax Act is recognized. This guidance is effective for entities with fiscal years beginning after December 15, 2018. Early adoption is permitted. The company is in the process of evaluating the impact of this guidance on the consolidated financial statements.

3. TRANSACTIONS WITH AFFILIATED COMPANIES

The company transacts business in the normal course of operations with affiliates including its parent and entities under common ownership control. Affiliates include, but are not limited to, CME Group, Board of Trade of the City of Chicago, Inc. (CBOT), New York Mercantile Exchange, Inc. (NYMEX) and Commodity Exchange, Inc. (COMEX).

Fees from affiliates. CME receives fees from affiliates for shared operational and administrative services including, but not limited to, clearing and transaction processing; data distribution; network and infrastructure connectivity and maintenance; marketing, and staffing resources. In 2017 and 2016, CME recognized fees from affiliates of $552.7 million and $527.5 million, respectively.

Fees to affiliates. CME pays a fee to various affiliates for marketing, software development and market data services. In 2017 and 2016, CME recognized fees to affiliates of $199.3 million and $235.2 million, respectively. These expenses were included in other expenses in the consolidated statements of income.

Allocation of stock-based compensation expense. CME employees receive stock option, restricted stock awards and performance shares under CME Group's stock-based incentive plans. Stock-based compensation costs and excess tax benefits related to stock-based incentives received by CME's employees are recorded as additional paid-in capital in shareholder's equity.

Allocation of income taxes. CME is included in the consolidated federal and state income tax returns of its parent, CME Group. Income tax expense is allocated to members of the consolidated group based on a separate entity basis and presented on a separate entity basis as well.

Amounts due from and to affiliates. Amounts due from and to affiliates represent unsecured receivables and payables for shared services and income taxes. At December 31, 2017, amounts due from (to) affiliates consisted of the following:

(in millions)	Shared Services	Income Taxes	Total	Due from Affiliates	Due to Affiliates	Total
CME Group	$ 6.9	$ (47.5)	$ (40.6)	$ —	$ (40.6)	$ (40.6)
CBOT	64.7	—	64.7	64.7	—	64.7
NYMEX	152.1	—	152.1	152.1	—	152.1
COMEX	(11.7)		(11.7)	—	(11.7)	(11.7)
CME Marketing Europe Limited	(10.8)	—	(10.8)	—	(10.8)	(10.8)
Other affiliates	3.4	—	3.4	13.5	(10.1)	3.4
Total	$ 204.6	$ (47.5)	$ 157.1	$ 230.3	$ (73.2)	$ 157.1

At December 31, 2016, amounts due from (to) affiliates consisted of the following:

(in millions)	Shared Services	Income Taxes	Total	Due from Affiliates	Due to Affiliates	Total
CME Group	$ 16.0	$ 14.0	$ 30.0	$ 30.0	$ —	$ 30.0
CBOT	51.7	—	51.7	51.7	—	51.7
NYMEX	195.7	—	195.7	195.7	—	195.7
COMEX	(65.9)		(65.9)	—	(65.9)	(65.9)
CME Marketing Europe Limited	(14.4)	—	(14.4)	—	(14.4)	(14.4)
CME Group International Market Data Limited	(14.5)	—	(14.5)	—	(14.5)	(14.5)
Other affiliates	3.0	—	3.0	10.2	(7.2)	3.0
Total	$ 171.6	$ 14.0	$ 185.6	$ 287.6	$ (102.0)	$ 185.6

Intercompany debt. CME and CME Group have entered into an intercompany bilateral loan agreement in which each entity may make loans to the other entity. The agreement will expire in March 2020. The outstanding loan receivable or payable amount cannot exceed $750.0 million and can be voluntarily prepaid. Interest accrued based on the prime rate, which ranged from 3.75% to 4.50% during 2017 and is payable quarterly or in connection with a voluntary prepayment. There were no outstanding balances on the loan agreement as of December 31, 2017 and 2016.

CME also maintains an intercompany committed line of credit agreement with CME Group. CME may use the proceeds for its general operating expenses and those of its subsidiaries. The line of credit provides for borrowings of up to $400.0 million. The agreement will expire in March 2020. The company has the option to request an increase in the line of credit from $400.0 million up to $500.0 million. During 2017 and 2016, the company did not borrow against this facility.

4. MARKETABLE SECURITIES

Trading Securities. The company maintains additional investments in a diverse portfolio of mutual funds related to its non-qualified deferred compensation plan (note 9). The fair value of these securities was $62.4 million and $56.6 million at December 31, 2017 and 2016, respectively.

Available-for-Sale Securities. An asset-backed security has been classified as available for sale. The amortized cost and fair value of the asset-backed security at December 31, 2017 and December 31, 2016 were both $0.6 million and $0.3 million, respectively.

Net unrealized gains (losses) on marketable securities classified as available for sale are reported as a component of other comprehensive income (loss) and included in the accompanying consolidated statements of comprehensive income and shareholder's equity.

The gross unrealized loss totaled $0.3 million during both years ended December 31, 2017 and 2016. The asset-backed security was in an unrealized loss position for more than 12 months at both December 31, 2017 and 2016. The company has the ability and intent to hold the asset-backed security until a recovery of fair value, which may be at maturity, and does not consider the asset-backed security to be other-than-temporarily impaired at December 31, 2017. Based on its contractual terms, the asset-backed security is scheduled to mature in 2037.

5. PERFORMANCE BONDS AND GUARANTY FUND CONTRIBUTIONS

The clearing house clears and guarantees the settlement of contracts traded in its markets. In its guarantor role, the clearing house has precisely equal and offsetting claims to and from clearing firms on opposite sides of each contract, standing as an intermediary on every contract cleared. Clearing firm positions in the United States are held according to Commodity and Futures Trading Commission (CFTC) regulatory account segregation standards. To the extent that funds are not otherwise available to satisfy an obligation under the applicable contract, the clearing house bears counterparty credit risk in the event that future market movements create conditions that could lead to clearing firms failing to meet their obligations to the clearing house. The clearing house reduces the exposure through risk management programs that include initial and ongoing financial standards for designation as a clearing firm, performance bond requirements, daily mark-to-market, mandatory guaranty fund contributions and intra-day monitoring.

Each clearing firm is required to deposit and maintain balances in the form of cash, U.S. government securities, certain foreign government securities, bank letters of credit or other approved investments to satisfy performance bond and guaranty fund requirements. All non-cash deposits are marked-to-market and haircut on a daily basis. Securities deposited by the clearing firms are not reflected in the consolidated financial statements and the clearing house does not earn any interest on these deposits. These balances may fluctuate significantly over time due to investment choices available to clearing firms and changes in the amount of contributions required.

The clearing house marks-to-market open positions at least once a day (twice a day for futures and options contracts), and require payment from clearing firms whose positions have lost value and make payments to clearing firms whose positions have gained value. The clearing house has the capability to mark-to-market more frequently as market conditions warrant.

Under the extremely unlikely scenario of simultaneous default by every clearing firm who has open positions with unrealized losses, the maximum exposure related to positions other than credit default and interest rate swap contracts would be one half day of changes in fair value of all open positions, before considering the clearing houses' ability to access defaulting clearing firms' collateral deposits. For cleared interest rate swap and credit default swap contracts, the maximum exposure related to CME's guarantee would be one full day of changes in fair value of all open positions, before considering CME's ability to access defaulting clearing firms' collateral. During 2017, the clearing house transferred an average of approximately $2.4 billion a day through the clearing system for settlement from clearing firms whose positions had lost value to clearing firms whose positions had gained value. The clearing house reduces the guarantee exposure through initial and maintenance performance bond requirements and mandatory guaranty fund contributions. The company believes that the guarantee liability is immaterial and therefore has not recorded any liability at December 31, 2017.

At December 31, 2016, performance bond and guaranty fund contribution assets on the consolidated balance sheets included cash as well as U.S. Treasury and U.S. government agency securities with maturity dates of 90 days or less. The U.S. Treasury and U.S. government agency securities were purchased by CME, at its discretion, using cash collateral. The benefits, including interest earned, and risks of ownership accrue to CME. Interest earned is included in investment income on the consolidated statements of income. There were no U.S. Treasury and U.S. government agency securities held at December 31, 2017.

The amortized cost and fair value of these securities at December 31, 2016 were as follows:

	2016	
(in millions)	**Amortized Cost**	**Fair Value**
U.S. Treasury securities	$ 5,548.9	$ 5,549.0
U.S. government agency securities	1,228.3	1,228.3

CME has been designated as a systemically important financial market utility by the Financial Stability Oversight Council and maintains a cash account at the Federal Reserve Bank of Chicago. At December 31, 2017 and December 31, 2016, CME maintained $34.2 billion and $6.2 billion, respectively, within the cash account at the Federal Reserve Bank of Chicago.

Clearing firms, at their option, may instruct CME to deposit the cash held by CME into one of the IEF programs. The total principal in the IEF programs was $1.1 billion at December 31, 2017 and $6.8 billion at December 31, 2016.

CME and The Options Clearing Corporation (OCC) have a perpetual cross-margin arrangement, whereby a clearing firm may maintain a cross-margin account in which a clearing firm's positions in certain equity index futures and options are combined with certain positions cleared by OCC for purposes of calculating performance bond requirements. The performance bond deposits are held jointly by CME and OCC. Cross-margin cash, securities and letters of credit jointly held with OCC under the cross-margin agreement are reflected at 50% of the total, or CME's proportionate share per that agreement. If a participating firm defaults, the gain or loss on the liquidation of the firm's open position and the proceeds from the liquidation of the cross-margin account would be allocated 50% each to CME and OCC. The company believes that the guarantee liability is immaterial and therefore has not recorded any liability at December 31, 2017.

In addition, CME has perpetual cross-margin agreements with Fixed Income Clearing Corporation (FICC) whereby the clearing firms' offsetting positions with CME and FICC are subject to reduced performance bond requirements. Clearing firms maintain separate performance bond deposits with each clearing house, but depending on the net offsetting positions between CME and FICC, each clearing house may reduce that firm's performance bond requirements. In the event of a firm default, the total liquidation net gain or loss on the firm's offsetting open positions and the proceeds from the liquidation of the performance bond collateral held by each clearing house's supporting offsetting positions would be divided evenly between CME and FICC. Additionally, if, after liquidation of all the positions and collateral of the defaulting firm at each respective clearing organization, and taking into account any cross-margining loss sharing payments, any of the participating clearing organizations has a remaining liquidating surplus, and any other participating clearing organization has a remaining liquidating deficit, any additional surplus from the liquidation would be shared with the other clearing house to the extent that it has a remaining liquidating deficit. Any remaining surplus funds would be passed to the bankruptcy trustee. The company believes that the guarantee liability is immaterial and therefore has not recorded any liability at December 31, 2017.

Each CME clearing firm for futures and options is required to deposit and maintain specified guaranty fund contributions in the form of cash or approved securities. In the event that performance bonds, guaranty fund contributions and other assets required to support clearing membership of a defaulting CME clearing firm are inadequate to fulfill that clearing firm's outstanding financial obligation, the base guaranty fund for contracts other than interest rate and credit default swaps is available to cover potential losses after first utilizing $100.0 million of corporate contributions designated by CME to be used in the event of a default of a clearing firm for the base guaranty fund.

CME maintains separate guaranty funds to support the clearing firms that clear interest rate swap products and credit default swap products. The funds for interest rate and credit default swaps are independent of the base guaranty fund and are isolated to clearing firms for products in the respective asset class. Each clearing firm for cleared interest rate swaps and cleared credit default swaps is required to deposit and maintain specified guaranty fund contributions in the form of cash or approved securities. In the event that performance bonds, guaranty fund contributions and other assets required to support clearing membership of a defaulting clearing firm for cleared interest rate swap contracts are inadequate to fulfill that clearing firm's outstanding financial obligation, the interest rate swaps contracts guaranty fund is available to cover potential losses after first utilizing $150.0 million of corporate contributions designated by CME to be used in the event of a default of a cleared interest rate swap clearing firm. In the event that performance bonds, guaranty fund contributions and other assets required to support clearing membership of a defaulting clearing firm for cleared credit default swap contracts are inadequate to fulfill that clearing firm's outstanding financial obligation, the credit default swaps contracts guaranty fund is available to cover potential losses after first utilizing corporate contributions designated by CME to be used in the event of default of a cleared credit default swap clearing firm, which is equal to the greater of $50.0 million and 5% of the credit default swap guaranty fund, up to a maximum of $100.0 million. In September 2017, the company announced its plan to exit the credit default business by mid-2018. The disposal of the credit default swap business does not represent a strategic shift that would have a major effect on the company's operations and financial results and therefore will not be classified as discontinued operations.

CME maintains a 364-day multi-currency line of credit with a consortium of domestic and international banks to be used in certain situations by the clearing house. CME may use the proceeds to provide temporary liquidity in the unlikely event of a clearing firm default, in the event of a liquidity constraint or default by a depositary (custodian of the collateral), or in the event of a temporary disruption with the domestic payments system that would delay payment of settlement variation between CME and its clearing firms. Clearing firm guaranty fund contributions received in the form of cash or U.S. Treasury securities as well as the performance bond assets of a defaulting firm can be used to collateralize the facility. The line of credit provides for borrowings of up to $7.0 billion. At December 31, 2017, guaranty fund contributions available for CME clearing firms were $7.8 billion. CME has the option to request an increase in the line from $7.0 billion to $10.0 billion, subject to the approval of participating banks. In addition to the 364-day fully secured, committed multi-currency line of credit, the company also has the option to use the $2.3 billion multi-currency revolving senior credit facility to provide liquidity for the clearing house in the unlikely event of default.

CME is required under the Commodity Exchange Act in the United States to segregate cash and securities deposited by clearing firms on behalf of its customers. In addition, CME requires segregation of all funds deposited by its clearing firms from operating funds.

Cash and non-cash deposits held as performance bonds and guaranty fund contributions at fair value at December 31 were as follows:

	2017		2016	
(in millions)	Cash	Non-Cash Deposits and IEF Funds	Cash	Non-Cash Deposits and IEF Funds
Performance bonds[(1)]	$ 41,809.5	$ 86,730.4	$ 35,570.2	$ 111,764.2
Guaranty fund contributions	2,281.2	6,102.4	1,585.7	5,246.3
Cross-margin arrangements[(2)]	93.4	21.5	107.9	351.3
Performance bond collateral for delivery	0.6	—	6.1	—
Total	$ 44,184.7	$ 92,854.3	$ 37,269.9	$ 117,361.8

(1) Cash performance bonds include cash collateral reinvested in U.S. Treasury securities and U.S. government agency securities at December 31, 2016.

(2) Cross-margin arrangements include collateral for the cross-margin accounts with OCC and FICC.

Cash performance bonds may include intraday settlement, if any, that is owed to the clearing firms and paid the following business day. The balance of intraday settlements was $111.0 million and $131.7 million at December 31, 2017 and 2016, respectively. Intraday settlements may be invested on an overnight basis and are offset by an equal liability owed to clearing firms.

In addition to cash, securities and other non-cash deposits, irrevocable letters of credit may be used as performance bond deposits for clearing firms. At December 31, these letters of credit, which are not included in the accompanying consolidated balance sheets, were as follows:

(in millions)	2017	2016
Performance bonds	$ 2,348.4	$ 2,273.7
Cross-margin arrangements	59.5	—
Total Letters of Credit	$ 2,407.9	$ 2,273.7

All cash, securities and letters of credit posted as performance bonds are only available to meet the financial obligations of that clearing firm to the clearing house.

6. PROPERTY

A summary of the property accounts at December 31 is presented below:

(in millions)	2017	2016	Estimated Useful Life
Building and building improvements	138.5	138.5	3 - 39 years
Leasehold improvements	111.5	116.0	3 - 24 years
Furniture, fixtures and equipment	242.3	228.5	2 - 7 years
Software and software development costs	343.4	311.7	2 - 4 years
Total property	835.7	794.7	
Less accumulated depreciation and amortization	(527.5)	(468.8)	
Property, net	$ 308.2	$ 325.9	

7. DEBT

CME maintains a 364-day multi-currency revolving secured credit facility with a consortium of domestic and international banks to be used in certain situations by CME Clearing. The facility provides for borrowings of up to $7.0 billion. CME may use the proceeds to provide temporary liquidity in the unlikely event of a clearing firm default, in the event of a liquidity constraint or default by a depositary (custodian for our collateral), or in the event of a temporary disruption with the domestic payments system that would delay payment of settlement variation between us and our clearing firms. CME clearing firm guaranty fund contributions received in the form of cash or U.S. Treasury securities as well as the performance bond assets of a defaulting firm can be used to collateralize the facility. At December 31, 2017, guaranty funds available to collateralize the facility totaled $7.8 billion. We have the option to request an increase in the line from $7.0 billion to $10.0 billion. Throughout 2017 and 2016, the company did not borrow any funds against this facility. However, in order to ensure that the facility would operate as intended, CME periodically draws down nominal amounts of funds against the line of credit and immediately repays the amounts borrowed. The 364-day multi-currency line of credit contains a requirement that CME remain in compliance with a consolidated tangible net worth test, defined as CME consolidated shareholder's equity less intangible assets (as defined in the line of credit agreement) of not less than $800.0 million. At December 31, 2017, CME is in compliance with the covenant requirement. In addition to the 364-day multi-currency line of credit, CME also has the option to use CME Group's $2.3 billion multi-currency revolving senior credit facility to provide liquidity for clearing operations in the unlikely event of default in certain circumstances.

8. INCOME TAXES

The income tax provision consisted of the following for the years ended December 31. The company is subject to regulation under a wide variety of federal, state and foreign tax laws and regulations.

(in millions)	2017	2016
Current:		
Federal	$ 262.4	$ 263.3
State	31.6	47.8
Total	294.0	311.1
Deferred:		
Federal	58.4	(3.8)
State	6.0	(0.3)
Total	64.4	(4.1)
Total Income Tax Provision	$ 358.4	$ 307.0

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the 2017 Tax Act). The 2017 Tax Act establishes new tax laws that will affect 2018 and after, including a reduction in the U.S. federal corporate income tax rate from 35% to 21%. The 2017 Tax Act makes broad and complex changes to the U.S. tax code including, but not limited to, the repeal of the IRC Section 199 domestic production activities deduction in 2018 and accelerated depreciation that allows for full expensing of qualified property beginning in the fourth quarter of 2017.

On December 22, 2017, the SEC staff issued a staff accounting bulletin that provides guidance on accounting for the tax effects of the 2017 Tax Act. The guidance provides a measurement period that should not extend beyond one year from the 2017 Tax Act enactment date for companies to complete the accounting for income taxes related to changes associated with the 2017 Tax Act. According to the staff accounting bulletin, entities must recognize the impact in the financial statements for the activities that they have completed the work to understand the impact as a result of the tax reform law. For those activities which have not completed, the company would include provisional amounts if a reasonable estimate is available.

As a result of the reduction of the federal corporate income tax rate, the company has revalued its net deferred tax asset as of December 31, 2017. Based on this revaluation and other impacts of the 2017 Tax Act, the company has recognized a net tax expense of $26.7 million, which was recorded as additional income tax expense for the year ended December 31, 2017. The company has recognized provisional adjustments but management has not completed its accounting for income tax effects for certain elements of the 2017 Tax Act, principally due to the accelerated depreciation that will allow for full expensing of qualified property.

Reconciliation of the statutory U.S. federal income tax rate to the effective tax rate is as follows:

	2017	2016
Statutory U.S. federal tax rate	35.0%	35.0%
State taxes, net of federal benefit	2.6	4.4
Domestic production activities deduction	0.8	(1.4)
Impact of revised state and local apportionment estimates	0.1	—
Other, net	0.3	(0.4)
Effective Tax Rate	38.8%	37.6%

In 2017 and 2016, the effective tax rates were higher than the statutory tax rate primarily due to the impact of state and local income taxes. In 2017, the effective tax rate was also higher than the statutory tax rate due to the impact from the 2017 Tax Act. In 2016, the effective rate was primarily reduced by the Section 199 Domestic Productions Activities Deduction (Section 199 deduction). The Section 199 deduction is related to certain activities performed by the company's electronic platform.

At December 31, net deferred income tax assets (liabilities) consisted of the following:

(in millions)	2017	2016
Deferred Income Tax Assets:		
Net operating losses	$ 2.4	$ 4.9
Property	—	6.2
Accrued expenses, compensation and other	52.2	73.1
Subtotal	54.6	84.2
Valuation allowance	(0.7)	(0.7)
Total deferred income tax assets	53.9	83.5
Deferred Income Tax Liabilities:		
Property	(37.7)	—
Purchased intangible assets	(1.8)	(3.2)
Total deferred income tax liabilities	(39.5)	(3.2)
Net Deferred Income Tax Assets	$ 14.4	$ 80.3

At December 31, 2017 and 2016, net non-current deferred income tax assets were included in other assets in the consolidated balance sheets.

A valuation allowance is recorded when it is more-likely-than-not that some portion or all of the deferred income tax assets may not be realized. The ultimate realization of the deferred income tax assets depends on the ability to generate sufficient taxable income of the appropriate character in the future and in the appropriate taxing jurisdictions.

At December 31, 2017 and 2016, the company had gross domestic and foreign income tax loss carry forwards of $11.7 million and $14.1 million, respectively. These amounts primarily relate to the losses from the acquisition of Pivot, Inc. in 2012. At December 31, 2017 and 2016, the company has determined that a portion of the net operating loss deferred tax assets were not more-likely-than-not to be realized and a valuation allowance of $0.7 million has been provided at December 31, 2017 and 2016. The net operating losses will expire between 2024 and 2032.

The following is a summary of the company’s unrecognized tax benefits:

(in millions)	2017	2016
Gross unrecognized tax benefits	$ 123.1	$ 101.5
Unrecognized tax benefits, net of tax impacts in other jurisdictions	109.5	86.5
Unrecognized interest and penalties related to uncertain tax positions	13.8	13.3
Interest and penalties recognized in the consolidated statements of income	0.5	5.9

The company does not believe it is reasonably possible that within the next twelve months, unrecognized tax benefits will change by a significant amount.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

(in millions)	2017	2016
Balance at January 1	$ 101.5	$ 82.1
Additions based on tax positions related to the current year	15.9	12.1
Additions for tax positions of prior years	17.3	7.9
Reductions for tax positions of prior years	(1.7)	(0.6)
Settlements with taxing authorities	(9.9)	—
Balance at December 31	$ 123.1	$ 101.5

The company is subject to U.S. federal income tax as well as income taxes in Illinois and other state and foreign jurisdictions. As of December 31, 2017, substantially all federal and state income tax matters had been concluded through 2007 and 2006, respectively.

9. EMPLOYEE BENEFIT PLANS

Pension Plan. CME maintains a non-contributory defined benefit cash balance pension plan for eligible employees. CME's plan provides for a pay-based credit added to the cash balance account based on age and earnings and includes salary and cash bonuses in the definition of earnings. Employees who have completed a continuous 12-month period of employment and have reached the age of 21 are eligible to participate. Participant cash balance accounts receive an interest credit equal to the greater of the one-year constant maturity yield for U.S. Treasury notes or 4.0%. Participants become vested in their accounts after three years of service. The measurement date used for the plan is December 31.

The following is a summary of the change in projected benefit obligation:

(in millions)	2017	2016
Balance at January 1	$ 239.9	$ 217.3
Service cost	18.7	16.7
Interest cost	10.8	10.3
Actuarial (gain) loss	15.1	5.3
Benefits paid	(10.6)	(9.7)
Balance at December 31	$ 273.9	$ 239.9

The accumulated benefit obligation at December 31, 2017 and 2016 was $245.4 million and $211.4 million, respectively.

The following is a summary of the change in the fair value of plan assets:

(in millions)	2017	2016
Balance at January 1	$ 238.8	$ 217.5
Actual return on plan assets	29.8	16.0
Employer contributions	90.0	15.0
Benefits paid	(10.6)	(9.7)
Balance at December 31	$ 348.0	$ 238.8

The plan assets are classified into a fair value hierarchy in their entirety based on the lowest level of input that is significant to each asset or liability's fair value measurement. Valuation techniques for level 2 assets use significant observable inputs such as quoted prices for similar assets, quoted market prices in inactive markets and other inputs that are observable or can be supported by observable market data. The fair value of each major category of plan assets as of December 31 is indicated below.

(in millions)	2017	2016
Level 2:		
Money market funds	$ 95.8	$ 31.5
Mutual funds:		
Fixed income	109.7	68.6
U.S. equity	83.6	63.9
Foreign equity	58.9	64.5
Commodity	—	10.3
Total	$ 348.0	$ 238.8

At December 31, 2017, the fair value of pension plan assets exceeded the projected benefit obligation by $74.1 million and the excess was recorded as a non-current pension asset in other assets. At December 31, 2016, the projected benefit obligation exceeded the fair value of pension plan asset by $1.1 million and the excess was recorded as a non-current pension liability in other liabilities.

CME's funding goal is to have its pension plan 100% funded at each year-end on a projected benefit obligation basis, while also satisfying any minimum required contribution and obtaining the maximum tax deduction. In 2017, the company contributed $90.0 million to the plan, which resulted in plan assets exceeding the projected benefit obligation by $74.1 million. Year-end 2017 assumptions have been used to project the assets and liabilities from December 31, 2017 to December 31, 2018. The result of this projection is that estimated liabilities would not exceed the fair value of the plan assets at December 31, 2018. Accordingly, the company anticipates based on this projection that no additional contribution in 2018 will be necessary for it to meet its funding goal. However, the amount of the actual contribution is contingent on various factors, including the actual rate of return on the plan assets during 2018 and the December 31, 2018 discount rate.

The components of net pension expense and the assumptions used to determine the end-of-year projected benefit obligation and net pension expense in aggregate are indicated below:

(in millions)	2017	2016
Components of Net Pension Expense:		
Service cost	$ 18.7	$ 16.7
Interest cost	10.8	10.3
Expected return on plan assets	(15.1)	(15.7)
Recognized net actuarial loss	2.9	3.2
Net Pension Expense	$ 17.3	$ 14.5
Assumptions Used to Determine End-of-Year Benefit Obligation:		
Discount rate	3.70%	4.30%
Rate of compensation increase	5.00	5.00
Cash balance interest crediting rate	4.00	4.00
Assumptions Used to Determine Net Pension Expense:		
Discount rate	4.30%	4.60%
Rate of compensation increase	5.00	5.00
Expected return on plan assets	6.50	7.50
Interest crediting rate	4.00	4.00

The discount rate for the plan was determined based on the market value of a theoretical settlement bond portfolio. This portfolio consisted of U.S. dollar denominated Aa-rated corporate bonds across the full maturity spectrum. A single equivalent discount rate was determined to align the present value of the required cash flow with that settlement value. The resulting discount rate was reflective of both the current interest rate environment and the plan's distinct liability characteristics.

The basis for determining the expected rate of return on plan assets for the plan is comprised of three components: historical returns, industry peers and forecasted return. The plan's total return is expected to equal the composite performance of the security markets over the long term. The security markets are represented by the returns on various domestic and international stock, bond and commodity indexes. These returns are weighted according to the allocation of plan assets to each market and measured individually.

The overall objective of the plan is to achieve required long-term rates of return in order to meet future benefit payments. The component of the investment policy for the plan that has the most significant impact on returns is the asset mix. The asset mix has a minimum and maximum range depending on asset class. The plan assets are diversified to minimize the risk of large losses by any one or more individual assets. Such diversification is accomplished, in part, through the selection of asset mix and investment management. The asset allocation for the plan, by asset category, at December 31 was as follows:

	2017	2016
Fixed income	31.6%	28.8%
Money market funds	27.5	13.2
U.S. equity	24.0	26.7
Foreign equity	16.9	27.0
Commodity	—	4.3

The range of target allocation percentages for 2017 is as follows:

	Minimum	Maximum
U.S. large-cap equity	20.0%	80.0%
U.S. mid-cap equity	10.0	25.0
U.S. small-cap equity	10.0	20.0
Foreign developed equity	—	40.0
Foreign small-cap equity	—	10.0
Emerging markets equity	—	10.0

At times, the company may determine that it is necessary to place some assets in cash equivalent investments in order to pay expected plan liabilities. Given this, the actual asset allocation for the plan may not fall within the target allocation ranges from time to time.

According to the plan's investment policy, the plan is not allowed to invest in securities that compromise independence, short sales of securities directly owned by the plan, securities purchased on margin or other uses of borrowed funds, derivatives not used for hedging purposes, restricted stock or illiquid securities or any other transaction prohibited by employment laws. If the plan directly invests in short-term and long-term debt obligations, the investments are limited to obligations rated at the highest rating category by Standard & Poor's (S&P) or Moody's.

The pre-tax balance and activity of the prior service costs and actuarial losses for the pension plan, which are included in other comprehensive income (loss), for 2017 are as follows:

(in millions)	Actuarial Loss
Balance at January 1	$ 62.8
Unrecognized net loss	0.3
Recognized as a component of net pension expense	(2.9)
Balance at December 31	$ 60.2

The company expects to amortize $2.9 million of actuarial loss and prior service costs from accumulated other comprehensive income (loss) into net periodic benefit costs in 2018.

At December 31, 2017, anticipated benefit payments from the plan in future years are as follows:

(in millions)	
2018	$ 16.6
2019	18.3
2020	18.6
2021	20.0
2022	20.3
2023-2027	112.4

Savings Plan. CME maintains a defined contribution savings plan pursuant to Section 401(k) of the Internal Revenue Code, whereby all U.S. employees are participants and have the option to contribute to this plan. CME matches employee contributions up to 3% of the employee's base salary and may make additional discretionary contributions. Total expense for the savings plan was $6.2 million and $6.0 million in 2017 and 2016, respectively.

Non-Qualified Plans. CME maintains non-qualified plans, under which participants may make assumed investment choices with respect to amounts contributed on their behalf. Although not required to do so, CME invests such contributions in assets that mirror the assumed investment choices. The balances in these plans are subject to the claims of general creditors of the company and totaled $62.4 million and $56.6 million at December 31, 2017 and 2016, respectively. Although the value of the plans is recorded as an asset in marketable securities in the consolidated balance sheets, there is an equal and offsetting liability. The investment results of these plans have no impact on net income as the investment results are recorded in equal amounts to both investment income and compensation and benefits expense.

Supplemental Savings Plan. CME maintains a supplemental plan to provide benefits for employees who have been impacted by statutory limits under the provisions of the qualified pension and savings plan. Employees in this plan are subject to the vesting requirements of the underlying qualified plans.

Deferred Compensation Plan. A deferred compensation plan is maintained by CME, under which eligible officers and members of the board of directors may contribute a percentage of their compensation and defer income taxes thereon until the time of distribution.

10. COMMITMENTS

Operating Leases. CME Group has entered into various non-cancellable operating lease agreements, with the most significant being as follows:

- The company maintains an operating lease for its headquarters at 20 South Wacker Drive in Chicago. In January 2018, the company signed a lease extension. The new lease expires in 2032 and contains two consecutive renewal options for five years each.
- In March 2016, the company sold its datacenter and leased back a portion of the property. The sale leaseback transaction was recognized under the financing method and not as a sale leaseback arrangement. The operating lease, which has an initial lease term ending in March 2031, contains two consecutive renewal options for five years.
- In April 2012, the company sold two buildings in Chicago at 141 W. Jackson and leased back a portion of the property. The operating lease, which has an initial lease term ending on April 30, 2027, contains four consecutive renewal options for five years.
- In August 2006, the company entered into an operating lease for additional office space in Chicago. The initial lease term ends on November 30, 2023. The lease contains two 5-year renewal options beginning in 2023.

At December 31, 2017, future minimum payments under non-cancellable operating leases were payable as follows (in millions):

Year		
2018	$	42.4
2019		41.5
2020		40.5
2021		42.0
2022		42.7
Thereafter		349.6
Total	$	558.7

Total rental expense, including equipment rental, was $22.4 million and $28.7 million in 2017 and 2016, respectively.

Other Commitments. Commitments include material contractual purchase obligations that are non-cancellable. Purchase obligations relate to licensing, hardware, software and maintenance as well as telecommunication services. At December 31, 2017, future minimum payments due under purchase obligations were payable as follows (in millions):

Year		
2018	$	23.1
2019		12.5
2020		11.0
2021		8.8
2022		6.5
Thereafter		5.4
Total	$	67.3

11. CONTINGENCIES

Legal and Regulatory Matters. In 2003, the U.S. Futures Exchange, L.L.C. (Eurex U.S.) and U.S. Exchange Holdings, Inc. filed suit in federal court alleging that CBOT and CME violated the antitrust laws and tortuously interfered with the business relationship and contract between Eurex U.S. and The Clearing Corporation. While the complaint requests treble damages, given the uncertainty of factors which may potentially impact the resolution of the matter, at this time the company is unable to estimate the reasonably possible loss or range of reasonably possible losses in the unlikely event it were found to be liable at trial in the matter. A trial date is set for June 4, 2018. Based on its investigation to date and advice from legal counsel, the company believes that it has strong factual and legal defenses to the claim.

In the normal course of business, the company discusses matters with its regulators raised during regulatory examinations or otherwise subject to their inquiry and oversight. These matters could result in censures, fines, penalties or other sanctions. Management believes the outcome of any resulting actions will not have a material impact on its consolidated financial position or results of operations. However, the company is unable to predict the outcome or the timing of the ultimate resolution of these matters, or the potential fines, penalties or injunctive or other equitable relief, if any, that may result from these matters.

In addition, the company is a defendant in, and has potential for, various other legal proceedings arising from its regular business activities. While the ultimate results of such proceedings against the company cannot be predicted with certainty, the company believes that the resolution of any of these matters on an individual or aggregate basis will not have a material impact on its consolidated financial position or results of operations.

No accrual was required for legal and regulatory matters that were probable and estimable as of December 31, 2017 and 2016.

Intellectual Property Indemnifications. Certain agreements with customers and other third parties related to accessing the CME platforms, utilizing market data services and licensing CME SPAN software may contain indemnifications from intellectual property claims that may be made against them as a result of their use of the applicable products and/or services. The potential future claims relating to these indemnifications cannot be estimated and therefore no liability has been recorded.

12. GUARANTEES

Mutual Offset Agreement. CME and Singapore Exchange Limited (SGX) have a mutual offset agreement with a current term through October 2018. This agreement enables market participants to open a futures position on one exchange and liquidate it on the other. The term of the agreement will automatically renew for a one-year period unless either party provides advance notice of its intent to terminate. CME can maintain collateral in the form of U.S. Treasury securities or irrevocable, standby letters of credit. At December 31, 2017, CME was contingently liable to SGX on irrevocable letters of credit totaling $285.0 million. Regardless of the collateral, CME guarantees all cleared transactions submitted through SGX and would initiate procedures designed to satisfy these financial obligations in the event of a default, such as the use of performance bonds and guaranty fund contributions of the defaulting clearing firm. The company believes that its guarantee liability is immaterial and therefore has not recorded any liability at December 31, 2017.

Family Farmer and Rancher Protection Fund. In 2012, the company established the Family Farmer and Rancher Protection Fund (the Fund). The Fund is designed to provide payments, up to certain maximum levels, to family farmers, ranchers and other agricultural industry participants who use the company's agricultural products and who suffer losses to their segregated account balances due to their CME clearing member becoming insolvent. Under the terms of the Fund, farmers and ranchers are eligible for up to $25,000 per participant. Farming and ranching cooperatives are eligible for up to $100,000 per cooperative. The Fund has an aggregate maximum payment amount of $100.0 million. Since its establishment, the Fund has made payments of approximately $2.0 million, which leaves $98.0 million available for future claims. If payments to participants were to exceed this amount, payments would be pro-rated. Clearing members and customers must register in advance with the company and provide certain documentation in order to substantiate their eligibility. The company believes that its guarantee liability is immaterial and therefore has not recorded any liability at December 31, 2017.

13. ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)

The following tables present changes in the accumulated balances for each component of other comprehensive income (loss), including current period other comprehensive income (loss) and reclassifications out of accumulated other comprehensive income (loss):

(in millions)	Investment Securities	Defined Benefit Plan	Total
Balance at December 31, 2016	$ (0.1)	$ (37.8)	$ (37.9)
Other comprehensive income (loss) before reclassifications and income tax benefit (expense)	—	0.3	0.3
Amounts reclassified from accumulated other comprehensive income (loss)	—	2.9	2.9
Income tax benefit (expense)	—	(0.8)	(0.8)
Net current period other comprehensive income (loss)	—	2.4	2.4
Balance at December 31, 2017	$ (0.1)	$ (35.4)	$ (35.5)

(in millions)	Investment Securities	Defined Benefit Plan	Total
Balance at December 31, 2015	$ (0.2)	$ (36.6)	$ (36.8)
Other comprehensive income (loss) before reclassifications and income tax benefit (expense)	0.1	(5.1)	(5.0)
Amounts reclassified from accumulated other comprehensive income (loss)	—	3.2	3.2
Income tax benefit (expense)	—	0.7	0.7
Net current period other comprehensive income (loss)	0.1	(1.2)	(1.1)
Balance at December 31, 2016	$ (0.1)	$ (37.8)	$ (37.9)

14. FAIR VALUE MEASUREMENTS

Level 1 assets generally include U.S. Treasury securities and investments in publicly traded mutual funds with quoted market prices. In general, the company uses quoted prices in active markets for identical assets to determine the fair value of marketable securities and equity investments. If quoted prices are not available to determine fair value, the company uses other inputs that are directly observable. Assets included in level 2 generally consist of asset-backed securities. Asset-backed securities are measured at fair value based on matrix pricing using prices of similar securities with similar inputs such as maturity dates, interest rates and credit ratings.

Financial assets and liabilities recorded in the consolidated balance sheet as of December 31, 2017 and 2016 were classified in their entirety based on the lowest level of input that was significant to each asset or liability's fair value measurement.

	At December 31, 2017			
(in millions)	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets at Fair Value:				
Marketable Securities:				
Mutual funds	$ 62.4	$ —	$ —	$ 62.4
Asset-backed securities	—	0.3	—	0.3
Total Assets at Fair Value	$ 62.4	$ 0.3	$ —	$ 62.7

	At December 31, 2016			
(in millions)	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets at Fair Value:				
Marketable Securities:				
Mutual funds	$ 56.6	$ —	$ —	$ 56.6
Asset-backed securities	—	0.3	—	0.3
Total	56.6	0.3	—	56.9
Performance bonds and guaranty fund contributions (1):				
U.S. Treasury securities	5,549.0	—	—	5,549.0
U.S. Government agency securities	1,228.3	—	—	1,228.3
Total Assets at Fair Value	$ 6,833.9	$ 0.3	$ —	$ 6,834.2

(1) Performance bonds and guaranty fund contributions on the consolidated balance sheet at December 31, 2016 include cash collateral that has been invested in U.S. Treasury securities and U.S. government agency securities.

There were no transfers of assets between level 1, level 2 and level 3 during 2017 and 2016. There were no level 3 assets or liabilities valued at fair value on a recurring basis during 2017 and 2016.

In the first quarter of 2016, the company sold a datacenter and leased back a portion of the property. Under generally accepted accounting principles, the transaction has been recognized under the financing method instead of recognized as a sale leaseback arrangement. As a result, the property and equipment legally sold will continue to be recognized on the consolidated balance sheets and was written down to a fair value of $130.0 million at March 31, 2016. There were no other level 3 assets or liabilities valued at fair value on a nonrecurring basis during 2017 and 2016.

15. REGULATORY REQUIREMENTS

CME is regulated by the CFTC as a DCO and a DCM. DCOs and DCMs are required to maintain capital as defined by the CFTC in an amount at least equal to one year of projected operating expenses as well as cash, liquid securities, or a line of credit at least equal to six months of projected operating expenses. CME is in compliance with the DCO and DCM financial requirements.

16. SUBSEQUENT EVENTS

The company has evaluated subsequent events through March 21, 2018, the date the financial statements were available to be issued, and has determined that there were no subsequent events that required disclosure.