

# The Depository Trust & Clearing Corporation

Consolidated Financial Statements as of and for the Years  
Ended December 31, 2016 and 2015, and Independent  
Auditors' Report

# THE DEPOSITORY TRUST & CLEARING CORPORATION

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## **INDEPENDENT AUDITORS' REPORT**

To the Board of Directors and Shareholders of  
The Depository Trust & Clearing Corporation

We have audited the accompanying consolidated financial statements of The Depository Trust & Clearing Corporation and its subsidiaries (the "Company"), which comprise the consolidated statements of financial condition as of December 31, 2016 and 2015, and the related consolidated statements of income, comprehensive income, changes in shareholders' equity, and cash flows for the years then ended, and the related notes to the consolidated financial statements.

### **Management's Responsibility for the Consolidated Financial Statements**

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements free from material misstatement, whether due to fraud or error.

### **Auditors' Responsibility**

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Company's preparation and fair presentation of the consolidated financial statements in order to design audit procedures appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company'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 consolidated 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 consolidated financial statements referred to above present fairly, in all material respects, the financial position of The Depository Trust & Clearing Corporation and its subsidiaries as of December 31, 2016 and 2015, and the results of their operations and their cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

*Deloitte & Touche LLP*

March 24, 2017

# THE DEPOSITORY TRUST & CLEARING CORPORATION

## CONSOLIDATED STATEMENTS OF FINANCIAL CONDITION

<u>(In thousands, except share data)</u>	As of December 31,	
	2016	2015
<b>ASSETS:</b>		
<b>CURRENT ASSETS:</b>		
Cash and cash equivalents	\$ 4,075,548	\$ 2,521,558
Investments in marketable securities	—	7,400
Reverse repurchase agreements	100,000	—
Participants' segregated cash	15,886	26,581
Accounts receivable - net of allowance for doubtful accounts of \$865 and \$2,010 as of December 31, 2016 and 2015, respectively	208,042	187,253
<b>Participants' and Clearing Funds:</b>		
Cash deposits	15,570,562	13,464,610
Investments in marketable securities	25,000	100,000
Securities on deposit - at fair value	13,890,682	7,827,458
Other Participants' assets	960,753	439,838
Other current assets	67,476	92,330
<b>Total current assets</b>	<b>34,913,949</b>	<b>24,667,028</b>
<b>NON-CURRENT ASSETS:</b>		
Premises and equipment - net of accumulated depreciation of \$410,788 and \$397,142 as of December 31, 2016 and 2015, respectively	250,791	275,499
Goodwill	65,535	65,535
Intangible assets - net of accumulated amortization of \$919,308 and \$769,330 as of December 31, 2016 and 2015, respectively	398,695	471,370
Equity method investments	17,176	18,398
Other non-current assets	367,882	362,403
<b>Total non-current assets</b>	<b>1,100,079</b>	<b>1,193,205</b>
<b>TOTAL ASSETS (1)</b>	<b>\$ 36,014,028</b>	<b>\$ 25,860,233</b>
<b>LIABILITIES AND SHAREHOLDERS' EQUITY:</b>		
<b>CURRENT LIABILITIES:</b>		
Commercial paper - net of unamortized discount of \$1,669 and \$435 as of December 31, 2016 and 2015, respectively	\$ 2,554,020	\$ 1,007,124
Current portion of long-term debt	20,468	66,395
Accounts payable	100,088	142,202
<b>Participants' and Clearing Funds:</b>		
Cash deposits	15,595,562	13,564,610
Securities on deposit - at fair value	13,890,682	7,827,458
Payable to Participants	976,639	466,419
Other current liabilities	270,682	240,957
<b>Total current liabilities</b>	<b>33,408,141</b>	<b>23,315,165</b>
<b>NON-CURRENT LIABILITIES:</b>		
Non-current portion of long-term debt	44,252	92,440
Non-current portion of pension and postretirement benefits	284,672	292,311
Other non-current liabilities	370,355	361,137
<b>Total non-current liabilities</b>	<b>699,279</b>	<b>745,888</b>
<b>Total liabilities (2)</b>	<b>34,107,420</b>	<b>24,061,053</b>
<b>COMMITMENTS AND CONTINGENCIES (Note 20)</b>		
<b>SHAREHOLDERS' EQUITY:</b>		
<b>Preferred stock:</b>		
Series A, \$0.50 par value - 10,000 shares authorized, issued (above par), and outstanding	300	300
Series B, \$0.50 par value - 10,000 shares authorized, issued (above par), and outstanding	300	300
Series C, \$0.50 par value - 1,600 shares authorized, issued (above par), and outstanding	390,516	390,516
Common stock, \$100 par value - 80,000 shares authorized, 50,908 shares issued and outstanding	5,091	5,091
Paid-in capital	411,065	411,065
Retained earnings	1,115,917	1,008,522
Accumulated other comprehensive loss, net of tax	(161,329)	(162,348)
Non-controlling interests	144,748	145,734
<b>Total shareholders' equity</b>	<b>1,906,608</b>	<b>1,799,180</b>
<b>TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY</b>	<b>\$ 36,014,028</b>	<b>\$ 25,860,233</b>

- (1) The consolidated assets as of December 31, 2016 and 2015, include the following assets of certain variable interest entities (VIEs) that can only be used to settle the liabilities of those VIEs (in thousands): Cash and cash equivalents, \$10,399 and \$17,321; Accounts receivable - net, \$2,208 and \$94; Other current assets, \$1,149 and \$973; Intangible assets, \$6,826 and \$4,168; Other non-current assets, \$544 and \$815; and Total assets, \$21,126 and \$23,371, respectively.
- (2) The consolidated liabilities as of December 31, 2016 and 2015, include the following VIE liabilities for which the VIE creditors do not have recourse to DTCC (in thousands): Accounts payable, \$2,477 and \$10,438; Other current liabilities, \$37,433 and \$22,628; and Total liabilities, \$39,910 and \$33,066, respectively.

**THE DEPOSITORY TRUST & CLEARING CORPORATION**  
**CONSOLIDATED STATEMENTS OF INCOME**

<b>(In thousands)</b>	<b>For the years ended December 31,</b>	
	<b>2016</b>	<b>2015</b>
<b>REVENUES:</b>		
Settlement and asset services	\$ 431,436	\$ 432,123
Clearing services	497,720	438,062
Data services	318,984	314,883
Repository services	298,193	257,673
Wealth management services	105,201	103,096
Other services	59,467	52,433
Investment income (loss)	932	(1,911)
Total revenues	<u>1,711,933</u>	<u>1,596,359</u>
<b>EXPENSES:</b>		
Employee compensation and related benefits	678,733	628,687
Information technology	171,285	166,105
Professional and other services	343,260	373,982
Occupancy	48,962	39,639
Depreciation and amortization	233,744	223,535
General and administrative	42,834	47,410
Impairment of Intangible assets	15,524	30,794
Total expenses	<u>1,534,342</u>	<u>1,510,152</u>
Total operating income	<u>177,591</u>	<u>86,207</u>
<b>NON-OPERATING INCOME (EXPENSE):</b>		
Interest income	56,144	13,162
Refunds to Participants	(39,743)	(9,713)
Interest expense	(18,381)	(10,042)
Net loss from Equity method investments	(4,784)	(9,971)
Other non-operating expense	(10,294)	(266)
Total non-operating expense	<u>(17,058)</u>	<u>(16,830)</u>
Income before taxes	160,533	69,377
Provision for income taxes	47,844	51,626
Net income	112,689	17,751
Net loss attributable to non-controlling interests	(14,206)	(25,177)
Net income attributable to DTCC	<u>\$ 126,895</u>	<u>\$ 42,928</u>

The Notes to the Consolidated Financial Statements are an integral part of these statements.

**THE DEPOSITORY TRUST & CLEARING CORPORATION**  
**CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME**

<b>(In thousands)</b>	<b>For the years ended December 31,</b>	
	<b>2016</b>	<b>2015</b>
Net income	\$ 112,689	\$ 17,751
OTHER COMPREHENSIVE INCOME (LOSS) - Net of tax:		
Defined benefit pension and other plans <sup>(1)</sup>	1,285	13,587
Foreign currency translation	(266)	(2,938)
Other comprehensive income	1,019	10,649
Comprehensive income	113,708	28,400
Comprehensive loss attributable to non-controlling interests	(14,206)	(25,177)
Comprehensive income attributable to DTCC	\$ 127,914	\$ 53,577

(1) Amounts are net of provision for income taxes of \$889 and \$7,504 for 2016 and 2015, respectively.

**THE DEPOSITORY TRUST & CLEARING CORPORATION**  
**CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY**

	Preferred Stock			Common Stock	Paid-In Capital	Retained Earnings	Treasury Stock	Accumulated Other Comprehensive Income (Loss), Net of Tax			Total Shareholders' Equity
	Series A	Series B	Series C					Defined Benefit Pension and Other Plans	Foreign Currency Translation	Non- controlling Interests	
<b>(In thousands)</b>											
BALANCE - January 1, 2015	\$ 300	\$ 300	\$ —	\$ 2,366	\$ 13,571	\$ 976,319	\$ (42)	\$ (174,518)	\$ 1,521	\$ 160,850	\$ 980,667
Net income (loss)	—	—	—	—	—	42,928	—	—	—	(25,177)	17,751
Other comprehensive income (loss)	—	—	—	—	—	—	—	13,587	(2,938)	—	10,649
Contributions from non-controlling interests	—	—	—	—	—	—	—	—	—	10,301	10,301
Issuance of preferred series C shares	—	—	400,000	—	—	—	—	—	—	—	400,000
Issuance cost for preferred series C shares	—	—	(9,484)	—	—	—	—	—	—	—	(9,484)
Issuance of common stock	—	—	—	2,725	397,494	—	42	—	—	—	400,261
Dividend to non-controlling interest	—	—	—	—	—	—	—	—	—	(240)	(240)
Dividend on preferred stock	—	—	—	—	—	(10,725)	—	—	—	—	(10,725)
BALANCE - December 31, 2015	300	300	390,516	5,091	411,065	1,008,522	—	(160,931)	(1,417)	145,734	1,799,180
Net income (loss)	—	—	—	—	—	126,895	—	—	—	(14,206)	112,689
Other comprehensive income (loss)	—	—	—	—	—	—	—	1,285	(266)	—	1,019
Contributions from non-controlling interests	—	—	—	—	—	—	—	—	—	13,700	13,700
Dividend to non-controlling interest	—	—	—	—	—	—	—	—	—	(480)	(480)
Dividends on preferred stock	—	—	—	—	—	(19,500)	—	—	—	—	(19,500)
BALANCE - December 31, 2016	\$ 300	\$ 300	\$ 390,516	\$ 5,091	\$ 411,065	\$ 1,115,917	\$ —	\$ (159,646)	\$ (1,683)	\$ 144,748	\$ 1,906,608

The Notes to the Consolidated Financial Statements are an integral part of these statements.



# THE DEPOSITORY TRUST & CLEARING CORPORATION

## CONSOLIDATED STATEMENTS OF CASH FLOWS

(In thousands)	For the years ended December 31,	
	2016	2015
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>		
Net income	\$ 112,689	\$ 17,751
Adjustments to reconcile net income to net cash provided by operating activities:		
Net discount on Investments in marketable securities	(30)	33
Depreciation and amortization	233,744	223,535
Impairment of Intangible assets	15,524	30,794
Loss on disposal of Premises and equipment and Intangible assets	2,293	8,264
Allowance for doubtful accounts	67	1,092
Net loss from Equity method investments	4,784	9,971
Deferred income taxes	(21,388)	17,178
Net change in:		
Accounts receivable	(16,641)	(627)
Participants' and Clearing Funds Cash deposits	(75,000)	(100,000)
Other Participants' assets	(520,915)	97,739
Other assets	42,658	(6,352)
Accounts payable	(41,557)	(5,445)
Payable to Participants	510,220	(113,167)
Pension and postretirement benefits	(2,525)	(15,505)
Other liabilities	36,389	596
Net cash provided by operating activities	280,312	165,857
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>		
Sale of securities under Reverse repurchase agreements	—	100,000
Purchases of securities under Reverse repurchase agreements	(100,000)	—
Change in Participants' segregated cash	10,695	15,428
Maturities of Investments in marketable securities	107,400	200,000
Purchases of Investments in marketable securities	(25,000)	(107,400)
Purchases of Premises and equipment	(43,635)	(72,646)
Purchases of Intangible assets	(103,797)	(111,915)
Purchases of Equity method investments	(11,300)	(700)
Proceeds from sale of Equity method investments	3,499	—
Distributions received from Equity method investments	823	—
Net cash (used in) provided by investing activities	(161,315)	22,767
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>		
Change in Commercial paper, net	1,546,896	1,007,124
Repayments on long-term debt and other borrowings	(100,861)	(245,198)
Proceeds from issuance of preferred stock, net of issuance fees	—	390,516
Preferred stock dividend payments	(19,500)	(10,725)
Proceeds from issuance of common stock	—	400,261
Proceeds from Non-controlling interests	13,700	10,301
Payments to Non-controlling interests	(480)	(240)
Net cash provided by financing activities	1,439,755	1,552,039
Effect of foreign exchange rate changes on Cash and cash equivalents	(4,762)	161
Net increase in Cash and cash equivalents	1,553,990	1,740,824
Cash and cash equivalents - Beginning of year	2,521,558	780,734
Cash and cash equivalents - End of year	\$ 4,075,548	\$ 2,521,558
<b>SUPPLEMENTAL DISCLOSURES:</b>		
Non-cash financing activity - capital lease	\$ 6,746	\$ —
Cash interest paid	\$ 12,700	\$ 5,912
Cash income taxes paid - net of refunds	\$ 42,260	\$ 47,764

The Notes to the Consolidated Financial Statements are an integral part of these statements.

## 1. BUSINESS AND OWNERSHIP

**The Depository Trust & Clearing Corporation (DTCC)** is a holding company that is the parent company of various operating subsidiaries, including The Depository Trust Company (DTC), National Securities Clearing Corporation (NSCC), Fixed Income Clearing Corporation (FICC), Omgeo LLC (Omgeo), DTCC Deriv/SERV LLC (Deriv/SERV), DTCC Solutions LLC (Solutions), Business Entity Data, B.V. (GMEI) and Avox Limited (Avox); collectively, the “Company” or “Companies.”

### **Subsidiaries**

*DTC* is a limited purpose trust company formed under the Banking Law of New York State and supervised by the New York State Department of Financial Services (NYSDFS); a State member bank of the Federal Reserve System (FRS), subject to examination by the Federal Reserve Bank of New York (FRBNY) under delegated authority from the Board of Governors (the FRB) of the FRS; and a clearing agency registered with, and under the supervision of, the U.S. Securities and Exchange Commission (SEC). DTC provides central securities depository, settlement and related services to members of the securities, banking and financial services industries.

*NSCC* is a clearing agency registered with the SEC and provides central counterparty (CCP) services to members of the financial community, consisting principally of securities trade capture (validation and comparison), clearance, netting and risk management services.

*FICC* is a clearing agency registered with the SEC and provides CCP services to members that participate in the government and mortgage-backed securities markets, consisting principally of automated real-time trade comparison, netting, settlement, trade confirmation, risk management and electronic pool notification. FICC has two divisions: the Government Securities Division (GSD) and the Mortgage-Backed Securities Division (MBSD).

On April 18, 2012, the U.S. Financial Stability Oversight Council, designated, among others, DTC, FICC and NSCC as Systemically Important Financial Market Utilities (SIFMUs) under Title VIII of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010.

*Omgeo* provides post-trade processing and other related services primarily to financial institutions.

*Deriv/SERV*, through its subsidiaries and affiliates, enhances transparency and provides operational efficiency for the derivatives market. Its trade repositories support a multitude of data submissions, including real-time price reporting, transaction details, confirmation records and valuation data. Its subsidiary, The Warehouse Trust Company (WTC), provides life cycle event processing, including credit event processing and payment reconciliation/netting.

*Solutions* provides information and technology solutions that help financial institutions manage risk and create more efficient internal processes.

*GMEI*, formerly known as the U.S. Commodity Futures Trading Commission (CFTC) Interim Compliant Identifier (CICI) utility is DTCC’s Legal Entity Identifier (LEI) solution offered in collaboration with Society for Worldwide Interbank Financial Telecommunication (SWIFT). GMEI is designed to create and apply a single universal standard identifier to any organization or firm involved in an international financial transaction.

*Avox* validates and maintains business entity reference data, including corporate hierarchies, registered address information, industry sector codes and company identifiers.

The members of DTCC’s clearing agencies are collectively referred to as Participants.

## 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

**Basis of presentation.** The accompanying Consolidated Financial Statements are prepared in accordance with generally accepted accounting principles in the United States of America (U.S. GAAP). The accompanying Consolidated Financial Statements include the accounts of the Company, its wholly owned subsidiaries and consolidated Variable Interest Entities (VIEs). Intercompany accounts and transactions have been eliminated in consolidation.

The Company consolidates entities in which it has a controlling financial interest. The Company applies accounting guidance to determine if a controlling financial interest exists by evaluating whether the entity is a VIE. The Company also determines whether or not assets, liabilities, non-controlling interests and results of operations of a VIE need to be included in the accompanying Consolidated Financial Statements. Where the Company holds current or potential rights that provide DTCC with sufficient control to direct the activities of a VIE that most significantly impacts the VIE's economic performance, combined with a variable interest that gives DTCC the right to receive potentially significant benefits or the obligation to absorb potentially significant losses, the Company is deemed to have a controlling financial interest in that VIE. Rights held by others to remove the party with control over the VIE are not considered unless one party can exercise those rights unilaterally. When changes occur to the design of the entity, the Company reconsiders whether it is subject to the VIE model.

**Use of estimates.** The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in the Consolidated Financial Statements. Management makes estimates regarding, among other things, the collectability of receivables, the outcome of litigation, the realization of deferred taxes, unrecognized tax benefits, impairment of intangible assets, fair value measurements and other matters that affect the reported amounts. Estimates, by their nature, are based on judgment and available information as of December 31, 2016; therefore, actual results could differ materially from those estimates.

**Equity method investments.** All equity method investments that represent less than a majority, but at least a 20% ownership interest, and where the Company can exert significant influence over the operations of the investment, are accounted for using the equity method. Investments are initially recognized at cost. The Company's share of investees' earnings are recorded in the accompanying Consolidated Statement of Income in the period earned. Dividends are recorded as a reduction to the investment account.

**Non-controlling interests.** Shareholders' equity is adjusted for the income or (loss) attributable to the non-controlling interest shareholders and any distributions to those shareholders.

**Cash and cash equivalents.** All highly liquid investments purchased with an original maturity of three months or less at the date of acquisition are classified as Cash and cash equivalents. Cash equivalents consist primarily of highly liquid investments in deposits held in banks and money market mutual funds.

**Reverse repurchase agreements.** The Company receives collateral in connection with reverse repurchase agreement transactions. Reverse repurchase agreements provide for delivery of cash in exchange for securities having a fair value that is at least 102% of the contract amount of the reverse repurchase transaction. Securities purchased under reverse repurchase agreements are typically U.S. Treasury and agency securities. Reverse repurchase agreements are recorded at the contract amounts. Interest earned on these investments is included in Interest income in the accompanying Consolidated Statements of Income.

**Investments in marketable securities.** All of the marketable securities are classified as held-to-maturity and are recorded at amortized cost. The Company intends and has the ability to hold all held-to-maturity securities to maturity. The Company does not intend to reclassify any amount of held-to-maturity investments to available-for-sale or trading investments.

The Company performs a periodic review of its investment portfolio for impairment. A debt security is considered impaired if its fair value is less than its carrying value. Any unrealized loss deemed other-than-temporary is included in current period earnings. The decline in fair value is determined to be an other-than-temporary impairment if (a) the Company has the intent to sell the impaired debt security, (b) it is more likely than not that the Company will be required to sell the security before recovery of the amortized cost, or (c) the Company does not expect to recover the entire amortized cost basis. The Company does not intend to sell those securities and it is not more likely than not that the Company will have to sell.

**Participants' segregated cash.** DTCC receives cash from participants for the exclusive benefit of the Participants' customers in compliance with SEC rule 15c3-3, (customer protection).

**Fair value measurements.** The Company may be required or permitted to measure and disclose certain assets and liabilities using fair value measurements. Fair value is defined as the price 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 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 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.

**Accounts receivable.** Accounts receivable are stated at cost, net of an allowance for doubtful accounts. The Company establishes an allowance for estimated losses resulting from uncollectibility. The Company determines the need for an allowance based on a variety of factors, including the length of time receivables are past due, macroeconomic conditions, historical experience and the financial condition of customers and other debtors.

**Participants' and Clearing Funds.** The rules of DTC, NSCC and FICC require Participants to maintain deposits related to their respective activities based on calculated requirements. The deposits are available to secure Participants' obligations and certain liabilities of the Companies. Participant contributions and margin deposits are maintained within the Participants' and Clearing Funds on the accompanying Consolidated Statements of Financial Condition due to the benefits and risks of ownership incurred by the Company. Contributions and deposits may be in the form of cash and cash equivalents and securities. These contributions and deposits may be applied to satisfy obligations of the depositing Participant, other Participants, or the Company as provided in the rules of the relevant subsidiaries of the Company.

*Cash deposits and Investments in marketable securities.* Deposits and contributions received in the form of cash may be invested in bank deposits, reverse repurchase agreements, money markets funds and direct obligations of the U.S. Government. Reverse repurchase agreements provide for DTCC's delivery of cash in exchange for securities having a fair value that is at least 102% of the contract amount of the reverse repurchase agreements. Securities purchased under reverse repurchase agreements are typically U.S. Treasury and agency securities. Reverse repurchase agreements are recorded at the contract amounts. All interest earned on these investments is accrued and is included within Interest income in the accompanying Consolidated Statements of Income. All amounts refunded to Participants are included as Refunds to Participants in the accompanying Consolidated Statements of Income.

*Securities on deposit - at fair value.* Securities may include U.S. Treasury securities, U.S. agency debt securities and U.S. agency residential mortgage-backed securities. All interest earned on these investments is accrued and included within Interest income in the accompanying Consolidated Statements of Income. All amounts refunded to Participants are included as Refunds to Participants in the accompanying Consolidated Statements of Income.

*Securities held in custody.* Securities held in custody by DTC for Participants, which are predominantly in electronic book form, but also include physical certificates, are not reported in the accompanying Consolidated Financial Statements. Cash dividends and interest received by DTC or due on such securities and in the process of distribution or awaiting claim are included in Payable to Participants on the accompanying Consolidated Statements of Financial Condition. Short positions occasionally exist in securities balances and are credited to the account of the Participants; such short positions are valued and collateralized daily by 130% of the short position reflected in Other Participants' assets on the accompanying Consolidated Statements of Financial Condition. DTC's obligation to return such cash collateral to Participants is also reflected in Payable to Participants.

**Federal Reserve Stock.** DTC and WTC are members of the FRBNY and, as members, are required to maintain a minimum level of investment in Federal Reserve Bank stock based on the Company's capital. The Federal Reserve Bank stock is carried at cost, classified as a restricted security and periodically evaluated for impairment based on ultimate recovery of par value. Based on this evaluation, the Company determined there is not an other-than-temporary impairment as of December 31, 2016 and 2015. The Federal Reserve Bank stock is included in Other non-current assets on the accompanying Consolidated Statements of Financial Condition.

# THE DEPOSITORY TRUST & CLEARING CORPORATION

## NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

AS OF AND FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015

**Other Participants' assets and Payable to Participants.** The Company receives cash and stock dividends, interest, reorganization and redemption proceeds on securities registered in the name of its nominee, Cede and Co., and interest and redemption proceeds on bearer securities, which it distributes to Participants. These balances are included in Other Participants' assets with a corresponding liability recorded in Payable to Participants on the accompanying Consolidated Statements of Financial Condition.

**Premises and equipment.** Premises and equipment are stated at cost, net of accumulated depreciation. Routine maintenance, repairs and replacement costs are expensed as incurred and improvements that extend the useful life of the assets are capitalized. When equipment is sold or otherwise disposed of, the cost and related accumulated depreciation are removed from the accounts and any resulting gain or loss is recognized in the accompanying Consolidated Statements of Income. Premises and equipment are reviewed for impairment whenever events or changes in circumstances indicate the related carrying amount may not be recoverable. The following table summarizes how the Company depreciates Premises and equipment:

Premises and equipment	Amortization Period	Amortization Method
Leasehold improvements	Shorter of useful life or remaining term of the lease	Straight-line
Furniture and equipment	5 to 7 years	Straight-line
Building and improvements	39 years	Straight-line

Depreciation expense for leasehold improvements, furniture and equipment and buildings and improvements is included in Depreciation and amortization in the accompanying Consolidated Statements of Income.

### Goodwill and Intangible assets

*Goodwill.* The Company records Goodwill upon the completion of a business combination as the difference between the purchase price and the fair value of the net assets acquired.

*Intangible assets.* The Company's intangible assets include customer relationships, capitalized software and acquired tradenames.

*Capitalized software.* The Company capitalizes eligible costs associated with the acquisition or development of internal-use software projects that provide new or significantly improved functionality. The Company capitalizes software costs expected to result in longer-term operational benefits, such as replacement systems or new applications that result in significantly increased operational efficiencies or functionality. All other costs incurred in connection with internal-use software are expensed as incurred.

The accounting rules for goodwill and intangible assets require the Company to test its Goodwill and Intangible assets for impairment. The following table summarizes how the Company amortizes and when it tests Goodwill and Intangible assets for impairment:

Asset Type	Life/ Amortization Period	Amortization Method	Impairment Testing Frequency
<b>Goodwill</b>	Indefinite/ N/A	N/A	Annually or if a triggering event occurs
<b>Intangible assets:</b>			
Customer relationships	Finite/ 12 Years	Straight-line	If a triggering event occurs
Capitalized software	Finite/ 3 to 5 Years	Straight-line	If a triggering event occurs
Tradenames	Indefinite/ N/A	N/A	Annually or if a triggering event occurs

**Commercial paper.** NSCC issues Commercial paper under a \$5 billion program. The proceeds from the issuance of commercial paper constitute liquid resources of NSCC that, together with other liquid resources of NSCC, will enable it to effect the settlement of its payment obligations in the event of the default of any of its Participants in accordance with NSCC's rules and procedures. Pending use by NSCC of the proceeds of the commercial paper issuance for this purpose, the funds raised are invested in highly liquid short-term instruments in accordance with the Company's Clearing Agency Investment Policy.

**Revenue recognition.** The Company derives its revenue from transaction fees, subscription and support services, professional services and other services. Revenue from transaction fees is recognized as services are rendered while subscription and support revenue is recognized ratably over the contract term.

Professional services and other revenues, when sold with subscription and support offerings, are accounted for separately when these services have value to the customer on a standalone basis. The Company considers the following factors when determining whether professional services should be accounted for separately from subscription and support services: (i) availability of similar services from other vendors, (ii) objective and reliable evidence that fair value exists for the undelivered elements, (iii) the nature of the services, (iv) the timing related to when the services contract was executed relative to the license/subscription service start date and (v) the contractual dependence of the license/subscription service on the customer's satisfaction of the services.

If a service contract does not qualify for separate accounting, DTCC recognizes professional services ratably over the remaining term of the subscription. If a service contract qualifies for separate accounting, professional services revenue is recognized as the services are rendered. The Company allocates the total amount the customer will pay to the separate units of accounting based on their relative fair values, as determined by the price of the undelivered items when sold separately.

**Other services.** Other services represents fees generated from providing various support services and office facilities to related parties and is recognized when services are provided based on contractual terms.

**Deferred revenue.** Deferred revenue consists of billings or payments received in advance for the Company's subscription and support services, as well as professional service fees, which are recognized as and to the extent that the revenue recognition criteria are not met. The deferred revenue balance represents the remaining portion of the contracts invoiced to customers for subscription and support services, as well as certain deferred professional service fees, which are recognized as revenue ratably over the subscription contract term. The Company defers the professional service fees in situations where the professional services and subscription contracts are accounted for as a single unit of accounting and recorded in Other current liabilities on the accompanying Consolidated Statements of Financial Condition.

**Defined contribution retirement plans.** The Company sponsors two defined contribution plans for U.S. employees, The Depository Trust & Clearing Corporation Employee Savings Plan (Employee Savings Plan) and The Depository Trust & Clearing Corporation Operations Level Employee Savings Plan (Operations Level Savings Plan). The Plans are administered by the Company's Employee Benefit Plans Committee, that is appointed by the Board of Directors of the Company and is composed of designated Company officers. The Employee Savings Plan is a single employer plan covering non-bargaining unit employees. The Operations Level Savings Plan is a single employer plan covering bargaining unit employees. All investments, except loans receivable, are included in The Depository Trust & Clearing Corporation Master Savings Plan Trust and are administered by the Plans' trustee, State Street Bank & Trust Company. Conduent Inc. serves as the recordkeeper for the Plans. Both Plans are subject to the provisions of the Employee Retirement Income Security Act of 1974 (ERISA).

**Pension and postretirement plans.** DTCC has a qualified non-contributory defined benefit pension plan (the Defined Benefit Plan), which employees hired or rehired before May 1, 2009 are eligible to participate upon attainment of age 21 and completion of six months of service. The Defined Benefit Plan is qualified under Section 401(a) of the Internal Revenue Code of 1986, as amended. Pension benefits under the Defined Benefit Plan are determined based on an employee's length of service and earnings. DTCC's funding policy targets the Company to make contributions to the Defined Benefit Plan that meet or exceed the minimum funding standards under the Employee Retirement Income Security Act of 1974 and the Internal Revenue Code.

Additionally, DTCC provides health care and life insurance benefits to DTCC eligible retired employees in Retiree Medical and Life Insurance Plans. The Retiree Medical Plan is available to certain eligible retired employees and their dependents. DTCC maintains a 401(h) account to fund the retiree medical plans. Life insurance coverage is available to certain retired employees who have completed twenty years of full time service and their dependents.

The annual measurement date for DTCC's Defined Benefit Plan is December 31. Plan assets are determined based on fair value generally representing observable market prices. The projected benefit obligation is determined based on the present value of projected benefit distributions at an assumed discount rate. The discount rate utilized is based on the yield curves of high-quality corporate bonds available in the marketplace. The net periodic pension expense or income includes service costs, interest costs based on an assumed discount rate, an expected return on plan assets based on an actuarially derived market-related value and amortization of prior years' actuarial gains and losses.

Actuarial gains and losses include the impact of plan amendments, gains or losses related to changes in the amount of the projected benefit obligation or plan assets resulting from experience different from the assumed rate of return, changes in the discount rate or other assumptions. To the extent an actuarial gain or loss exceeds 10% of the greater of the projected benefit obligation or the market-related value of plan assets, the excess is recognized over the future lifetime for the Retirement and Restoration Plans and the future service periods for active employees for the Supplemental Executive Retirement Plan (SERP) and Retiree Medical and Life Insurance Plans.

The expected long-term rate of return on plan assets is based on anticipated returns for each applicable asset class. Anticipated returns are weighted for the expected allocation for each asset class and are based on forecasts for prospective returns in the equity and fixed income markets, which should track the long-term historical returns for these markets. The Company also considers the growth outlook for the U.S. and global economies, as well as current and prospective interest rates.

The market-related value utilized to determine the expected return on plan assets is based on the fair value of plan assets adjusted for the difference between expected returns and actual performance of plan assets. The difference between actual experience and expected returns on plan assets is included as an adjustment in the market-related value over a 4-year period.

**Income taxes.** The provision for income taxes is computed using the asset and liability method, under which deferred tax assets and liabilities are recognized for the expected future tax consequences of temporary differences between the carrying amount and tax bases of assets and liabilities. Valuation allowances are recognized if, based on the weight of available evidence, it is more likely than not that some portion of the deferred tax asset will not be realized. Deferred tax assets and liabilities are reported net in Non-current assets or liabilities on the accompanying Consolidated Statements of Financial Condition.

It is the Company's policy to provide for uncertain tax positions and the related interest and penalties based upon management's assessment of whether a tax benefit is more likely than not to be sustained upon examination by the tax authorities.

For certain of its non-U.S. subsidiaries, the Company has deemed the undistributed earnings relating to these subsidiaries to be indefinitely reinvested in its foreign operations. Accordingly, the Company has not provided for the amount of unrecognized deferred tax liability related to these earnings. It is not practicable to determine the amount of deferred taxes that might be required to be provided if such earnings were distributed in the future.

**Hedging.** Foreign currency transaction gains and losses related to a hedged net investment in a foreign operation, net of tax effect, are recorded in Foreign currency translation in the accompanying Consolidated Statements of Comprehensive Income. The Company formally documents all relationships between hedging instruments and hedged items, as well as the Company's risk-management objectives and strategy for undertaking various hedging transactions. Hedge accounting is applied when a derivative is highly effective at reducing the risk associated with the hedged exposure and the risk management objective and strategy are documented. Hedge documentation identifies the derivative hedging instrument, the asset or liability and type of risk hedged, and how the effectiveness of the derivative is assessed prospectively and retrospectively.

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**Foreign currency.** Assets and liabilities denominated in foreign currencies are translated at rates of exchange prevailing on the dates of the accompanying Consolidated Statements of Financial Condition. Revenues and expenses are translated at average rates of exchange during the year. Gains or losses on foreign currency transactions are included in the accompanying Consolidated Statements of Income. Gains or losses on translation of the financial statements of foreign subsidiaries, when the functional currency is other than the U.S. dollar, are included in the accompanying Consolidated Statements of Comprehensive Income.

**3. ACCOUNTING AND REPORTING DEVELOPMENTS**

<b>Standard</b>	<b>Description</b>	<b>Date of Issuance/ Adoption</b>	<b>Impact on the financial statements or other significant matters</b>
<i>Recently Issued Accounting Standards</i>			
ASU No. 2017-04, <i>Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Topic 350, Intangibles - Goodwill and Other</i>	The amendments in this update remove the second step of the current impairment test under ASC 350. If a reporting unit's carrying amount exceeds its fair value, an entity will record an impairment charge based on that difference. The impairment charge will be limited to the amount of goodwill allocated to that reporting unit.	January 2017/ January 1, 2020 Early adoption is permitted.	The Company is evaluating the impact on its Consolidated Financial Statements and related disclosures.
ASU No. 2016-18, <i>FASB ASC Topic 230, Statement of Cash Flows</i>	The amendments in this update require that a statement of cash flows explain the change during the period in the total of cash, cash equivalents, and amounts generally described as restricted cash and restricted cash equivalents. The amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows.	November 2016/ January 1, 2018 Early adoption is permitted.	The Company is evaluating the effect on its Consolidated Statement of Cash Flows and related disclosures.
ASU No. 2016-15, <i>FASB ASC Topic 230, Statement of Cash Flows</i>	The amendments in this update address eight specific cash flow issues with the objective of reducing the existing diversity in treatment. The cash flow issues addressed include: debt prepayment or debt extinguishment costs; settlement of zero-coupon debt instruments or other debt instruments with coupon interest rates that are insignificant in relation to the effective interest rate of the borrowing; contingent consideration payments made after a business combination; proceeds from the settlement of insurance claims; proceeds from the settlement of corporate-owned life insurance policies; distributions received from equity method investees; beneficial interests in securitization transactions; separately identifiable cash flows and application of the predominance principle. The amendments provide guidance for each of the eight issues, where current guidance is either unclear or does not specify treatment, thereby reducing the current and potential future diversity in practice.	August 2016/ January 1, 2018 Early adoption is permitted.	The company is evaluating the impact on its Consolidated Statement of Cash Flows and related disclosures.



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Standard	Description	Date of Issuance/ Adoption	Impact on the financial statements or other significant matters
<i>Recently Issued Accounting Standards (Continued)</i>			
ASU No. 2016-13, <i>FASB ASC Topic 326, Financial Instruments - Credit Losses</i>	The standard replaces the current incurred loss approach for credit losses with an "expected loss" model for instruments measured at amortized cost. All lifetime credit losses for financial assets held at the reporting date will be required to be estimated based on factors such as historical experience, current conditions and forecasts. Additionally, the standard requires entities to record allowances for available-for-sale debt securities.	June 2016/ January 1, 2020 Early adoption is permitted for fiscal years beginning after December 15, 2018.	The Company is evaluating the effect on its Consolidated Financial Statements and related disclosures.
ASU No. 2016-02, <i>FASB ASC Topic 842, Leases</i>	The standard requires a lessee to recognize leases with terms of longer than 12 months within balance sheet assets and liabilities. The recognition measurement and presentation of expenses and cash flows arising from a lease will now depend on its classification as a financing or operating lease as determined by the lessee. Lessor accounting will remain largely unchanged from current GAAP. Leases of fewer than 12 months are exempt from the updated standard.	February 2016/ January 1, 2019 (including interim periods) Early adoption is permitted.	The Company is evaluating the impact on its Consolidated Financial Statements and related disclosures.
ASU No. 2014-09, <i>FASB ASC Topic 606, Revenue from Contracts with Customers</i> ASU No. 2016-08, <i>Principal versus Agent Considerations (Reporting Revenue Gross versus Net)</i> ASU No. 2016-10, <i>Identifying Performance Obligations and Licensing</i> ASU No. 2016-12, <i>Narrow-Scope Improvements and Practical Expedients</i>	The standards outline a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers. Additionally, the ASU expands the disclosure requirements for revenue recognition.	May 2014/ January 1, 2018 Early adoption is permitted.	The Company is evaluating the updated revenue recognition guidance collectively, including the alternative methods of adoption. The Company continues an internal assessment of the effect on the timing and pattern of revenue recognition, as well as the enhanced disclosures required by the update. The Company anticipates adopting the standard on January 1, 2018.

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<b>Standard</b>	<b>Description</b>	<b>Date of Issuance/ Adoption</b>	<b>Impact on the financial statements or other significant matters</b>
<i>Recently Adopted Accounting Standards</i>			
ASU No. 2016-17, <i>FASB ASC Topic 810, Consolidation</i>	The amendments in this update alter how a decision maker needs to consider the indirect interests in a VIE held through an entity under common control. If a decision maker is required to evaluate whether it is the primary beneficiary of a VIE, it will need to consider only its proportionate indirect interest in the VIE held through a common control party.	October 2016/ January 1, 2017	The adoption of this guidance did not have a material impact on its Consolidated Statements of Financial Condition, Statements of Income, Cash Flows or related disclosures.
ASU No. 2015-07, <i>FASB ASC Topic 820, Fair Value Measurement</i>	The standard requires the categorization by level for items that are only required to be disclosed at fair value and information about transfers between Level 1 and Level 2. In addition, the ASU impacts reporting entities that measure an investment's fair value using the net asset value (NAV) per share (or an equivalent) practical expedient. The amendments eliminate the requirement to classify the investment within the fair value hierarchy. In addition, the requirement to make specific disclosures for all investments eligible to be assessed at fair value with the net asset value per share practical expedient has been removed.	May 2015/ January 1, 2016	The Company early adopted this standard retrospectively, in conjunction with the Audited Retirement Plan Financial Statements as of December 31, 2015. The investments recorded at NAV were removed from the fair value hierarchy table for 2016 and 2015. The adoption did not have a material effect on its Consolidated Statements of Financial Condition, Income or Cash Flows.
ASU No. 2016-07, <i>FASB ASC Topic 323, Investments – Equity Method and Joint Ventures</i>	The standard eliminates the step-by-step retroactive adjustment requirement when an investment qualifies for use of the equity method as a result of an increase in the level of ownership interest or degree of influence. The amendments require the inclusion of the cost of acquiring the additional interest in the current basis of the investor's previously held interest and the adoption of the equity method of accounting as of the date the investment becomes qualified for equity method accounting. The update also requires that an entity with an available-for-sale equity security that becomes qualified for equity method accounting recognize the unrealized holding gain or loss in accumulated other comprehensive income (loss) at the date the investment qualifies for equity method accounting.	March 2016/ January 1, 2016	The adoption of this guidance did not have a material impact on its Consolidated Statements of Financial Condition, Statements of Income, Cash Flows or related disclosures.
ASU No. 2015-02, <i>FASB ASC Topic 810, Consolidation</i>	The standard changed the analysis that the Company must perform to determine whether it should consolidate certain types of legal entities and whether or not such legal entities are considered VIEs. The Company was required to reevaluate its interests in legal entities in scope of the new guidance under the revised consolidation model.	February 2015/ January 1, 2016	The adoption of this guidance did not have a material effect on its Consolidated Statements of Financial Condition, Statements of Income, Cash Flows or related disclosures.

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Standard	Description	Date of Issuance/ Adoption	Impact on the financial statements or other significant matters
<i>Recently Adopted Accounting Standards (Continued)</i>			
ASU No. 2015-17, <i>FASB ASC Topic 740, Income Taxes</i>	The update required deferred tax assets and liabilities to be presented as non-current deferred tax assets or non-current deferred tax liabilities in a classified statement of financial position. This update aligns the presentation of deferred tax assets and liabilities with International Financial Reporting Standards.	November 2015/ December 31, 2015	The Company early adopted this standard prospectively and reclassified all of its deferred tax assets to non-current deferred tax assets on its Consolidated Statement of Financial Condition as of December 31, 2015. The adoption did not have a material impact on its Consolidated Statements of Income or Cash Flows or related disclosures. This standard was not retrospectively applied and prior periods were not adjusted.
ASU No. 2013-11, <i>FASB ASC Topic 740, Income Taxes</i>	The standard required public and private entities to present unrecognized tax benefits as a decrease in a net operating loss, similar tax loss or tax credit carry forward if certain criteria are met. The determination of whether a deferred tax asset is available is based on the unrecognized tax benefit and the deferred tax asset that exists at the reporting date and presumes disallowance of the tax position at the reporting date.	July 2013/ January 1, 2015	The adoption of this guidance did not have a material effect on its Consolidated Statements of Financial Condition, Statements of Income, Cash Flows or related disclosures.

**4. VARIABLE INTEREST ENTITIES**

**Consolidated VIEs**

A VIE is an entity in which the equity investors do not have a controlling financial interest or do not have sufficient equity at risk for the entity to finance its activities without additional subordinated financial support from other parties. The entity that consolidates a VIE is known as the primary beneficiary and is the entity that: (i) has the control to direct the activities of the VIE that most significantly impact the VIE’s economic performance, and (ii) has an obligation to absorb losses or the right to receive benefits that in either case could potentially be significant to the VIE. The Company consolidates VIEs when it is the primary beneficiary. The Company performs ongoing qualitative, and in certain cases, quantitative analyses to determine whether the Company is the primary beneficiary of a VIE based on the facts and circumstances and the Company’s interest(s) in the VIE.

**Clariant Global LLC** (Clariant) is a joint venture with Credit Suisse Finance (GUERNSEY) Ltd, The Goldman Sachs Group, Inc., LabMorgan Investment Corporation, SSB Investments, Inc., Barclays Bank PLC and BNY Capital Corporation that was incorporated on July 25, 2014. Clariant is a comprehensive reference data solution providing control, standardization and transparency of client reference data during the client onboarding process and through ongoing client lifecycle events. The Company holds a variable interest in Clariant, which it consolidates based on the aforementioned VIE accounting guidance. On February 6, 2017, the Company, along with Clariant's minority interest owners, announced they reached an agreement to sell their interests in Clariant to the Thomson Reuters Corporation. The sale closed on March 14, 2017. The net liabilities of Clariant as of December 31, 2016 were \$18,784,000. See Note 25 for additional information.

Details for the impact of the consolidation of Clariant on the Company’s Consolidated Statements of Financial Condition as of December 31, 2016 and 2015 follow (in thousands):

	<u>2016</u>	<u>2015</u>
Consolidated assets:		
Cash and cash equivalents	\$ 10,399	\$ 17,321
Accounts receivable - net	2,208	94
Other current assets	1,149	973
Intangible assets	6,826	4,168
Other non-current assets	544	815
Total assets	<u>\$ 21,126</u>	<u>\$ 23,371</u>
Consolidated liabilities:		
Accounts payable	\$ 2,477	\$ 10,438
Other current liabilities	37,433	22,628
Total liabilities	<u>\$ 39,910</u>	<u>\$ 33,066</u>

The creditors or other beneficial interest holders of Clariant have no recourse to the general credit of DTCC, the primary beneficiary. Furthermore, liabilities of Clariant have no recourse to DTCC.

The losses of the consolidated VIE included within Income before taxes in the Company’s Consolidated Statements of Income were \$26,590,000 and \$58,262,000 for the years ended December 31, 2016 and 2015, respectively.

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**5. PARTICIPANTS' SEGREGATED CASH, OTHER PARTICIPANTS' ASSETS AND PAYABLE TO PARTICIPANTS**

Details for Participants' segregated cash, Other Participants' assets and Payable to Participants as of December 31, 2016 and 2015 follow (in thousands):

	<u>2016</u>	<u>2015</u>
Assets:		
Participants' segregated cash	\$ 15,886	\$ 26,581
Other Participants' assets	960,753	439,838
Total	<u>\$ 976,639</u>	<u>\$ 466,419</u>
Liabilities:		
Payable to Participants	<u>\$ 976,639</u>	<u>\$ 466,419</u>

Participants' segregated cash represents cash received from Participants to facilitate their compliance with SEC customer protection rules. Unclaimed balances are remitted to the appropriate authority when required by abandoned property laws.

As of December 31, 2016 and 2015, Payable to Participants also included \$153,000 and \$838,000 respectively, of cash collateral received from Participants representing 130% of short positions. Unclaimed balances are remitted to the appropriate authority when required by abandoned property laws.

**6. ACCOUNTS RECEIVABLE**

Details for Accounts receivable as of December 31, 2016 and 2015 follow (in thousands):

	<u>2016</u>	<u>2015</u>
Due from Participants and customers for services	\$ 189,930	\$ 165,519
Other receivables	18,112	21,734
Total	<u>\$ 208,042</u>	<u>\$ 187,253</u>

As of December 31, 2016 and 2015, the allowance for doubtful accounts was \$865,000 and \$2,010,000, respectively. Total write-offs in the allowance for doubtful accounts for the years ended December 31, 2016 and 2015 were \$1,212,000 and \$1,000,000, respectively.

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**7. PARTICIPANTS' AND CLEARING FUNDS**

All deposits of cash and securities by Participants are recorded on the accompanying Consolidated Statements of Financial Condition under Participants' and Clearing Funds.

Details for the Participants' and Clearing Funds as of December 31, 2016 and 2015 follow (in thousands):

	<b>2016</b>			
	<b>DTC</b>	<b>NSCC</b>	<b>FICC</b>	<b>Total</b>
Required deposits	\$ 1,150,000	\$ 3,580,823	\$ 18,288,528	\$ 23,019,351
Excess deposits	602,431	819,133	5,045,329	6,466,893
Total	<u>\$ 1,752,431</u>	<u>\$ 4,399,956</u>	<u>\$ 23,333,857</u>	<u>\$ 29,486,244</u>

	<b>2015</b>			
	<b>DTC</b>	<b>NSCC</b>	<b>FICC</b>	<b>Total</b>
Required deposits	\$ 1,150,000	\$ 3,164,627	\$ 11,970,161	\$ 16,284,788
Excess deposits	588,971	972,843	3,545,466	5,107,280
Total	<u>\$ 1,738,971</u>	<u>\$ 4,137,470</u>	<u>\$ 15,515,627</u>	<u>\$ 21,392,068</u>

*Cash deposits, Investments in marketable securities and Securities on deposit.* Cash deposits, Investments in marketable securities and Securities on deposit of the Participants and Clearing Funds, which may be applied to satisfy obligations of the depositing Participants as provided in the respective clearing agency rules, as of December 31, 2016 and 2015 follow (in thousands):

	<b>2016</b>			
	<b>DTC</b>	<b>NSCC</b>	<b>FICC</b>	<b>Total</b>
Cash deposits	\$ 1,752,431	\$ 4,157,717	\$ 9,660,414	\$ 15,570,562
Investments in marketable securities	—	—	25,000	25,000
Securities on deposit - at fair value	—	242,239	13,648,443	13,890,682
Total	<u>\$ 1,752,431</u>	<u>\$ 4,399,956</u>	<u>\$ 23,333,857</u>	<u>\$ 29,486,244</u>

	<b>2015</b>			
	<b>DTC</b>	<b>NSCC</b>	<b>FICC</b>	<b>Total</b>
Cash deposits	\$ 1,738,971	\$ 3,847,082	\$ 7,878,557	\$ 13,464,610
Investments in marketable securities	—	—	100,000	100,000
Securities on deposit - at fair value	—	290,388	7,537,070	7,827,458
Total	<u>\$ 1,738,971</u>	<u>\$ 4,137,470</u>	<u>\$ 15,515,627</u>	<u>\$ 21,392,068</u>

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Details for the Participants' and Clearing Funds Cash deposits and Investments in marketable securities as of December 31, 2016 and 2015 follow (in thousands):

	<b>2016</b>			
	<b>DTC</b>	<b>NSCC</b>	<b>FICC</b>	<b>Total</b>
Bank deposits	\$ 1,752,431	\$ 3,170,717	\$ 6,441,414	\$ 11,364,562
Money market fund investments	—	737,000	2,669,000	3,406,000
Reverse repurchase agreements	—	250,000	550,000	800,000
U.S. Treasury bills	—	—	25,000	25,000
<b>Total</b>	<b>\$ 1,752,431</b>	<b>\$ 4,157,717</b>	<b>\$ 9,685,414</b>	<b>\$ 15,595,562</b>

	<b>2015</b>			
	<b>DTC</b>	<b>NSCC</b>	<b>FICC</b>	<b>Total</b>
Bank deposits	\$ 1,738,971	\$ 850,082	\$ 1,620,557	\$ 4,209,610
Money market fund investments	—	2,382,000	4,793,000	7,175,000
Reverse repurchase agreements	—	615,000	1,465,000	2,080,000
U.S. Treasury bills	—	—	100,000	100,000
<b>Total</b>	<b>\$ 1,738,971</b>	<b>\$ 3,847,082</b>	<b>\$ 7,978,557</b>	<b>\$ 13,564,610</b>

**Refunds to Participants.** Interest income earned from the investment of cash deposits in the Participants' and Clearing Funds and refunded to Participants totaled \$39,743,000 and \$9,713,000 for the years ended December 31, 2016 and 2015, respectively, in the accompanying Consolidated Statements of Income.

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**8. PREMISES AND EQUIPMENT**

The cost, accumulated depreciation and net book value of Premises and equipment for the years ended December 31, 2016 and 2015 follow (in thousands):

	<u>Furniture and Equipment</u>	<u>Leasehold Improvements</u>	<u>Capital Leases</u>	<u>Buildings and Improvements</u>	<u>Land</u>	<u>Total</u>
Cost:						
As of January 1, 2015	\$ 401,310	\$ 256,373	\$ 65,144	\$ 32,398	\$ 4,221	\$ 759,446
Additions	42,028	30,603	—	15	—	72,646
Disposals	(73,783)	(85,668)	—	—	—	(159,451)
As of December 31, 2015	369,555	201,308	65,144	32,413	4,221	672,641
Additions	29,292	13,596	6,746	747	—	50,381
Disposals	(7,023)	(27,285)	(27,135)	—	—	(61,443)
As of December 31, 2016	<u>\$ 391,824</u>	<u>\$ 187,619</u>	<u>\$ 44,755</u>	<u>\$ 33,160</u>	<u>\$ 4,221</u>	<u>\$ 661,579</u>
Accumulated Depreciation:						
As of January 1, 2015	\$ 289,340	\$ 149,142	\$ 43,174	\$ 9,377	\$ —	\$ 491,033
Depreciation expense	30,290	19,952	6,560	494	—	57,296
Disposals	(73,408)	(77,779)	—	—	—	(151,187)
As of December 31, 2015	246,222	91,315	49,734	9,871	—	397,142
Depreciation expense	41,823	23,276	8,850	720	—	74,669
Disposals	(6,603)	(27,285)	(27,135)	—	—	(61,023)
As of December 31, 2016	<u>\$ 281,442</u>	<u>\$ 87,306</u>	<u>\$ 31,449</u>	<u>\$ 10,591</u>	<u>\$ —</u>	<u>\$ 410,788</u>
Net Book Value:						
As of January 1, 2015	<u>\$ 111,970</u>	<u>\$ 107,231</u>	<u>\$ 21,970</u>	<u>\$ 23,021</u>	<u>\$ 4,221</u>	<u>\$ 268,413</u>
As of December 31, 2015	<u>\$ 123,333</u>	<u>\$ 109,993</u>	<u>\$ 15,410</u>	<u>\$ 22,542</u>	<u>\$ 4,221</u>	<u>\$ 275,499</u>
As of December 31, 2016	<u>\$ 110,382</u>	<u>\$ 100,313</u>	<u>\$ 13,306</u>	<u>\$ 22,569</u>	<u>\$ 4,221</u>	<u>\$ 250,791</u>

During 2016 and 2015, disposals of premises and equipment resulted in losses of \$420,000 and \$8,264,000, respectively, and are included in General and administrative in the accompanying Consolidated Statements of Income.



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**9. GOODWILL AND INTANGIBLE ASSETS**

The gross carrying value, accumulated amortization and net carrying values of Goodwill and Intangible assets for the years ended December 31, 2016 and 2015 follow (in thousands):

	<u>Goodwill</u>	<u>Customer Relationships</u>	<u>Capitalized Software</u>	<u>Tradenames</u>	<u>Total</u>
Gross carrying value:					
As of January 1, 2015	\$ 65,535	\$ 239,774	\$ 941,253	\$ 23,748	\$ 1,270,310
Additions	—	—	111,915	—	111,915
Impairment	—	—	(67,766)	(8,224)	(75,990)
As of December 31, 2015	65,535	239,774	985,402	15,524	1,306,235
Additions	—	—	103,797	—	103,797
Disposals	—	—	(10,970)	—	(10,970)
Impairment	—	—	—	(15,524)	(15,524)
As of December 31, 2016	<u>\$ 65,535</u>	<u>\$ 239,774</u>	<u>\$ 1,078,229</u>	<u>\$ —</u>	<u>\$ 1,383,538</u>
Accumulated amortization:					
As of January 1, 2015	\$ —	\$ 28,366	\$ 619,921	\$ —	\$ 648,287
Amortization expense	—	19,943	146,296	—	166,239
Write-offs	—	—	(45,196)	—	(45,196)
As of December 31, 2015	—	48,309	721,021	—	769,330
Amortization expense	—	19,767	139,308	—	159,075
Disposals	—	—	(9,097)	—	(9,097)
As of December 31, 2016	<u>\$ —</u>	<u>\$ 68,076</u>	<u>\$ 851,232</u>	<u>\$ —</u>	<u>\$ 919,308</u>
Net carrying value:					
As of January 1, 2015	<u>\$ 65,535</u>	<u>\$ 211,408</u>	<u>\$ 321,332</u>	<u>\$ 23,748</u>	<u>\$ 622,023</u>
As of December 31, 2015	<u>\$ 65,535</u>	<u>\$ 191,465</u>	<u>\$ 264,381</u>	<u>\$ 15,524</u>	<u>\$ 536,905</u>
As of December 31, 2016	<u>\$ 65,535</u>	<u>\$ 171,698</u>	<u>\$ 226,997</u>	<u>\$ —</u>	<u>\$ 464,230</u>

During 2016 and 2015, disposals of software resulted in losses of \$1,873,000 and \$0, respectively, and are included in General and administrative in the accompanying Consolidated Statements of Income.

*Goodwill impairment testing.* DTCC completed its annual goodwill impairment test in the fourth quarter of 2016 and concluded that goodwill was not impaired. The goodwill impairment test is performed in two steps. The first step of the impairment test compares the estimated value of the reporting unit with its carrying value, including goodwill. If the estimated fair value of the reporting unit exceeds its carrying value, it is not considered to be impaired; however, if the carrying value of the reporting unit were to exceed its estimated fair value, a second step would be performed that compares the implied fair value of the reporting unit's goodwill with the carrying value of its goodwill. An impairment loss would be recognized to the extent the carrying value of goodwill exceeds the implied fair value.

The estimated fair value of each of the Company's reporting units exceeded their carrying value and therefore goodwill was deemed not impaired.

*Intangible assets.* The Company recognized impairment charges of \$0 and \$22,570,000 related to capitalized software for the years ended December 31, 2016 and 2015, respectively, that were determined to have no realizable value. The impairment charges were included in Impairment on intangible assets in the accompanying Consolidated Statements of Income.

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During 2016 and 2015, certain triggering events occurred that required the Company to assess whether the Omgeo and Avox tradenames were impaired. In 2016, the evaluations were triggered by increased competition in post-trade processing, coupled with further refinement of the Company's brand migration strategy, culminating in its decision to eliminate the Omgeo and Avox tradenames. The 2015 evaluation was triggered by the Company's decision to fold the Omgeo and Avox tradenames under the DTCC brand. The evaluations resulted in reductions in fair values for the aforementioned acquired tradenames, and as a result, the Company recognized impairments of \$15,524,000 and \$8,224,000, for the years ended December 31, 2016 and 2015, respectively, ultimately reducing the carrying values of the tradenames to zero. The impairment charges are included in Impairment of Intangible assets in the accompanying Consolidated Statements of Income.

Details for estimated amortization expense for each of the next five years and thereafter follow (in thousands):

2017	\$ 111,743
2018	92,413
2019	61,050
2020	38,666
2021	21,960
Thereafter	72,863
Total future estimated amortization	<u>\$ 398,695</u>

**10. EQUITY METHOD INVESTMENTS**

Details for DTCC's equity method investments as of December 31, 2016 and 2015 follow (in thousands, except ownership percentage):

	<u>2016</u>	<u>2015</u>
<b>European Central Counterparty N.V.</b>		
Percentage ownership	20%	25%
Carrying value	\$ 8,291	\$ 11,852
<b>Soltra Solutions, LLC</b>		
Percentage ownership	— %	50%
Carrying value	\$ —	\$ 700
<b>DTCC-Euroclear GlobalCollateral, LTD</b>		
Percentage ownership	50%	50%
Carrying value	\$ 8,885	\$ 5,846

**European Central Counterparty N.V. (ECCP N.V.)**, a joint venture with BATS Chi-x Europe, NASDAQ OMX, ABN AMRO Clearing Bank and the Company, provides a pan-European clearing solution offering economies of scale and risk management expertise to European market participants. ECCP N.V. uses the risk management framework and customer service organization of European Multilateral Clearing Facility N.V. (EMCF), and conducts its operations using the technology platform and infrastructure of EMCF.

On December 15, 2016, the Company sold a portion of its ownership interest in ECCP N.V, which reduced its ownership interest in ECCP N.V. from 25% to 20%. The Company will continue to record ECCP N.V. as an equity method investment. The gain on the sale of ownership interest was \$1,417,000, included in Net loss from equity method investments in the accompanying Consolidated Statements of Income.

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**Soltra Solutions, LLC (Soltra)**, a joint venture with Financial Services Information Sharing and Analysis Center (FS-ISAC), develops solutions to facilitate sharing of information related to cyber threats among critical infrastructure companies in real time. On April 11, 2016, the Company made a capital contribution to Soltra. This capital contribution resulted in DTCC holding a majority voting interest (68%) and required DTCC to consolidate Soltra in that period. On November 22, 2016, substantially all the assets and liabilities of Soltra were sold to NC4 Inc., a wholly-owned subsidiary of The ESP Group. The gain on the sale of ownership interest was \$462,000, included in Other non-operating expense in the accompanying Consolidated Statements of Income.

**DTCC-Euroclear GlobalCollateral LTD**, a joint venture with Euroclear, provides support to financial institutions in addressing significant regulatory, operational and industry challenges related to the management of margin calls and collateral impacting the over-the-counter (OTC) derivatives market.

**11. OTHER ASSETS**

Details for Other assets as of December 31, 2016 and 2015 follow (in thousands):

	<b>2016</b>	<b>2015</b>
Prepays	\$ 54,413	\$ 60,452
Prepaid taxes	7,574	27,744
Royalty receivable	—	3,663
Other current assets	5,489	471
Total current assets	<u>67,476</u>	<u>92,330</u>
Long-term incentive plan assets	170,501	185,631
Deferred tax assets, net	108,840	87,452
Cash surrender value on insurance policies	58,845	55,965
Prepays	17,794	22,453
Other non-current assets	11,902	10,902
Total non-current assets	<u>367,882</u>	<u>362,403</u>
Total	<u>\$ 435,358</u>	<u>\$ 454,733</u>

Prepays represent the interest and up-front fees paid for lines of credit maintained to support the settlement operation for DTC and NSCC and maintenance contracts for various hardware and software services.

Royalty receivable represented the consideration due to the sale of DTCC Loan/SERV messaging portal in 2011.

*Long-term incentive plans.* DTCC's Long-term incentive plan is provided to certain designated employees of DTCC to establish retention incentives for certain key employees. The performance period is a three-year period commencing January 1 of each calendar year, unless modified, extended or terminated by the Board of Directors and the Compensation and Human Resources Committee. Only those employees specifically designated by the Compensation Committee are eligible to participate in this plan. The associated liabilities for these plans are classified in Other non-current liabilities on the accompanying Consolidated Statements of Financial Condition as long-term incentive plan liabilities.

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DTCC maintains a self-directed, non-qualified deferred compensation plan structured as a “Rabbi Trust” for certain executives and other highly compensated employees. Under the plan, Participants may elect to defer receipt of a portion of their annual compensation and invest it in various mutual funds. All such investments are held in the Rabbi Trust and the plan requires settlement in cash. The investment assets of the Rabbi Trust are recorded at fair value and included on the accompanying Consolidated Statements of Financial Condition in Other non-current assets as long-term incentive plan assets. The amount of compensation deferred under the plan is credited to each Participant’s deferral account and a deferred compensation liability is recorded in Other non-current liabilities on the accompanying Consolidated Statements of Financial Condition. This liability represents DTCC’s obligation to distribute the funds to the Participants. In 2016 and 2015, the investment assets of the Rabbi Trust were classified as trading securities, and accordingly, changes in their fair values are recorded in Investment income (loss) in the accompanying Consolidated Statements of Income. In addition, changes in the fair value of the plan’s investments were recorded in Employee compensation and related benefits in the accompanying Consolidated Statements of Income. The Investment income and (loss) on the change in fair value of these investments was \$932,000 and \$(1,911,000) for the years ended December 31, 2016 and 2015, respectively.

The Company purchased life insurance policies for employees who participated in DTCC's long-term incentive plans established from 2005 through 2007. Cash surrender value on insurance policies represents the amounts receivable from various insurance companies upon cancellation of the life insurance policies purchased for employees. The associated liability for these deferred compensation plans and the loans drawn against these policies are classified in Other non-current liabilities on the accompanying Consolidated Statements of Financial Condition as long-term incentive plans.

**12. OTHER LIABILITIES**

Details for Other liabilities as of December 31, 2016 and 2015 follow (in thousands):

	<b>2016</b>	<b>2015</b>
Compensation payable	\$ 141,451	\$ 140,397
Pension and postretirement benefits	20,205	15,091
Deferred rent	9,080	3,208
Other current liabilities	99,946	82,261
Total current liabilities	<u>270,682</u>	<u>240,957</u>
Long-term incentive plan liabilities	266,023	278,210
Unrecognized tax benefits <sup>(1)</sup>	64,099	57,992
Deferred rent	33,209	19,873
Other payables	7,024	5,062
Total non-current liabilities	<u>370,355</u>	<u>361,137</u>
Total	<u>\$ 641,037</u>	<u>\$ 602,094</u>

(1) See Note 17 for additional information.

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**13. COMMERCIAL PAPER**

Details for Commercial paper as of December 31, 2016 and 2015 follow (in thousands):

	<u>2016</u>	<u>2015</u>
Commercial paper - net of unamortized discount of \$1,669 and \$435 as of December 31, 2016 and 2015, respectively	\$ 2,554,020	\$ 1,007,124
Weighted-average interest rate	0.75%	0.40%

Interest expense on Commercial paper included in the accompanying Consolidated Statements of Income was \$11,433,000 and \$232,000 for the years ended December 31, 2016 and 2015, respectively.

Details for the cash flows associated with the issuance and maturities of Commercial paper for the years ended December 31, 2016 and 2015 follow (in thousands):

	<u>2016</u>	<u>2015</u>
Maturities less than 90 days:		
Proceeds from Commercial paper less than 90 days, net	\$ 830,061	\$ 972,156
Maturities greater than 90 days:		
Proceeds from Commercial paper	1,681,596	34,968
Repayments of Commercial paper	(964,761)	—
Proceeds from Commercial paper greater than 90 days, net	<u>716,835</u>	<u>34,968</u>
Total proceeds from Commercial paper, net	<u>\$ 1,546,896</u>	<u>\$ 1,007,124</u>

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**14. LONG-TERM DEBT**

Details for Long-term debt as of December 31, 2016 and 2015 follow (in thousands):

	<b>2016</b>	<b>2015</b>
Notes payable	\$ 52,675	\$ 106,451
Capital lease obligations	12,045	52,384
Total long-term debt	<u>64,720</u>	<u>158,835</u>
Less Current portion of long-term debt	(20,468)	(66,395)
Non-current portion of long-term debt	<u>\$ 44,252</u>	<u>\$ 92,440</u>

Details for principal payments due on Long-term debt for each of the next five years and thereafter follow (in thousands):

	<b>Notes Payable</b>	<b>Capital Lease Obligations</b>	<b>Total</b>
2017	\$ 13,650	\$ 6,818	\$ 20,468
2018	2,650	5,227	7,877
2019	2,650	—	2,650
2020	2,650	—	2,650
2021	2,650	—	2,650
Thereafter	28,425	—	28,425
Total	<u>\$ 52,675</u>	<u>\$ 12,045</u>	<u>\$ 64,720</u>

**Notes payable.** Details for notes payable as of December 31, 2016 and 2015 follow (in thousands):

<b>Issuer</b>	<b>Rate</b>	<b>Issue Date</b>	<b>Maturity</b>	<b>Outstanding Balance</b>	
				<b>2016</b>	<b>2015</b>
DTC	5.59%	4/6/2009	4/15/2016	\$ —	\$ 51,126
DTCC	2.64%	4/26/2012	4/26/2017	11,000	11,000
DTCC	3.83%	4/26/2012	4/26/2032	22,475	23,925
DTCC	3.93%	9/28/2012	9/28/2032	19,200	20,400
<b>Total</b>				<u>\$ 52,675</u>	<u>\$ 106,451</u>

The weighted-average interest rate was 3.62% and 4.57% for the years ended December 31, 2016 and 2015, respectively. Total interest expense on notes payable included in the accompanying Consolidated Statements of Income was \$2,798,000 and \$5,053,000, for the years ended December 31, 2016 and 2015, respectively.

**Capital lease obligations.** Leased property meeting certain criteria is capitalized and the present value of the related lease payments is recorded as a liability. Interest expense on Capital lease obligations included in the accompanying Consolidated Statements of Income was \$1,165,000 and \$968,000 for the years ended December 31, 2016 and 2015, respectively.

On January 29, 2016, the Company prepaid \$40,346,000 of its capital lease obligations, which included a one-time fee of \$765,000.

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**Lines of credit.** DTCC maintains a committed line of credit for general funding purposes while certain of its subsidiaries, DTC and NSCC, also maintain committed lines of credit to support settlement.

Details for the terms of the outstanding lines of credit as of December 31, 2016 and 2015 follow:

	2016	2015
<b><i>DTCC</i></b>		
<b>Committed Amount</b>	\$500 million	\$150 million
<b>Denomination</b>	USD	USD
<b>No. of Participants/Lenders</b>	10/10	3/3
<b>Borrowing rate</b>	The highest of Prime rate, federal funds rate, or adjusted LIBOR, on the day of borrowing, plus 1.375%	The greater of the federal funds rate, adjusted LIBOR, or lender's cost of funds, on the day of borrowing, plus 1.25%
<b><i>DTC</i></b>		
<b>Committed Amount</b>	\$1.9 billion	\$1.9 billion
<b>Denomination</b>	USD	USD
<b>No. of Participants/Lenders</b>	31/37	31/38
<b>Borrowing rate</b>	The greater of the federal funds offered rate, adjusted LIBOR, or lenders' cost of funds, on the day of borrowing, plus 1.40%	
<b>Uncommitted Amount</b>	\$150 million <sup>(1)</sup>	\$150 million <sup>(1)</sup>
<b>Denomination</b>	CAD	CAD
<b>No. of Participants/Lenders</b>	1/1	1/1
<b><i>NSCC</i></b>		
<b>Committed Amount</b>	\$10.9 billion	\$12.1 billion
<b>Denomination</b>	USD	USD
<b>No. of Participants/Lenders</b>	31/37	31/38
<b>Borrowing rate</b>	The greater of the federal funds offered rate, adjusted LIBOR, or lenders' cost of funds, on the day of borrowing, plus 1.40%.	

(1) Used to support Canadian settlement.

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Details for debt covenants related to the notes payable and lines of credit as of December 31, 2016 and 2015 follow:

	2016	2015
<b>Notes Payable</b>		
<u><i>DTCC</i></u>		
<b>Minimum Net Worth</b>	\$400 million	\$400 million
<b>Maximum Priority Debt</b>	20% of Net Worth	20% of Net Worth
<b>Lines of Credit</b>		
<u><i>DTCC</i></u>		
<b>Minimum Net Worth</b>	\$1.1 billion	\$1.1 billion
<b>Maximum Priority Debt</b>	200 million	200 million
<u><i>DTC</i></u>		
<b>Minimum Net Worth</b>	\$150 million	\$125 million
<b>Minimum Participants Fund deposits</b>	750 million	750 million
<u><i>NSCC</i></u>		
<b>Minimum Net Worth</b>	\$125 million	\$100 million
<b>Minimum Clearing Fund deposits</b>	1 billion	1 billion

As of December 31, 2016 and 2015, the Company was in compliance with its debt covenants.

**Credit Ratings.** DTCC, DTC, FICC and NSCC are rated by Moody's Investors Service, Inc. (Moody's) and S&P Global Inc. (S&P). Details for senior debt ratings and ratings outlooks for DTCC and its three clearing agency subsidiaries as of December 31, 2016 follow:

	Moody's <sup>(1)</sup>			S&P		
	Long-term	Short-term	Outlook	Long-term <sup>(2)</sup>	Short-term	Outlook <sup>(2)</sup>
<b>DTCC</b>	Aa3	P-1	Stable	AA-	A-1+	Stable
<b>DTC</b>	Aaa	P-1	Stable	AA+	A-1+	Stable
<b>FICC</b>	Aaa	P-1	Stable	AA	A-1+	Stable
<b>NSCC</b>	Aaa	P-1	Stable	AA+	A-1+	Stable

(1) Moody's categorizes the long-term issuer ratings of DTC, FICC and NSCC as clearing counterparty ratings (CCR) under the agency's Clearing Houses Rating Methodology introduced in January 2016.

(2) On May 17, 2016, S&P placed the AA long-term issuer credit rating of DTCC, along with related issue ratings, and the AA+ long-term issuer credit ratings of DTC, FICC and NSCC on CreditWatch with negative implications. Subsequently, on September 20, 2016, S&P affirmed DTC's and NSCC's long-term issuer credit rating at AA+, downgraded FICC from AA+ to AA and downgraded DTCC from AA to AA-. Additionally, the ratings outlook for all four entities was changed from negative to stable.



## 15. FAIR VALUE MEASUREMENTS

### *Valuation hierarchy*

U.S. GAAP provides for a three-level valuation hierarchy based on the transparency of inputs to the valuation of an asset or liability as of the measurement date. Details for the description of the three levels follow:

- Level 1 — Inputs to the valuation methodology are unadjusted quoted market prices for identical assets or liabilities in active markets as of the valuation date.
- Level 2 — Inputs to the valuation methodology are quoted market prices for similar assets and liabilities in active markets; quoted market prices for identical or similar assets or liabilities in markets that are not active; inputs other than quoted prices that are observable for the asset or liability; and inputs that are derived principally from or corroborated by observable market data by correlation or other means.
- Level 3 — Inputs to the valuation methodology are unobservable and reflect the Company's own assumptions about the estimates market participants would use pricing the asset or liability based on the best information available in the circumstances (e.g., internally derived assumptions surrounding timing and amount of expected cash flows).

A financial asset or liability's categorization in the valuation hierarchy is based on the lowest level of input that is significant to the fair value measurement.

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**Financial Assets and Liabilities measured at fair value on a recurring basis.** For financial assets and liabilities measured at fair value on a recurring basis, the Company applies the following valuation techniques to measure fair value:

<b>Product/ Instrument</b>	<b>Classification in the valuation hierarchy</b>	<b>Valuation Methodology</b>
<b><u>Assets - Participants' and Clearing Funds - Securities on deposit</u></b>		
U.S. Treasury Securities	Level 1	Obtained from pricing services engaged by the Company, and the Company receives one price for each security. The fair values provided by the pricing services are estimated using pricing models, where the inputs to those models are based on observable market inputs or recent trades of similar securities.
U. S. Agency Issued Debt Securities	Callable: Level 2 Non-Callable: Level 1	
U.S. Agency Residential Mortgage-Backed Securities	Level 2	
<b><u>Non-Current Assets - Other non-current assets</u></b>		
Rabbi Trust	Level 1 Level 2	Obtained from pricing services engaged by the Company, and the Company receives one price for each security. The fair values provided by the pricing services are estimated using pricing models, where the inputs to those models are based on observable market inputs or recent trades of similar securities.
<b><u>Liabilities - Participants' and Clearing Funds - Securities on deposit</u></b>		
U.S. Treasury Securities	Level 1	Obtained from pricing services engaged by the Company, and the Company receives one price for each security. The fair values provided by the pricing services are estimated using pricing models, where the inputs to those models are based on observable market inputs or recent trades of similar securities.
U. S. Agency Issued Debt Securities	Callable: Level 2 Non-Callable: Level 1	
U.S. Agency Residential Mortgage-Backed Securities	Level 2	

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Fair value measurements of those items measured on a recurring basis are summarized below as of December 31, 2016 and 2015 (in thousands):

	<b>2016</b>			
	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Total</b>
<b>Assets - Participants' and Clearing Funds</b>				
Securities on deposit	\$ 12,241,168	\$ 1,649,514	\$ —	\$ 13,890,682
Non-Current Assets	132,471	38,030	—	170,501
<b>Total</b>	<b>\$ 12,373,639</b>	<b>\$ 1,687,544</b>	<b>\$ —</b>	<b>\$ 14,061,183</b>
<b>Liabilities - Participants' and Clearing Funds</b>				
Securities on deposit	\$ 12,241,168	\$ 1,649,514	\$ —	\$ 13,890,682
<b>Total</b>	<b>\$ 12,241,168</b>	<b>\$ 1,649,514</b>	<b>\$ —</b>	<b>\$ 13,890,682</b>
	<b>2015</b>			
	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Total</b>
<b>Assets - Participants' and Clearing Funds</b>				
Securities on deposit	\$ 7,186,627	\$ 640,831	\$ —	\$ 7,827,458
Non-Current Assets	151,058	32,242	—	183,300
<b>Total</b>	<b>\$ 7,337,685</b>	<b>\$ 673,073</b>	<b>\$ —</b>	<b>\$ 8,010,758</b>
<b>Liabilities - Participants' and Clearing Funds</b>				
Securities on deposit	\$ 7,186,627	\$ 640,831	\$ —	\$ 7,827,458
<b>Total</b>	<b>\$ 7,186,627</b>	<b>\$ 640,831</b>	<b>\$ —</b>	<b>\$ 7,827,458</b>

There were no transfers between levels in the fair value hierarchy, nor were any amounts classified as Level 3 for the years ended December 31, 2016 and 2015.

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**Financial Assets and Liabilities measured at other than fair value.** For financial assets and liabilities that are not required to be carried at fair value on a recurring basis the Company applies the following valuation techniques to measure fair value:

<b>Product/ Instrument</b>	<b>Classification in the valuation hierarchy</b>	<b>Valuation Methodology</b>
<b><u>Assets - Current Assets</u></b>		
Reverse repurchase agreements	Level 2	Obtained from pricing services engaged by the Company, and the Company receives one price for each security. The fair values provided by the pricing services are estimated using pricing models, where the inputs to those models are based on observable market inputs or recent trades of similar securities.
<b><u>Investments in marketable securities</u></b>		
U.S. Treasury	Level 1	Obtained from pricing services engaged by the Company, and the Company receives one price for each security. The fair values provided by the pricing services are estimated using pricing models, where the inputs to those models are based on observable market inputs or recent trades of similar securities.
<b><u>Liabilities - Current Liabilities</u></b>		
Long-term debt	Level 2	Discounted cash flows using current market rates for similar instruments of the same remaining maturity or quoted prices for the same of similar issues.

*Financial assets and liabilities whose carrying value approximates fair value.* The carrying values of certain assets and liabilities approximate their fair values because they are short-term in duration, have no defined maturity or have market-based interest rates. These instruments include Cash and cash equivalents, Reverse repurchase agreements, Participants' segregated cash, Accounts receivable, Participants' and Clearing Funds - Cash deposits, Other Participants' assets, Commercial paper, Accounts payable and Payable to Participants.

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The tables below present the carrying values, fair values and fair value hierarchy levels of certain financial instruments measured at other than fair value on the accompanying Statements of Financial Condition as of December 31, 2016 and 2015 follow (in thousands):

	<b>2016</b>				
	<b>Carrying Amount</b>	<b>Total Fair Value</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>
<b>Assets:</b>					
Cash and cash equivalents	\$ 4,075,548	\$ 4,075,548	\$ 4,075,548	\$ —	\$ —
Reverse repurchase agreements <sup>(1)</sup>	100,000	100,000	—	100,000	—
Participants' segregated cash	15,886	15,886	15,886	—	—
Accounts receivable	208,042	208,042	—	208,042	—
<b>Participants' and Clearing Funds:</b>					
Cash deposits	15,570,562	15,570,562	14,770,562	800,000	—
Investments in marketable securities	25,000	24,829	24,829	—	—
Other Participants' assets	960,753	960,753	955,566	5,187	—
<b>Total</b>	<b><u>\$ 20,955,791</u></b>	<b><u>\$ 20,955,620</u></b>	<b><u>\$ 19,842,391</u></b>	<b><u>\$ 1,113,229</u></b>	<b><u>\$ —</u></b>
<b>Liabilities:</b>					
Commercial paper	\$ 2,554,020	\$ 2,554,020	\$ —	\$ 2,554,020	\$ —
Accounts payable	100,088	100,088	—	100,088	—
<b>Participants' and Clearing Funds:</b>					
Cash deposits	15,595,562	15,595,562	15,595,562	—	—
Payable to Participants	976,639	976,639	976,639	—	—
Long-term debt	64,720	62,381	—	62,381	—
<b>Total</b>	<b><u>\$ 19,291,029</u></b>	<b><u>\$ 19,288,690</u></b>	<b><u>\$ 16,572,201</u></b>	<b><u>\$ 2,716,489</u></b>	<b><u>\$ —</u></b>

(1) The fair value of securities received as collateral under reverse repurchase agreements was \$102 million as of December 31, 2016.

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	2015				
	Carrying Amount	Total Fair Value	Level 1	Level 2	Level 3
Assets:					
Cash and cash equivalents	\$ 2,521,558	\$ 2,521,558	\$ 2,521,558	\$ —	\$ —
Investments in marketable securities	7,400	7,400	7,400	—	—
Participants' segregated cash	26,581	26,581	26,581	—	—
Accounts receivable	187,253	187,253	—	187,253	—
Participants' and Clearing Funds:					
Cash deposits	13,464,610	13,464,610	11,384,610	2,080,000	—
Investments in marketable securities	100,000	99,757	99,757	—	—
Other Participants' assets	439,838	439,838	431,911	7,927	—
<b>Total</b>	<b>\$ 16,747,240</b>	<b>\$ 16,746,997</b>	<b>\$ 14,471,817</b>	<b>\$ 2,275,180</b>	<b>\$ —</b>
Liabilities:					
Commercial paper	\$ 1,007,124	\$ 1,007,124	\$ —	\$ 1,007,124	\$ —
Accounts payable	142,202	142,202	—	142,202	—
Participants' and Clearing Funds:					
Cash deposits	13,564,610	13,564,610	13,564,610	—	—
Payable to Participants	466,419	466,419	466,419	—	—
Long-term debt	158,835	156,431	—	156,431	—
<b>Total</b>	<b>\$ 15,339,190</b>	<b>\$ 15,336,786</b>	<b>\$ 14,031,029</b>	<b>\$ 1,305,757</b>	<b>\$ —</b>

**Financial assets measured at fair value on a non-recurring basis.** Certain assets are subject to measurement at fair value on a non-recurring basis. For these assets, measurement at fair value in periods subsequent to their initial recognition is applicable if they are determined to be impaired. Fair value is based on discounted cash flow analyses or comparing values of similar instruments. Discounted cash flow analyses are dependent upon various factors, including estimated future cash flows, interest rate yield curves and volatility of inputs.

Fair value on the aforementioned capitalized software impairment disclosed in Note 9 was based on discounted cash flows using Level 3 inputs under the fair value guidance. The cash flows are those expected to be generated by the market participants, discounted at the risk-free rate of interest. The impairment charges are included in the accompanying Statements of Income.

## 16. PENSION AND POSTRETIREMENT BENEFITS

**Defined contribution retirement plans.** The Company sponsors two defined contribution plans, the Employee Savings Plan and the Operations Level Savings Plan. The Plans are administered by the Company's Employee Benefit Plans Committee, which is appointed by the Board of Directors of the Company and is comprised of designated officers of the Company. The Employee Savings Plan is a single-employer plan covering non-bargaining unit employees of the Company and its subsidiaries. The Operations Level Savings Plan is a single-employer plan covering bargaining unit employees of the Company. All investments, except loans receivable, are included in The Depository Trust & Clearing Corporation Master Savings Plan Trust and are administered by the Plans' trustee, State Street Bank & Trust Company. Conduent Inc. (formerly Xerox HR Solutions, LLC) serves as the recordkeeper for the Plans. Both Plans are subject to the provisions of ERISA. The total expense for the defined contribution retirement plans were \$40,216,000 and \$35,899,000 in 2016 and 2015, respectively, which is included in Employee compensation and related benefits in the accompanying Consolidated Statements of Income.

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**Defined benefit pension and other postretirement benefit plans.** The Defined Benefit Plan is a noncontributory defined benefit pension plan under which employees hired or rehired before May 1, 2009, are eligible to participate upon attainment of age 21 and completion of six months of service. The Defined Benefit Plan is closed to new participants, but existing participants continue to accrue benefits. It is subject to the provisions of ERISA. The Plan provides benefits to retired or vested terminated employees or their beneficiaries. The Pension Benefit Guarantee Corporation, a United States governmental agency, guarantees most vested normal age retirement benefits subject to certain limitations. Pension benefits under the plan are determined on the basis of an employee's length of service and earnings. DTCC's funding policy requires the Company to make contributions to the plan that meet or exceed the minimum funding standards under ERISA and the Internal Revenue Code. DTCC also provides health care and life insurance benefits to DTCC eligible retired employees and also maintains a 401(h) account to fund the retiree medical plans.

DTCC also sponsors a SERP and a Restoration Plan that are nonqualified defined benefit plans, which provide additional retirement benefits to certain employees. Benefits paid to retirees are based on age at retirement, years of credited service and average compensation. The cost of nonqualified defined benefits is determined using substantially the same actuarial methods and economic assumptions as those used for the qualified pension plan. The Company maintains certain assets in trust for nonqualified retirement benefit obligations.

*Benefit obligations.* The reconciliation of the beginning and ending balances of the projected benefit obligation for Defined Benefit Plan follow (in thousands):

	Pension Benefits		Other Benefits	
	2016	2015	2016	2015
Benefit obligation, beginning of year:	\$ 1,019,080	\$ 1,081,339	\$ 94,149	\$ 103,139
Service cost	7,621	6,580	1,331	2,088
Interest cost	39,322	43,608	3,008	4,007
Plan amendments	—	—	(33,480)	—
Gross benefits paid	(55,157)	(60,500)	(3,442)	(3,043)
Expenses paid	(3,276)	(2,825)	—	—
Transfers	—	4,071	—	—
Actuarial (gain) loss	48,575	(53,193)	1,498	(12,042)
Total benefit obligation at end of year	<u>\$ 1,056,165</u>	<u>\$ 1,019,080</u>	<u>\$ 63,064</u>	<u>\$ 94,149</u>
Total accumulated benefit obligation at end of year	<u>\$ 1,049,888</u>	<u>\$ 1,011,082</u>	<u>N/A</u>	<u>N/A</u>

The accumulated benefit obligation is defined as the actuarial present value of pension benefits attributed to employee services rendered before December 31, 2016 and 2015, respectively, and based on employee service and compensation prior to the applicable date.

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*Funded status.* The funded status of the plans, as of December 31, 2016 and 2015, follow (in thousands):

	<b>Pension Benefits</b>		<b>Other Benefits</b>	
	<b>2016</b>	<b>2015</b>	<b>2016</b>	<b>2015</b>
Benefit obligation at end of year:				
Qualified plan	\$ 936,866	\$ 908,895	\$ —	\$ —
Other plans	119,299	110,185	63,064	94,149
Total benefit obligation at end of year	1,056,165	1,019,080	63,064	94,149
Fair value of plan assets at end of year	814,352	802,192	—	3,635
Unfunded status	<u>\$ (241,813)</u>	<u>\$ (216,888)</u>	<u>\$ (63,064)</u>	<u>\$ (90,514)</u>

Amounts recognized in the balance sheet consist of:

Current liability	\$ (16,442)	\$ (15,091)	\$ (3,763)	\$ —
Non-current liability	(225,371)	(201,797)	(59,301)	(90,514)
Amount recognized, end of year	<u>\$ (241,813)</u>	<u>\$ (216,888)</u>	<u>\$ (63,064)</u>	<u>\$ (90,514)</u>

*Plan assets.* The summary and reconciliation of the beginning and ending balances of the fair value of the plans' assets follow (in thousands):

	<b>Pension Benefits</b>		<b>Other Benefits</b>	
	<b>2016</b>	<b>2015</b>	<b>2016</b>	<b>2015</b>
Change in plan assets:				
Fair value of plan assets, beginning of year	\$ 802,192	\$ 851,091	\$ 3,635	\$ 3,616
Actual return (loss) on plan assets	56,281	(7,463)	104	19
Employer contribution	14,312	21,889	(297)	—
Employee contributions	—	—	—	3,043
Gross benefits paid	(55,157)	(60,500)	(3,442)	(3,043)
Expenses paid	(3,276)	(2,825)	—	—
Fair value of plan assets, end of year	<u>\$ 814,352</u>	<u>\$ 802,192</u>	<u>\$ —</u>	<u>\$ 3,635</u>



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Investments are classified based on the lowest level of input that is significant to the fair value measurement. Details of the classification of plan assets in accordance with the three-tier fair valuation hierarchy and current asset allocations as of December 31, 2016 and 2015, follow (in thousands, except percentages):

	<b>Target Allocation 2016</b>	<b>Percentage of Plan Assets, December 31, 2016</b>	<b>Total</b>	<b>Quoted Prices in Active Markets for Identical Assets (Level 1)</b>
Pension assets as of December 31, 2016:				
Short-term investment fund <sup>(1)</sup>	0%	0.62%	\$ 5,020	\$ —
Equity Portfolio:				
Domestic large cap growth			40,126	19,158
Domestic large cap value <sup>(1)</sup>			44,230	—
Domestic large cap core <sup>(1)</sup>			78,180	—
Domestic small core			17,424	17,424
International core			23,809	23,809
International emerging markets			8,510	8,510
Total equity securities	25.00%	26.07%	212,279	68,901
Fixed income portfolio:				
Domestic liability driven investment <sup>(1)</sup>	73.00%	72.93%	593,925	—
Guaranteed insurance contracts:				
Annuity fund <sup>(1)</sup>	2.00%	0.38%	3,128	—
Total pension assets as of December 31, 2016			<u>\$ 814,352</u>	<u>\$ 68,901</u>

	<b>Target Allocation 2015</b>	<b>Percentage of Plan Assets, December 31, 2015</b>	<b>Total</b>	<b>Quoted Prices in Active Markets for Identical Assets (Level 1)</b>
Pension assets as of December 31, 2015:				
Short-term investment fund <sup>(1)</sup>	0%	0.04%	\$ 304	\$ —
Equity Portfolio:				
Domestic large cap growth			40,537	20,205
Domestic large cap value <sup>(1)</sup>			37,797	—
Domestic large cap core <sup>(1)</sup>			76,417	—
Domestic small core			15,085	15,085
International core			21,645	21,645
International emerging markets			6,460	6,460
Total equity securities	25.00%	24.68%	197,941	63,395
Fixed income portfolio:				
Domestic liability driven investment <sup>(1)</sup>	73.00%	72.34%	580,294	—
Guaranteed insurance contracts:				
Annuity fund <sup>(1)</sup>	2.00%	2.95%	23,653	—
Total pension assets as of December 31, 2015			<u>\$ 802,192</u>	<u>\$ 63,395</u>

(1) In accordance with guidance, certain investments that were measured at net asset value per share (or its equivalent) have not been classified in the fair value hierarchy. The fair value amounts presented in the table are intended to permit the reconciliation of the fair value hierarchy to the amounts presented on the accompanying Consolidated Statement of Financial Condition. See Note 15 for further information.

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The Company did not hold pension plan assets designated as Level 2 or Level 3 as of December 31, 2016 and 2015.

Other benefit plan assets of \$0 and \$3,635,000 as of December 31, 2016 and 2015, respectively, are all mutual funds in the Level 1 category.

*Net periodic benefit income (expense).* Details of the components of net periodic benefit income (expense) and amortization recognized in OCI (excluding taxes) follow (in thousands):

	<b>Pension Benefits</b>		<b>Other Benefits</b>	
	<b>2016</b>	<b>2015</b>	<b>2016</b>	<b>2015</b>
Components of net periodic benefit income (expense):				
Service cost	\$ 7,621	\$ 6,581	\$ 1,331	\$ 2,088
Interest cost	39,322	43,607	3,008	4,007
Expected return on plan assets	(36,885)	(41,777)	(92)	(141)
Amortizations:				
Prior service credit (cost)	959	1,006	(7,872)	(7,014)
Actuarial loss	5,402	8,019	603	1,886
Settlement loss	228	1,297	—	—
Net periodic benefit income (expense)	<u>\$ 16,647</u>	<u>\$ 18,733</u>	<u>\$ (3,022)</u>	<u>\$ 826</u>

*Changes in OCI.* Details of the changes in plan assets and benefit obligations recognized in OCI (excluding taxes) follow (in thousands):

	<b>Pension Benefits</b>		<b>Other Benefits</b>	
	<b>2016</b>	<b>2015</b>	<b>2016</b>	<b>2015</b>
Other changes recognized in OCI:				
Prior service cost arising during the period	\$ —	\$ —	\$ (33,480)	\$ —
Net loss (gain) arising during the period	29,179	(3,953)	1,447	(11,944)
Amortizations:				
Prior service (cost) credit	(959)	(1,006)	7,872	7,014
Actuarial and settlement loss	(5,631)	(9,316)	(603)	(1,886)
Net other changes in OCI	<u>\$ 22,589</u>	<u>\$ (14,275)</u>	<u>\$ (24,764)</u>	<u>\$ (6,816)</u>

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Details of the net amount recognized in Accumulated other comprehensive income on the accompanying Consolidated Statements of Financial Condition (excluding taxes) follow (in thousands):

	Pension Benefits		Other Benefits	
	2016	2015	2016	2015
Amount not yet reflected in net periodic benefit (cost) and included in Accumulated other comprehensive loss:				
Prior service (cost) credit	\$ (5,367)	\$ (6,326)	\$ 31,888	\$ 6,280
Accumulated loss	(256,997)	(233,449)	(17,887)	(17,042)
Accumulated other comprehensive (loss) income	<u>(262,364)</u>	<u>(239,775)</u>	<u>14,001</u>	<u>(10,762)</u>
Cumulative net periodic benefit (cost) in excess of employer contributions	20,551	22,887	(77,065)	(79,752)
Net amount recognized at year-end	<u>\$ (241,813)</u>	<u>\$ (216,888)</u>	<u>\$ (63,064)</u>	<u>\$ (90,514)</u>

The estimated actuarial loss (gain) and prior service (cost) credit that will be amortized from accumulated other comprehensive loss into the accompanying Consolidated Statement of Income through net periodic benefit (cost) or expenses over the next fiscal year follow (in thousands):

	Pension Benefits		Other Benefits	
	2016	2015	2016	2015
Prior service credit (cost)	\$ (933)	\$ (959)	\$ 6,366	\$ 6,280
Net loss	(6,303)	(4,942)	(1,318)	(873)
Total	<u>\$ (7,236)</u>	<u>\$ (5,901)</u>	<u>\$ 5,048</u>	<u>\$ 5,407</u>

*Assumptions for net periodic benefit income (expense).* Details for the pension plan assumptions used by actuaries to determine net periodic income (expense) as of December 31, 2016 and 2015 follow:

	Pension Benefits		Other Benefits	
	2016	2015	2016	2015
Weighted-average assumptions used to determine net periodic benefit income (expense) for the years ended December 31:				
Discount rate	4.63%	4.19%	4.58%	4.13%
Expected long-term rate of return on plan assets	4.75%	5.50%	4.75%	5.50%
Rate of compensation increase	n/a	n/a	n/a	n/a
Assumed health care cost trend rates as of December 31:				
Health care cost trend rate assumed for next year			6.92% / 7.71%	7.22% / 7.33%
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate)			4.47% / 4.46%	4.50%
Year that the rate reaches the ultimate trend rate			2040	2029

To develop the expected long-term rate of return on assets assumptions, DTCC 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. This resulted in the selection of the 4.75% and 5.50% long-term rate of return assumptions as of December 31, 2016 and 2015, respectively.

*Assumptions for defined benefit obligations.* Mortality is a key assumption used to determine the benefit obligation for our Defined Benefit Plan. The mortality projection scale was changed from scale MMP-2007 to scale MMP-2016 for all plans. The mortality tables were changed to use a white collar adjustment for the SERP, Restoration Plan and non-union Retiree Medical and Life Insurance Plans and a blue collar adjustment for the union Retiree Medical and Life Insurance Plans. The Retirement Plan continues to use no collar adjustment. On a lump sum basis, mortality is measured using RP-2014 combined mortality table projected using scale MP-2016, with segmented interest rate adjustments.

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The discount rate reflects the rate at which pension benefit obligations could be effectively settled. The Company projects the benefits to be paid by each plan for each year in the future, the sum of which is the projected benefit obligation. The benefits are then discounted using the Above Mean Mercer Yield Curve spot rates for the corresponding maturity years. The total of the present values for the benefit payment years is used to calculate the single rate that discounts the benefit cash flows to the same total present value. The single rate is the basis for the final effective discount rate.

Details for the pension plan assumptions used by actuaries to determine benefit obligations as of December 31, 2016 and 2015 follow:

	Pension Benefits		Other Benefits	
	2016	2015	2016	2015
Weighted-average assumptions used to determine benefit obligations as of December 31:				
Discount rate	4.39%	4.62%	4.20%	4.58%
Rate of compensation increase	n/a	n/a	n/a	n/a
Assumed health care cost trend rates as of December 31:				
Health care cost trend rate assumed for next year			6.64% / 7.31%	7.22% / 7.33%
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate)			4.47% / 4.46%	4.50%
Year that the rate reaches the ultimate trend rate			2040	2029

*Expected cash flows.* The Company contributed \$10,000,000 to the benefit plan in 2016 and expects to contribute approximately \$20,000,000 during 2017. Settlement losses relate to early retirement of executives who elected lump-sum and periodic payments. There were no settlement losses in 2016 and 2015. There were no participant contributions to the plans in 2016 and 2015.

Details for the benefit payments for the pension plan and other plans for 2016 and 2015 follow (in thousands):

	2016	2015
Pension plan	\$ 55,157	\$ 60,450
Other plans	3,443	3,043
Total	\$ 58,600	\$ 63,493

Details for estimated amounts to be paid in each of the next five years and thereafter follow (in thousands):

	Pension	Employer Benefits Payments	Medicare Subsidy Receipts
2017	\$ 66,978	\$ 3,783	\$ 20
2018	55,753	3,895	19
2019	57,563	4,012	19
2020	82,457	4,116	18
2021	69,241	4,172	17
Thereafter	340,735	21,211	64
Total	\$ 672,727	\$ 41,189	\$ 157

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**17. INCOME TAXES**

DTCC and its subsidiaries file a consolidated Federal income tax return and combined or unitary income tax returns in various states. DTCC and its subsidiaries file other state and non-U.S. jurisdiction income tax returns on a separate company basis.

Details for the components of the Company's income tax provision for the years ended December 31, 2016 and 2015 follow (in thousands):

	<u>2016</u>	<u>2015</u>
Current income tax:		
Federal	\$ 36,720	\$ 14,559
State and local	4,819	8,868
Foreign	22,448	11,021
Total current income tax	<u>63,987</u>	<u>34,448</u>
Deferred income tax (benefit):		
Federal	(16,674)	7,744
State and local	(393)	7,668
Foreign	924	1,766
Total deferred income tax (benefit)	<u>(16,143)</u>	<u>17,178</u>
Provision for income taxes	<u>\$ 47,844</u>	<u>\$ 51,626</u>

The 2016 and 2015 effective tax rates differ from the 35% Federal statutory tax rate mainly due to state and local taxes, income from foreign operations, change in unrecognized tax benefits, non-controlling interest, and valuation allowance.

Details for the reconciliation of the U.S. Federal statutory tax rate to the Company's effective tax rate on Income before taxes for the years ended December 31, 2016 and 2015 follow:

	<u>2016</u>	<u>2015</u>
U.S. statutory tax rate	35.0%	35.0%
State and local income taxes, net of Federal income tax benefit	2.2	11.4
Income from foreign operations	(9.1)	(3.0)
Change in unrecognized tax benefits	2.8	4.7
Non-controlling interest	3.1	7.4
Valuation allowance	—	14.3
Other	(4.2)	4.6
Effective tax rate	<u>29.8%</u>	<u>74.4%</u>

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Details for the components of deferred tax assets and (liabilities) as of December 31, 2016 and 2015 follow (in thousands):

	<u>2016</u>	<u>2015</u>
<u>Deferred tax assets:</u>		
Accrued compensation	\$ 25,716	\$ 28,040
Accrued employee benefits	185,565	196,358
Deferred rent	16,278	8,982
Other	63,458	48,606
Total deferred tax assets	<u>291,017</u>	<u>281,986</u>
<u>Deferred tax liabilities:</u>		
Software	(67,669)	(73,785)
Investment tax basis difference	(66,933)	(66,925)
Depreciation	(37,663)	(43,912)
Total deferred tax liabilities	<u>(172,265)</u>	<u>(184,622)</u>
Net deferred tax assets before valuation allowance	118,752	97,364
Valuation allowance	(9,912)	(9,912)
Net deferred tax assets	<u>\$ 108,840</u>	<u>\$ 87,452</u>

Valuation allowances of \$9,912,000 were recorded against the deferred tax asset balances as of December 31, 2016 and 2015 relating to Clariant net operating losses.

The Company has not provided U.S. income taxes and foreign withholding taxes on the undistributed earnings of foreign subsidiaries as of December 31, 2016 because the Company intends to permanently reinvest such earnings outside the U.S. As of December 31, 2016, the cumulative amount of earnings upon which U.S. income taxes have not been provided is approximately \$121,000,000. It is not practicable to determine the amount of deferred taxes that might be required to be provided if such earnings were distributed in the future.

Details for unrecognized tax benefits as of December 31, 2016 and 2015 follow (in thousands):

	<u>2016</u>	<u>2015</u>
Beginning balance at January 1,	\$ 44,007	\$ 43,014
Prior period tax positions:		
Increases	548	651
Decreases	—	(218)
Current period tax positions	855	560
Ending balance at December 31,	<u>\$ 45,410</u>	<u>\$ 44,007</u>

The Company classifies interest and penalties related to unrecognized tax benefits, if incurred, in Provision for income taxes in its accompanying Consolidated Statements of Income. As of December 31, 2016 and 2015, accrued interest related to unrecognized tax benefits totaled \$18,689,000 and \$13,985,000, respectively.

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The Company is subject to U.S. Federal income tax as well as income tax in various state and local jurisdictions.

Details for the periods currently under examination and remaining subject to examination by jurisdiction as of December 31, 2016 follow:

Jurisdiction	Tax Years	
	Under Examination	Subject to Examination
U.S. Federal - Internal Revenue Service ("IRS")	2009 - 2012 <sup>(1)</sup>	2013 - 2015
New York State	2007 - 2011	2012 - 2015
New York City	2010 - 2013	2014 - 2015
State of Florida	2008 - 2013	2014 - 2015
State of Illinois	2012 - 2013	2014 - 2015

(1) The IRS concluded its review of the Federal income tax returns for 2009 through 2012; however, it is pending the closing agreements from the IRS.

For the current ongoing audits related to open tax years, the Company estimates it is possible that the balance of unrecognized tax benefits could decrease in the next 12 months as a result of the effective settlement of these audits, which might involve the payment of additional taxes, the adjustment of certain deferred taxes and/or the recognition of tax benefits. It is also possible new issues might be raised by tax authorities which might necessitate increases to the balance of unrecognized tax benefits. As the Company is unable to predict the timing of conclusion of these audits, the Company is unable to estimate the amount of changes to the balance of unrecognized tax benefits at this time. However, the Company believes it has adequately provided for its financial exposure for all open tax years by tax jurisdiction.

**18. SHAREHOLDERS' EQUITY**

**DTCC Series A Preferred stock.** All 10,000 shares of DTCC Series A Preferred stock are issued and outstanding and held of record by Stock Clearing Corporation, a wholly owned subsidiary of the New York Stock Exchange LLC, the successor-in-interest to the New York Stock Exchange Inc. In the event of DTCC's voluntary or involuntary liquidation, dissolution or winding-up, the holders of Series A Non-Cumulative Perpetual Preferred stock are entitled to a liquidation preference of \$30.00 per share.

**DTCC Series B Preferred stock.** All 10,000 shares of DTCC Series B Preferred stock are issued and outstanding and held of record by National Clearing Corporation, a wholly owned subsidiary of the Financial Industry Regulatory Authority Inc. ("FINRA"), the successor-in-interest to the National Association of Securities Dealers, Inc. In the event of DTCC's voluntary or involuntary liquidation, dissolution or winding-up, the holders of Series B Preferred stock are entitled to a liquidation preference of \$30.00 per share.

**DTCC Series C Fixed-to-Floating Rate Non-Cumulative Perpetual Preferred stock.** On May 27, 2015, DTCC issued 1,600 shares of Fixed-to-Floating Rate Non-Cumulative Perpetual Preferred stock, Series C, \$0.50 par value per share, with a liquidation preference of \$250,000 per share. When declared by DTCC's Board of Directors, dividends on the Series C Preferred stock are payable in arrears on June 15 and December 15 of each year, beginning December 15, 2015 through June 15, 2020, at a fixed rate of 4.875% per annum. From June 15, 2020 onward, dividends will accrue at a floating rate equal to three-month LIBOR plus 3.167% per annum.

On April 15, 2016 and October 19, 2016, in accordance with the Amended Certificate of Incorporation of DTCC, the Board of Directors approved and declared a dividend in the amount of \$6,093.75 per share on the 1,600 shares outstanding of its Series C Preferred stock. A semi-annual aggregate dividend of \$9,750,000 was paid on each of June 15, 2016 and December 15, 2016, as of record dates May 31, 2016 and November 30, 2016, respectively.

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**Common stock.** At a special meeting held on January 27, 2015, DTCC’s shareholders approved the amendment and restatement of the DTCC Shareholders Agreement to include, among other changes, a mechanism for DTCC to sell, and require those common shareholders who are already required to own DTCC common shares to purchase, additional newly-issued common shares. At this special meeting, DTCC shareholders approved a \$400 million common equity capital raise using this new mechanism. The settlement date for the \$400 million common equity capital raise occurred on April 30, 2015.

DTCC has 80,000 authorized shares of common stock with a par value of \$100 per share. As of December 31, 2016 and 2015, there were 50,908 shares of common stock outstanding, respectively.

**DTC Series A Non-Cumulative Perpetual Preferred stock.** Under a plan adopted by the Board of Directors, each Participant of DTC is required to own shares of its Series A Preferred stock. Details for the Preferred stock as of December 31, 2016 follow (in thousands, except dividends paid per share):

	<b>Description</b>	<b>Total shares issued and outstanding</b>	<b>Carrying value</b>	<b>Per annum dividend rate</b>	<b>Dividends paid per share in 2016</b>
Series A	Noncumulative Perpetual	1,500	150,000	480	0.32

**Regulatory capital.** DTCC’s regulated subsidiaries maintain and report regulatory capital in accordance with all relevant laws, rules and guidelines. As a multinational enterprise, various DTCC subsidiaries are subject to regulatory capital regimes, as applicable. Certain DTCC subsidiaries submit regulatory capital reports with various regulators, including, but not limited to the Federal Reserve Bank of New York (FED), the New York State Department of Financial Services and the U.S. Commodity Futures Trading Commission (CFTC) in the United States; Australian Securities and Investments Commission (ASIC) in Australia; Ontario Securities Commission (OSC) in Canada; and the Monetary Authority of Singapore (MAS) in Singapore.

Various DTCC subsidiaries are subject to capital guidelines issued by federal and state banking regulators. As of December 31, 2016, DTCC engaged in banking activities under two subsidiaries: DTC and WTC. Capital ratios for these subsidiaries as of December 31, 2016 follow:

	<b>DTC</b>	<b>WTC<sup>(1)</sup></b>	<b>Minimum Capital Ratio<sup>(2)</sup></b>	<b>Well Capitalized Ratio<sup>(2)</sup></b>
Tier 1 capital ratio	71.52%	134.00%	6.00%	8.00%
Total capital ratio	71.52%	134.00%	8.00%	10.00%

- (1) On January 6, 2017, the Company sent notifications to the FED and the New York State Department of Financial Services of its plan to withdraw WTC from the Federal Reserve System and dissolve WTC as a regulated New York State banking entity.
- (2) As defined by the regulations issued by the Federal Reserve, Office of the Comptroller of the Currency and the Federal Deposit Insurance Corporation.



**19. TRANSACTIONS WITH RELATED PARTIES**

DTCC has agreements with GlobalCollateral (formerly known as Margin Transit) and had agreements with Soltra, which was sold during 2016, to provide various support services and office facilities. Expense reimbursements under these agreements, which are included in Other services and Accounts receivable, follow (in thousands):

	Other Services <sup>(1)</sup>		Other Receivables <sup>(2)</sup>	
	2016	2015	2016	2015
GlobalCollateral	\$ 18,720	\$ 14,785	\$ 19,606	\$ 5,472
Soltra	4,816	4,741	2,529	1,129
Total	<u>\$ 23,536</u>	<u>\$ 19,526</u>	<u>\$ 22,135</u>	<u>\$ 6,601</u>

- (1) Included in Other services revenue in the accompanying Consolidated Statements of Income.
- (2) Included in Accounts receivable on the accompanying Consolidated Statement of Financial Condition. See Note 6 for additional information.

**20. COMMITMENTS AND CONTINGENCIES**

**Litigation.** The Company is involved in legal proceedings and litigation arising in the ordinary course of business. In the opinion of management, the outcome of such proceedings and litigation is not expected to have a material effect on the accompanying Consolidated Statements of Financial Condition, income or cash flows.

**Lease commitments.** The Company leases office space, data processing and other equipment. Rent expense under these leases for office space was \$29,383,000 and \$28,821,000 for the years ended December 31, 2016 and 2015, respectively. These amounts are included in Occupancy in the accompanying Consolidated Statements of Income.

On May 19, 2016, the Company signed an agreement to sublease 97,417 square feet of commercial space that it currently occupies to a third party. On September 30, 2016, the agreement was amended to include an additional 20,096 square feet. The sublease will result in a reduction of future minimum rental payments totaling approximately \$50,593,000 through December 31, 2027. Further, the sublease resulted in the recognition of a loss of approximately \$20,000,000 in the second quarter of 2016 and an additional loss of approximately \$5,000,000 in the third quarter of 2016 related to the impact of the Company's forward rental payments exceeding the rental income pursuant to the sublease, as well as the recognition of approximately \$10,000,000 of accelerated depreciation. These amounts are included in Other non-operating expense and Depreciation and amortization, respectively, in the accompanying Consolidated Statements of Income.

Details for estimated future minimum rental payments under all noncancelable leases follow (in thousands):

2017	\$ 32,122
2018	33,223
2019	28,244
2020	28,236
2021	29,109
Thereafter	289,542
Total minimum rental payments <sup>(1)</sup>	<u>\$ 440,476</u>

- (1) Future minimum rental payments were not reduced by minimum sublease rentals of \$50,593,000 due in the future under noncancelable subleases.

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### 21. GUARANTEES

Certain DTCC subsidiaries (NSCC and FICC) provide CCP services, including clearing, settlement and risk management services. Acting as a CCP, NSCC and FICC (through GSD and MBSD) guarantee the settlement of trades in the event one or more of its Participants' defaults. A Participant default is defined in the respective rules of NSCC, GSD and MBSD. In its guarantor role, each clearing subsidiary has equal claims to and from Participants, as applicable, on opposite sides of netted transactions. To cover its guarantee risk, NSCC and FICC (through GSD and MBSD) use risk-based margining to collect cash and securities collateral through their Clearing Funds.

NSCC is the leading provider of clearance, netting, risk management and settlement for virtually all U.S. broker-to-broker trades involving equities, corporate and municipal debt, exchange traded funds and unit investment trusts. Through its Continuous Net Settlement (CNS) system, NSCC is interposed between Participants in securities clearance and settlement. CNS transactions are generally guaranteed as of the later of midnight of trade date plus one day (T+1) or midnight of the day the transactions are reported to the Participants as compared/recorded. Since NSCC stands between the Participants delivering and receiving CNS trades, the failure of Participants to deliver securities to NSCC on settlement date, and the corresponding failure of NSCC to redeliver the securities, results in open positions. Open CNS positions are marked-to-market daily. Such marks are debited from or credited to the involved Participants through the settlement process.

FICC, through GSD, is the leading provider of real-time trade matching, clearing, netting, risk management and settlement for trades in U.S. government debt, including repurchase agreements. Securities processed by GSD include Treasury bills, bonds, notes, zero-coupon securities, government agency securities and inflation-indexed securities. The U.S. Government securities market is predominantly an over-the-counter market and most transactions are settled on trade date plus one day (T+1). Trades are guaranteed and novated upon comparison. The guarantee of GSD net settlement positions may result in a potential liability to FICC. Guaranteed positions that have not yet settled are margined and collateralized twice-daily via the Participants' Clearing Fund and marked-to-market twice-daily with cash debited from or credited to the responsible Participants through the funds-only settlement process. There is an equal amount due to certain other GSD Participants from FICC after consideration of deliveries pending to FICC.

MBSD's netting system interposes FICC between MBSD Participants for eligible trades that have been pool netted. The guarantee of settlement for pool netting eligible trades as well as to-be-announced (TBA) trades by FICC results in potential liability to FICC. Guaranteed positions that have not yet settled are margined, marked-to-market daily and collateralized via the Participants' Clearing Fund.

If a Participant defaults in either NSCC or FICC, such Participant's deposits to the Clearing Fund, including Eligible Clearing Fund Securities pledged from the defaulting Participant (along with any other resources of, or attributable to, the defaulting Participant (or certain permitted margin affiliates) that NSCC and FICC may access under each division's rules, such as funds-only settlement amounts and other collateral held by the division's securing the defaulting Participant's obligations to the division) are the first source of funds and collateral that the NSCC and FICC would use to cover any losses that may result from the close-out and liquidation of the defaulting Participant's positions. To address potential tail losses, NSCC and FICC each separately maintain additional prefunded resources. These consist of (i) the CCP's Clearing Fund that, in the aggregate, currently serves as the CCP's default fund, and (ii) a portion of the CCP's retained earnings.

If, after closing out and liquidating a defaulting Participant's positions, the CCP were to suffer a loss, such loss would be satisfied as follows: (i) first, applying the defaulter's Clearing Fund deposit, including any amounts available under cross-guaranty agreements to which the CCPs are a party, described below; (ii) next, the CCPs may apply up to 25% of their respective retained earnings (or such higher amount as approved by their Board of Directors); and (iii) by accessing and replenishing the Clearing Fund (i.e., Participant loss allocation).

Amounts that may be available under cross-guaranty agreements include, for NSCC, amounts available under either the netting contract and limited cross-guaranty between DTC and NSCC relating to collateralization across the DTC-NSCC interface, or the agreement between Options Clearing Corporation (OCC) and NSCC, providing for payments to each other relating to the settlement of certain option exercises and assignments in the event of a mutual Participant's failure; or, for FICC, amounts available under the cross-margining agreements between GSD and the Chicago Mercantile Exchange Inc. (CME), which may provide for additional funds if the defaulting member was a cross-margining Participant.

NSCC, DTC, FICC and OCC have also entered into a multilateral netting contract and limited cross-guaranty agreement. In accordance with these agreements, these clearing agencies have agreed to make payments to each other for any remaining unsatisfied obligations of a common defaulting Participant to the extent that these clearing agencies have excess resources belonging to the defaulting Participant. Under this agreement, no party ever needs to pay “out of pocket” and no party can receive more than its loss.

For example, if DTC suffers a loss or liability due to a Participant default, DTC would first apply any remaining resources of the defaulting Participant (additional collateral, Participants' Fund deposit), and any amounts available to it under cross-guaranty agreements to which it is a party (listed above). If any losses remain, DTC may apply the Participants' Fund deposit of non-defaulting Participants (i.e., Participants loss allocation) and DTC may charge its existing retained earnings and undivided profits to satisfy the loss or liability if and as approved by its Board of Directors.

Details for open CCP positions for which a trade guarantee applies as of December 31, 2016 and 2015 follow (in billions):

	<u>2016</u>	<u>2015</u>
NSCC	\$ 168	\$ 157
FICC		
GSD	890	829
MBSD	304	245

There were no defaults by Participants to these obligations.

## **22. OFF BALANCE SHEET AND CONCENTRATION OF CREDIT RISKS**

DTCC is exposed to significant credit risk to third-parties including its Participants, which extends to companies in the global financial services industry. Customers are based in the United States and overseas and include participating brokers, dealers, institutional investors, banks, trust issuers, mutual fund companies, insurance carriers, hedge funds and other financial intermediaries - either directly or through correspondent relationships. Credit risk represents the potential for loss due to the default or deterioration in credit quality of a Participant. The Company’s exposure to credit risk comes mostly from clearing and settlement service operations. Customers include participating brokers, dealers, banks, mutual fund companies, insurance carriers, and other financial intermediaries. Credit risk also comes from financial assets, which consist principally of cash and cash equivalents, investments, accounts receivable and Participants' and Clearing Funds.

Given that NSCC and FICC are CCPs, they are exposed to significant credit risk of third parties, including their customer base, which extends to companies within the global financial services industry.

Concentrations of credit risk may arise due to large connected individual exposures and significant exposures to groups of Participants whose likelihood of default is driven by common underlying factors, including economic conditions affecting financial markets, the securities industry and debt-issuing countries.

**Cash and cash equivalents.** The Company maintains cash and cash equivalents with various financial institutions including the FED. These financial institutions are located in various geographical regions, and the Company’s policy is designed to limit exposure with any one financial institution. As part of its credit and risk management processes, the Company performs periodic evaluations of the relative credit standing of the financial institutions with whom it places funds. Per the Company's investment policy, the Company generally makes deposits with financial institutions with a credit rating of at least BBB+/Baa1 or better from recognized rating agencies and that are approved via its internal credit review process. The Company also monitors the condition of the financial institutions with whom it places funds on an ongoing basis to identify any significant change in a financial institution’s condition. If such a change takes place, the amounts deposited with such financial institutions may be adjusted.

**Investments in marketable securities.** In addition to making investments in reverse repurchase agreements, money market funds and bank deposits, the Company also makes direct investments in U.S. Treasury securities. Credit risk related to marketable securities involves the risk of nonperformance by the counterparty, which could result in a financial loss. To mitigate the risk of credit loss, the Company only makes investments in debt obligations of the U.S. government or those U.S. government agencies guaranteed by the U.S. government.

**Accounts receivable.** Credit risk related to accounts receivable involves the risk of nonpayment by the counterparty. Credit risk is diversified due to the large number of Participants comprising the Company's customer base. The Company also performs ongoing credit evaluations of the financial condition of its customers and evaluates the delinquency status of the receivables.

**Participants' Fund and Clearing Funds.** Following the same risk management and investment policies described above for Cash and cash equivalents, when Participants provide cash deposits to the Participants' and Clearing Funds, the Company may invest the cash in bank deposits at the FRBNY or reverse repurchase agreements (reverse repos). Reverse repos are collateralized; collateral must have a market value greater than or equal to 102% of the cash invested. The Company bears credit risk related to reverse repurchase agreements only to the extent cash advanced to the counterparty exceeds the value of collateral received. Securities purchased under reverse repos are generally U.S. Treasury and Agency securities having minimal credit risk due to low probability of U.S. government default, coupled with the highly liquid nature of these securities. Reverse repos are typically placed with financial institutions with a credit rating of BBB+/Baa1 or better from recognized rating agencies and that are approved via the Company's credit review process. To avoid concentration of credit risk exposures, the Company sets credit limits for each counterparty.

Participants' and Clearing Funds cash deposits may also be invested in money market mutual funds under rule 2a-7 of the Investment Company Act of 1940 with a credit rating of AAA/Aaa from recognized rating agencies. Since the Company invests in highly-rated money market mutual funds and cash is returned daily, DTCC has minimal credit risk related to these investments.

Credit risk arises at DTCC should a Participant fail to fulfill its settlement obligation. The Company provides risk management/mitigation by identifying, measuring and responding to these risks in order to protect the safety and soundness of the DTCC clearing and settlement system. Various tools are utilized to mitigate these risks including, but not limited to: setting capital adequacy standards; assessing new applicants; performing continuous monitoring of Participants financial condition; reviewing Participants daily trading activity and determining appropriate collateral requirements; maintaining the Participants' Fund and Clearing Fund; continuous trade netting; marking unsettled trades to market; and utilizing a variety of advanced quantitative analytical methodologies, such as back and stress testing.

In order to become a participating member at any of DTCC's clearing agency or registered clearing house (RCH) subsidiaries, an applicant must meet minimum eligibility criteria which are specified in the subsidiaries' respective rules. All applicants must provide the Company with certain financial and operational information. This information is reviewed to ensure the applicant has sufficient financial resources to make anticipated contributions to the relevant subsidiary's Participants' Fund or Clearing Fund and to meet its obligations to the subsidiary. The credit quality of the Participant is evaluated at the time of application and monitored on an ongoing basis to determine if the Participant continues to be financially stable and able to meet the financial requirements of membership. As part of its review, the Company utilizes an internal credit risk rating matrix to risk-rate its Participants. The resulting rating determines the level of financial review to be performed on each Participant and may impact their Participants' Fund and Clearing Fund requirements.

Collateralization controls and net debit caps are employed by DTC to protect Participants against the risk that one or more Participants may fail to pay for their settlement obligations. DTC's collateralization controls prevent the completion of transactions that would cause a Participant's net debit balance to exceed the value of collateral in its account. This is designed so if a Participant fails to pay for its settlement obligation, DTC will have sufficient collateral to obtain funding for settlement. DTC's net debit cap controls limit the net settlement debit that each Participant can incur to an amount, based upon activity level, which would be covered by DTC's liquidity resources. The net debit cap is structured so that DTC will have sufficient liquidity to complete settlement should any single Participant or Participant family fail to settle.

NSCC and FICC collect Clearing Fund deposits from their Participants using a risk-based margining methodology. The risk-based methodology enables them to identify the risks posed by a Participant's unsettled portfolio and to quickly adjust and collect additional deposits as needed to cover those risks. At multiple times during the day, Clearing Fund requirements are calculated for each Participant based on their then-current unsettled and pending transactions. Security pricing is updated on an intraday basis and additional charges may be collected to cover significant price movements from those Participants with a significant exposure in the identified security. The Company monitors Participants overall trading activities throughout the trading day to determine whether exposures exist that would require special actions to increase their Clearing Fund deposits.

The Company regularly performs back and stress testing of the quality and accuracy of its risk management systems to ensure the adequacy of Clearing Fund requirements and to respond to other risk factors the tests may reveal.

DTC and NSCC maintain committed, secured lines of credit to support potential liquidity needs in the event of a Participant default.

The Company also limits its exposure to potential losses from default by Participants through multilateral netting contracts and limited cross-guaranty agreements with other clearing agencies. These arrangements are designed to provide a mechanism for the sharing of excess net resources of a common defaulting Participant held at one clearing agency to cover losses incurred at another clearing agency. NSCC, FICC and DTC have a multilateral netting contract and limited cross-guaranty agreement with each other and with OCC under which these clearing agencies have agreed to make payment to each other for any remaining unsatisfied obligations of a common defaulting Participant to the extent they have excess resources of the defaulting Participant. NSCC and OCC also have an agreement providing for payments to each other relating to the settlement of certain option exercises and assignments in the event of a mutual Participant's failure. Further, DTC and NSCC have a netting contract and limited cross-guaranty agreement, which includes certain arrangements and financial guarantees to ensure securities delivered by DTC to NSCC to cover CNS system allocations are fully collateralized.

If a DTC Participant defaults, such Participant's deposits to the Participants Fund would be liquidated to satisfy an outstanding obligation and/or loss incurred by DTC. If those funds are insufficient to cover the defaulting Participant's outstanding obligations, DTC may use other Participant deposits to the Participants' Fund or apply a portion of its retained earnings to cover the loss.

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**23. PARENT COMPANY CONDENSED FINANCIAL STATEMENTS**

Condensed financial statements for DTCC (the Parent Company Condensed Financial Statements) that follow should be read in conjunction with the accompanying Consolidated Financial Statements of the Company and its subsidiaries and the notes thereto. The Parent Company Condensed Financial Statements as of December 31, 2016 and 2015 require management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses. Management believes that the estimates utilized in the preparation of the condensed financial statements are reasonable. Actual results could differ materially from these estimates.

The Parent Company Condensed Financial Statements include investments in subsidiaries, accounted for under the equity method.

The DTCC Parent Company Condensed Statements of Financial Condition follow (in thousands):

	<b>As of December 31,</b>	
	<b>2016</b>	<b>2015</b>
<b>ASSETS:</b>		
Cash and cash equivalents	\$ 449,001	\$ 405,716
Investments in subsidiaries	1,362,324	1,216,281
Due from subsidiaries	203,609	384,395
Premises, equipment and intangible assets	228,259	249,417
Other assets	470,119	397,687
<b>TOTAL ASSETS</b>	<b>\$ 2,713,312</b>	<b>\$ 2,653,496</b>
<b>LIABILITIES AND SHAREHOLDERS' EQUITY:</b>		
<b>LIABILITIES:</b>		
Long-term debt and other borrowings	\$ 64,720	\$ 107,984
Pension and postretirement benefits	297,899	307,402
Other liabilities	588,833	586,865
Total liabilities	951,452	1,002,251
<b>SHAREHOLDERS' EQUITY:</b>		
Preferred stock	391,116	391,116
Common stock	5,091	5,091
Paid-in capital	411,065	411,065
Retained earnings	1,115,917	1,008,522
Accumulated other comprehensive loss, net of tax	(161,329)	(164,549)
Total shareholders' equity	1,761,860	1,651,245
<b>TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY</b>	<b>\$ 2,713,312</b>	<b>\$ 2,653,496</b>

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DTCC Parent Company has an agreement with its subsidiaries whereby the DTCC Parent Company pays for substantially all of the expenses for the operations of its subsidiaries. The related expenses are allocated to subsidiaries based upon their use of such goods or services as determined by applicable allocation factors. Further, the agreement provides that the DTCC Parent Company performs credit and quantitative risk services, and certain other services for its subsidiaries, including among other things, administrative, internal audit, finance and legal services. The billing for these services as a percentage of total allocated expenses ranged from 104% to 108% in 2016 and 2015, excluding pass-through charges and the impact of capitalized software. The fee, representing the amount over actual cost, is included in Interest and other income in the Condensed Statements of Income below.

The DTCC Parent Company Condensed Statements of Income follow (in thousands):

	<b>For the years ended December 31,</b>	
	<b>2016</b>	<b>2015</b>
REVENUES:		
Equity in earnings of subsidiaries	\$ 125,961	\$ 12,681
Interest and other income	116,482	144,249
Total revenues	<u>242,443</u>	<u>156,930</u>
OPERATING EXPENSES:		
Professional services	28,592	32,896
Other	67,144	55,690
Impairment of Intangible assets	1,335	1,857
Total operating expenses	<u>97,071</u>	<u>90,443</u>
Income before taxes	145,372	66,487
Provision for income taxes	18,477	23,559
Net income attributable to DTCC	<u>\$ 126,895</u>	<u>\$ 42,928</u>

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The DTCC Parent Company Condensed Statements of Cash Flows follow (in thousands):

	<b>For the years ended December 31,</b>	
	<b>2016</b>	<b>2015</b>
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>		
Net income	\$ 126,895	\$ 42,928
Adjustments to reconcile net income to net cash provided by operating activities:		
Equity in earnings of subsidiaries	(125,961)	(12,681)
Depreciation and amortization	86,606	64,132
Impairment of Intangible assets	1,335	1,857
Deferred income taxes	(6,081)	69,121
Net change in:		
Due from subsidiaries	180,786	76,439
Other operating assets and liabilities	(65,506)	(165,146)
Net cash provided by operating activities	<u>198,074</u>	<u>76,650</u>
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>		
Purchases of equity method investments	(19,990)	(195,000)
Purchases of Intangible assets and Premises and equipment	(66,783)	(79,250)
Net cash used in investing activities	<u>(86,773)</u>	<u>(274,250)</u>
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>		
Proceeds from issuance of preferred stock, net of issuance fees	—	390,516
Preferred stock dividend payments	(19,500)	(10,725)
Proceeds from issuance of common stock	—	400,261
Repayments on debt and capital lease obligations	(43,264)	(244,923)
Net cash (used in) provided by financing activities	<u>(62,764)</u>	<u>535,129</u>
Effect of foreign exchange rate changes on Cash and cash equivalents	(5,252)	42
Net increase in Cash and cash equivalents	43,285	337,571
Cash and cash equivalents - Beginning of year	<u>405,716</u>	<u>68,145</u>
Cash and cash equivalents - End of year	<u>\$ 449,001</u>	<u>\$ 405,716</u>
<b>SUPPLEMENTAL DISCLOSURES:</b>		
Non-cash financing activity - capitalized lease	<u>\$ 6,746</u>	<u>\$ —</u>
Non-cash change in investment in subsidiary	<u>\$ —</u>	<u>\$ 125,684</u>



**24. OTHER MATTERS**

**Lehman Brothers Inc.** On September 19, 2008, a Trustee was appointed, under the Securities Investor Protection Act (SIPA), to administer and liquidate the business of Lehman Brothers Inc. (LBI). As part of the liquidation of LBI, certain of its assets were sold to Barclays Capital Inc. (Barclays). These assets did not include the accounts that LBI maintained at NSCC, FICC and DTC (collectively, the “Clearing Agency Subsidiaries”).

As a result, the Trustee, Barclays and DTCC, on behalf and for the benefit of NSCC, FICC and DTC entered into an agreement that provided for the Clearing Agency Subsidiaries to wind down their respective LBI accounts, including the close out of pending transactions and the use of the proceeds in accordance with their respective rules and procedures, in the same manner in which they close out positions of Participants for whom they cease to act. On September 24, 2008, the Clearing Agency Subsidiaries formally ceased to act for LBI.

In addition, Barclays agreed to guaranty, indemnify and hold harmless DTCC, each of NSCC, FICC and DTC, and their officers, directors, employees, owners, agents and representatives against any and all losses, claims, damages, expenses (including legal fees) or liabilities that any of them may incur as a result of winding down and closing out the respective accounts. The guaranty is limited to a \$250 million cash deposit (the “Cash Deposit”) provided for that purpose.

Any losses will first be satisfied from the Cash Deposit. If there are losses in excess of the Cash Deposit, they will be satisfied in accordance with the rules and procedures of NSCC, FICC and DTC, respectively, (including through application of LBI’s Clearing or Participants’ Fund deposits and any Clearing Agency cross guaranty agreements). If any portion of such funds remains after the close out of the LBI Accounts and satisfaction of all obligations of NSCC, FICC and DTC, they will be remitted to the Trustee. The Cash Deposit is held at DTCC to facilitate its investment pending application against losses or its turnover to the Trustee.

Details for the deposits/balances held by DTCC and its subsidiaries as of December 31, 2016 and 2015 follow (in thousands):

	<b>2016</b>	<b>2015</b>
Segregated cash	\$ 1,173	\$ 3,302
Participants’/Clearing and Settlement Funds	25	1,160
Matured money market investment accounts	1,000	31,133
Total	<u>\$ 2,198</u>	<u>\$ 35,595</u>

As of December 31, 2016, DTCC had delivered to the Trustee of the LBI estate \$5,186,330,000 in cash as well as Clearing Fund securities valued at \$159,479,000.

Management does not expect there will be any losses attributable to the liquidation of the LBI accounts to be assessed against retained earnings or Participants.

**Severance.** For the years ended December 31, 2016 and 2015, DTCC incurred severance expense totaling \$18,858,000 and \$5,407,000, respectively, that is included in Employee compensation and related benefits in the accompanying Consolidated Statements of Income.

**25. SUBSEQUENT EVENTS**

On February 6, 2017, DTCC, along with Clariant’s minority interest owners, announced they reached an agreement to sell their interests in Clariant to Thomson Reuters Corporation. The net liabilities of Clariant as of December 31, 2016 were \$18,784,000. The Company also agreed on February 6, 2017, to sell Avox to the Thomson Reuters Corporation. The net assets of Avox, as of December 31, 2016 were \$2,102,000. The sales closed on March 14, 2017.

The Company evaluated events and transactions occurring after December 31, 2016 through March 24, 2017, for potential recognition or disclosure in these accompanying Consolidated Financial Statements. Other than disclosed above and in Notes 4 and 18, no other events or transactions occurred during such period that would require recognition or disclosure in these accompanying Consolidated Financial Statements.