# The Depository Trust & Clearing Corporation

Consolidated Financial Statements as of and for the Years Ended December 31, 2022 and 2021, and Independent Auditors' Report

# THE DEPOSITORY TRUST & CLEARING CORPORATION

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# INDEPENDENT AUDITOR'S REPORT

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

## Opinion

We have audited the consolidated financial statements of The Depository Trust and Clearing Corporation and its subsidiaries (the "Company"), which comprise the consolidated statements of financial condition as of December 31, 2022 and 2021, and the related consolidated statements of comprehensive income, changes in shareholders' equity, and cash flows for the years then ended, and the related notes to the consolidated financial statements (collectively referred to as the "financial statements").

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

## Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Company and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

## Responsibilities of Management for the Financial Statements

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

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern for one year after the date that the financial statements are available to be issued.

## Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company’s ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Deloitte & Touche LLP

March 27, 2023

# THE DEPOSITORY TRUST & CLEARING CORPORATION
## CONSOLIDATED STATEMENTS OF FINANCIAL CONDITION

| (In thousands, except share data) | As of December 31, 2022 | As of December 31, 2021 |
|---|---|---|
| **ASSETS** | | |
| CURRENT ASSETS: | | |
| Cash and cash equivalents | $ 16,167,430 | $ 14,236,922 |
| Participants' segregated cash | 2,020 | 6,078 |
| Short-term investments | 750,000 | 445,000 |
| Accounts receivable - net of allowance for credit losses | 191,244 | 244,090 |
| Participants' and Clearing Funds | 61,735,088 | 56,501,935 |
| Other Participants' assets | 931,071 | 1,326,873 |
| Other current assets | 197,928 | 176,352 |
| Total current assets | 79,974,781 | 72,937,250 |
| NON-CURRENT ASSETS: | | |
| Premises and equipment - net of accumulated depreciation | 195,203 | 190,326 |
| Goodwill | 57,699 | 57,699 |
| Intangible assets - net of accumulated amortization | 290,423 | 328,635 |
| Operating lease right-of-use-asset | 188,552 | 222,341 |
| Other non-current assets | 347,689 | 318,629 |
| Total non-current assets | 1,079,566 | 1,117,630 |
| TOTAL ASSETS | $ 81,054,347 | $ 74,054,880 |
| **LIABILITIES AND SHAREHOLDERS' EQUITY** | | |
| CURRENT LIABILITIES: | | |
| Commercial paper - net of unamortized discount | $ 9,109,638 | $ 8,291,933 |
| Long-term debt, current portion | 1,997,307 | — |
| Pension and postretirement benefits | 21,456 | 33,981 |
| Operating lease liability | 30,512 | 28,705 |
| Accounts payable and accrued expenses | 216,013 | 100,346 |
| Participants' and Clearing Funds | 61,735,088 | 56,501,935 |
| Payable to Participants | 933,091 | 1,332,951 |
| Other current liabilities | 292,765 | 291,251 |
| Total current liabilities | 74,335,870 | 66,581,102 |
| NON-CURRENT LIABILITIES: | | |
| Long-term debt | 2,736,286 | 3,731,814 |
| Pension and postretirement benefits | 111,331 | 147,919 |
| Operating lease liability | 209,910 | 242,846 |
| Other non-current liabilities | 242,999 | 270,863 |
| Total non-current liabilities | 3,300,526 | 4,393,442 |
| Total liabilities | 77,636,396 | 70,974,544 |
| COMMITMENTS AND CONTINGENCIES (Note 2) | | |
| **SHAREHOLDERS' EQUITY** | | |
| Preferred stock: | | |
| 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 D, $0.50 par value - 2,000 shares authorized, issued (above par), and outstanding | 490,900 | 490,900 |
| Common stock, $100 par value - 80,000 shares authorized, 50,908 shares issued and outstanding | 5,091 | 5,091 |
| Additional paid-in capital | 411,065 | 411,065 |
| Retained earnings | 2,546,925 | 2,231,213 |
| Accumulated other comprehensive loss, net of tax | (186,630) | (208,533) |
| Non-controlling interests | 150,000 | 150,000 |
| Total shareholders' equity | 3,417,951 | 3,080,336 |
| TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY | $ 81,054,347 | $ 74,054,880 |

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

# THE DEPOSITORY TRUST & CLEARING CORPORATION

## CONSOLIDATED STATEMENTS OF INCOME

| (In thousands) | For the years ended December 31, 2022 | 2021 |
|---|---|---|
| **REVENUES** | | |
| Settlement and asset services | $ 518,514 | $ 507,315 |
| Clearing services | 857,632 | 767,753 |
| Matching services | 298,850 | 298,025 |
| Repository and derivatives services | 329,617 | 302,696 |
| Wealth management services | 121,706 | 111,864 |
| Data and other services | 55,994 | 48,777 |
| Investment income (loss), net | (19,044) | 17,170 |
| Total revenues | 2,163,269 | 2,053,600 |
| **EXPENSES** | | |
| Employee compensation and related benefits | 842,230 | 806,075 |
| Information technology | 246,539 | 225,911 |
| Professional and other services | 425,738 | 367,914 |
| Occupancy | 69,382 | 55,180 |
| Depreciation and amortization | 174,539 | 166,523 |
| General and administrative | 54,811 | 44,282 |
| Impairment of intangible assets | 17,467 | 14,467 |
| Total expenses | 1,830,706 | 1,680,352 |
| Total operating income | 332,563 | 373,248 |
| **NON-OPERATING INCOME (EXPENSE)** | | |
| Interest income | 823,056 | 54,050 |
| Refunds to Participants | (540,178) | (32,160) |
| Interest expense | (239,711) | (80,332) |
| Other non-operating income, net | 79,938 | 41,627 |
| Total non-operating income (expense) | 123,105 | (16,815) |
| Income before taxes | 455,668 | 356,433 |
| Provision for income taxes | 123,080 | 64,532 |
| Net income | $ 332,588 | $ 291,901 |
| Net income attributable to non-controlling interests | — | 135 |
| Net income attributable to DTCC | $ 332,588 | $ 291,766 |

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

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

| **(In thousands)** | **For the years ended December 31, 2022** | **2021** |
|---|---|---|
| Net income | $ 332,588 | $ 291,901 |
| OTHER COMPREHENSIVE INCOME (LOSS) - Net of tax: | | |
| Defined benefit pension and other plans (1) | 30,541 | 28,403 |
| Foreign currency translation | (8,638) | (3,603) |
| Other comprehensive income | 21,903 | 24,800 |
| Comprehensive income | 354,491 | 316,701 |
| Comprehensive income attributable to non-controlling interests | — | 135 |
| Comprehensive income attributable to DTCC | $ 354,491 | $ 316,566 |

(1) Amounts are net of provision for income taxes of $11,660 and $10,875 for 2022 and 2021, respectively

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

# THE DEPOSITORY TRUST & CLEARING CORPORATION

## CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY

| (In thousands) | Preferred Stock | | | | Common | Additional | Retained | Accumulated Other Comprehensive Loss, Net of Tax | | Non- | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Series A | Series B | Series C | Series D | Stock | Paid-In Capital | Earnings | Defined Benefit Pension and Other Plans | Foreign Currency Translation | controlling Interests | Shareholders' Equity |
| BALANCE - January 1, 2021 | $ 300 | $ 300 | $ 390,516 | $ — | $ 5,091 | $ 411,065 | $ 1,964,412 | $ (229,642) | $ (3,691) | $ 150,000 | $ 2,688,351 |
| Net income | — | — | — | — | — | — | 291,766 | — | — | 135 | 291,901 |
| Other comprehensive income (loss) | — | — | — | — | — | — | — | 28,403 | (3,603) | — | 24,800 |
| Redemption of preferred stock | — | — | (390,516) | — | — | — | (9,484) | — | — | — | (400,000) |
| Proceeds from issuance of preferred stock, net of issuance costs | — | — | — | 490,900 | — | — | — | — | — | — | 490,900 |
| Dividend to non-controlling interest | — | — | — | — | — | — | — | — | — | (135) | (135) |
| Dividends on preferred stock | — | — | — | — | — | — | (15,481) | — | — | — | (15,481) |
| BALANCE - December 31, 2021 | 300 | 300 | — | 490,900 | 5,091 | 411,065 | 2,231,213 | (201,239) | (7,294) | 150,000 | 3,080,336 |
| Net income | — | — | — | — | — | — | 332,588 | — | — | — | 332,588 |
| Other comprehensive income (loss) | — | — | — | — | — | — | — | 30,541 | (8,638) | — | 21,903 |
| Dividend on preferred stock | — | — | — | — | — | — | (16,876) | — | — | — | (16,876) |
| BALANCE - December 31, 2022 | $ 300 | $ 300 | $ — | $ 490,900 | $ 5,091 | $ 411,065 | $ 2,546,925 | $ (170,698) | $ (15,932) | $ 150,000 | $ 3,417,951 |

The Notes to 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, 2022 | 2021 |
|---|---|---|
| CASH FLOWS FROM OPERATING ACTIVITIES: | | |
| Net income | $ 332,588 | $ 291,901 |
| Adjustments to reconcile net income to net cash provided by/(used in) operating activities: | | |
| Depreciation and amortization | 174,539 | 166,523 |
| Impairment of intangible assets | 17,467 | 14,467 |
| Deferred income taxes | 2,265 | 16,161 |
| Accretion of discount on Commercial paper, net of associated interest paid | 49,641 | (2,393) |
| Unrealized net (gain)/loss from equity investments | (37,997) | — |
| Other | 43,359 | 11,372 |
| Net change in: | | |
| Accounts receivable | 47,090 | (25,883) |
| Other assets | (9,877) | (57,472) |
| Accounts payable and accrued expenses | 116,002 | (20,369) |
| Pension and postretirement benefits | (18,351) | (23,272) |
| Operating lease liability | (30,300) | (32,025) |
| Other liabilities | (29,282) | 9,830 |
| Participants' and Clearing Funds liabilities | 3,490,583 | (993,661) |
| Payable to Participants | (399,862) | 519,813 |
| Net cash provided by/(used in) operating activities | 3,747,865 | (125,008) |
| CASH FLOWS FROM INVESTING ACTIVITIES: | | |
| Purchases of Short-term investments | (1,645,000) | (2,046,179) |
| Maturities of Short-term investments | 1,340,000 | 2,401,251 |
| Purchases of Premises and equipment | (58,657) | (37,265) |
| Capitalized software development costs | (103,986) | (118,497) |
| Proceeds from Company owned life insurance policies | 1,712 | 4,298 |
| Net cash (used in)/provided by investing activities | (465,931) | 203,608 |
| CASH FLOWS FROM FINANCING ACTIVITIES: | | |
| Proceeds from Commercial paper | 64,675,937 | 51,136,107 |
| Repayments of Commercial paper | (63,907,873) | (46,685,071) |
| Proceeds from issuance of debt, net of debt issuance costs | 992,683 | — |
| Repayments on long-term debt and other borrowings | — | (3,921) |
| Preferred stock dividend payments | (16,876) | (15,481) |
| Proceeds from issuance of preferred stock, net of issuance costs | — | 490,900 |
| Redemption of preferred stock | — | (400,000) |
| Payment to Non-controlling interests | (135) | (480) |
| Net cash provided by financing activities | 1,743,736 | 4,522,054 |
| Effect of foreign exchange rate changes on Cash and cash equivalents | (4,340) | (2,919) |
| Net increase in Cash and cash equivalents, Participants' segregated cash, Participants' and Clearing Funds cash deposits, Cash in Other Participants' assets, Restricted cash | 5,021,330 | 4,597,735 |
| Cash and cash equivalents, Participants' segregated cash, Participants' and Clearing Funds cash deposits, Cash in Other Participants' assets, Restricted cash - Beginning of year | 44,058,025 | 39,460,290 |
| Cash and cash equivalents, Participants' segregated cash, Participants' and Clearing Funds cash deposits, Cash in Other Participants' assets, Restricted cash - End of year | $ 49,079,355 | $ 44,058,025 |
| SUPPLEMENTAL DISCLOSURES: | | |
| Interest paid | $ 148,534 | $ 50,933 |
| Income taxes paid - net of refunds | $ 112,418 | $ 86,205 |

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

## 1. BUSINESS AND OWNERSHIP

**The Depository Trust & Clearing Corporation (DTCC)** is the parent company of various operating subsidiaries, including The Depository Trust Company (DTC), National Securities Clearing Corporation (NSCC), Fixed Income Clearing Corporation (FICC), DTCC ITP LLC (ITP), DTCC Deriv/SERV LLC (Deriv/SERV), DTCC Solutions LLC (Solutions (US)), DTCC Solutions (UK) Limited (Solutions (UK)), Business Entity Data, B.V. (BED); 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 other financial industries.

*NSCC* is organized as a business corporation under New York law, and is a clearing agency registered with the SEC. NSCC provides central counterparty (CCP) services, including clearing, settlement and risk management services to its members for trades involving equities, corporate and municipal debt, exchange-traded funds, and unit investment trusts.

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

*DTC, NSCC and FICC* are designated as Systemically Important Financial Market Utilities (SIFMUs) by the U.S. Financial Stability Oversight Council pursuant to Title VIII of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. This designation subjects the clearing agencies to enhanced standards for risk management, operation and governance, as established by the SEC's Standards for Covered Clearing Agencies (CCAS).

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

*ITP*, through itself, its subsidiary and affiliates, provides post-trade matching, processing and other related services, primarily to members of the financial services community. ITP's subsidiary and applicable affiliates are authorized to provide certain post-trade matching services pursuant to certain orders issued by regulatory authorities and may be subject to the supervision and examination by these authorities in the jurisdiction in which they operate including the SEC, the Financial Conduct Authority (FCA) in the United Kingdom, and the Autorité des Marchés Financiers (AMF) and the Ontario Securities Commission (OSC) in Canada.

*Deriv/SERV* enhances transparency and provides operational efficiency for derivatives and securities financing transactions processing and reporting through various legal entities, including affiliated locally registered or recognized trade repositories. Deriv/SERV also offers the Trade Information Warehouse asset servicing for credit default swaps and oversees other pre and post derivative trade activities offered by other DTCC legal entities. The trade repositories are subject to supervision and examination by regulatory authorities in the jurisdictions they operate including the Commodity Futures Trading Commission (CFTC), SEC, FCA, thirteen Canadian provincial and territorial regulators, the European Securities and Markets Authority (ESMA), the Swiss Financial Market Supervisory Authority (FINMA), the Monetary Authority of Singapore (MAS), the Financial Services Agency of Japan (JFSA), and the Australian Securities and Investments Commission (ASIC).

*Solutions (US)* is a New York Limited Liability Company, which provides data related solutions. Used primarily by financial firms, these solutions include referential and activity-based data, analytics and benchmarks across a variety of asset classes.

## 1. BUSINESS AND OWNERSHIP (CONTINUED)

*Solutions (UK)* offers software solutions and consulting services. Its software solution, DTCC Report Hub®, centers on pre and post trade reporting to help firms manage the complexities of meeting multiple regulatory mandates across jurisdictions. The Consulting Services business offers specialized advisory services to firms primarily in the financial services industry.

*BED* owns and operates the GMEI® utility legal entity identifier (LEI) solution in the federated Global LEI System (GLEIS). The Global Markets Entity Identifier (GMEI) utility is designed to provide a single, universal standard identifier to any organization or firm involved in a financial transaction internationally across all asset classes. LEIs issued by the GMEI utility are ISO 17442 compliant and are recognized by all members of the Regulatory Oversight Committee, which coordinate and oversee a worldwide framework of LEI. BED is accredited with the Global Legal Entity Identifier Foundation (GLEIF).

## 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 and its wholly-owned subsidiaries. Intercompany accounts and transactions have been eliminated in consolidation.

**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, pension benefit obligation and other matters that affect the reported amounts. Estimates are based on judgment and available information; therefore, actual results could differ materially from those estimates.

**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.

**Participants' segregated cash.** Represents cash received from Participants for the exclusive benefit of the Participants' customers in compliance with SEC rule 15c3-3 (customer protection), which requires broker-dealers to segregate a certain amount of cash and securities in specially protected accounts on behalf of their clients.

**Short-term investments.** Consists of cash invested in bank deposits with original maturities greater than three months and less than one year with various yields carried at amortized cost, which approximates fair value due to their short-term maturities.

**Fair value measurements.** The Company may be required or permitted to measure and disclose certain financial 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 credit losses and refunds to Participants. The Company establishes an allowance for estimated losses resulting from uncollectibility. Expected credit losses for newly recognized financial assets and changes to expected credit losses during the period are recognized in General and administrative expenses in the accompanying Consolidated Statements of Income. The Company determines the adequacy of the allowance by estimating the possibility of loss based on a variety of factors, including the length of time receivables are past due, forward looking macroeconomic projections, historical experience and the financial condition of customers and other debtors.

## 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

**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 collateralize Participants' obligations and certain liabilities of the Companies. Margin deposits and any additional Participant contributions 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. Deposits and contributions may be in the form of cash and cash equivalents and securities. These deposits and contributions may be applied to satisfy obligations of the depositing Participant, other Participants, or the Company pursuant to the rules of the relevant subsidiaries of the Company.

*Cash deposits.* Deposits and contributions received in the form of cash may be invested in bank deposits and direct obligations of the U.S. Government, pursuant to an investment policy maintained by the Company. All interest earned on investments is accrued and included within Interest income in the accompanying Consolidated Statements of Income. This interest is refunded to Participants and is included in Refunds to Participants in the accompanying Consolidated Statements of Income.

*Securities - at fair value.* Securities deposited to the Clearing Fund may include U.S. Treasury securities, U.S. agency debt securities and U.S. agency residential mortgage-backed securities, pursuant to the rules.

*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 Other Participants' assets with a corresponding liability recorded 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.

**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. Balances comprised of cash that represent cash dividends, interest, reorganization, redemptions, and cash collateral received are included in Other Participants' assets, with a corresponding liability recorded in Payable to Participants, on the accompanying Statements of Financial Condition.

**Federal reserve stock.** DTC is a member of the FRBNY and, as a member, is required to maintain a minimum level of investment in FRB stock based on the Company's capital. The FRB stock is carried at cost, classified as a restricted security and periodically evaluated for impairment. The Company determined there was no impairment as of December 31, 2022 and 2021. The FRB stock, amounting to $6,402,000 at December 31, 2022 and 2021, is included in Other non-current assets on the accompanying Consolidated Statements of Financial Condition.

## 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

**Premises and equipment.** Premises and equipment are stated at cost, net of accumulated depreciation. Routine maintenance, repairs and replacement costs are expensed as incurred, while 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 | Depreciation Period | Depreciation 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. Subsequent to initial recognition, Goodwill is not amortized but is tested for impairment annually or more frequently if events occur or circumstances change that indicate an impairment may exist. The Company has the option to first assess qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If after assessing the totality of events or circumstances, the Company determines it is more likely than not that the fair value of a reporting unit is greater than its carrying amount, no further impairment testing is necessary. However, if the Company concludes otherwise, then it is required to perform the quantitative impairment test, whereby a goodwill impairment loss will be measured as the excess of a reporting unit's carrying value over its estimated fair value.

*Intangible assets.* The Company’s intangible assets include customer relationships and capitalized software.

*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 long-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 an internal-use software project are expensed as incurred.

The following table summarizes how the Company amortizes and when it tests its finite Intangible assets for impairment:

| Intangible Asset | Amortization Period | Amortization Method | Impairment Testing Frequency |
|---|---|---|---|
| Customer relationships | 12 Years | Straight-line | If a triggering event occurs |
| Capitalized software | Finite/ 3 - 5 Years | Straight-line | If a triggering event occurs |

## 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

**Equity investments.** All investments that represent less than a 20% ownership interest are initially recognized at cost and included in Other non-current assets on the accompanying Consolidated Statements of Financial Condition. Subsequently, these investments are measured at fair value, which represents cost less impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for the identical or similar security. Changes in the fair values of these investments are recorded in Other non-operating income, net in the accompanying Consolidated Statements of Income.

**Commercial paper.** NSCC issues commercial paper with maturities generally less than one year. The proceeds from the issuance of the commercial paper constitute liquid resources of NSCC that, together with other liquid resources of NSCC, are available to enable it to effect the settlement of its payment obligations in the event of the default of any of its Participants pursuant to NSCC’s rules. Pending such use by NSCC, the proceeds of the issuance of commercial paper are invested in highly liquid short-term instruments in accordance with NSCC's investment policy.

**Debt issuance costs.** Debt issuance costs consist of costs incurred in obtaining financing. These costs are generally recorded as a direct deduction from the carrying amount of the related debt liability on the Consolidated Statements of Financial Condition and are amortized over the term of the financing using the straight-line method.

**Commitments and contingencies.** 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.

**Non-controlling interests.** Non-controlling interests represent the ownership of DTC Series A preferred stock. Under a plan adopted by the Board of Directors, each Participant of DTC is required to own shares of DTC Series A preferred stock. Shareholders' equity is adjusted for the income attributable to the non-controlling interest shareholders and any distributions to those shareholders.

**Revenue recognition.** The Company recognizes revenue to depict the transfer of promised services and related performance obligations to customers in an amount that reflects the consideration to which the Company expects to be entitled, upon satisfaction, in exchange for those services.

The Company derives its revenue from transaction fees, subscription revenue, support services, and usage fees. Revenue from transaction fees is billed monthly and calculated based on the value and volume of executed transactions and the established fee schedules, less any applicable volume discounts. The volume targets or thresholds for the discounts primarily reset monthly. Subscription and support revenues are recognized ratably over the performance period of the relevant contract using a time elapsed measure of progress as the customer receives the benefits of the services throughout the term of the contract. Usage fees are recognized when services are provided based on contractual terms.

Details for each revenue stream presented in the Company's Consolidated Statements of Income follow:

S*ettlement and asset services.* Revenue derived from this revenue stream are in the form of transaction fees and subscription revenue. The Company provides settlement services for equity, corporate and municipal debt trades and money market instruments in the United States of America. Asset Servicing includes a broad range of services for underwriting, custody, corporate actions, dividend, proxy and reorganization services, as well as the electronic registration and transfer of securities processing.

*Clearing services.* Revenue derived from this revenue stream are in the form of transaction fees that are based on either the volume or value of trading activity. Services include the continuous net settlement of equity and corporate bonds, and the netting and settlement of mortgage backed securities clearing, and government securities clearing.

*Matching services.* Revenue derived from this revenue stream are in the form of transaction fees, subscription revenue and support services. Services include trade enrichment, trade agreement, LEIs and data analytics.

## 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

*Repository and derivatives services.* Revenue derived from this revenue stream may be in the form of transaction fees, subscription revenue and support services. Services support derivatives trade data submissions covering real-time price reporting, transaction details, valuation data to meet members' reporting obligations in various jurisdictions globally, as well as an asset servicing infrastructure for credit default swaps, matching service for equity derivatives payments and tools to member firms to address the quality of their derivatives trade submissions.

*Wealth management services*. Revenue derived from this revenue stream is in the form of transaction fees. Services include centralized, automated processing and information services for mutual fund, alternative investment, and insurance and retirement products.

*Data and other services.* Revenue derived from this revenue stream may be in the form of subscription revenue and usage fees, which include referential and activity-based announcement, security reference, and liquidity data through the DTCC Data Services product. These offerings are delivered in fixed or configurable formats, sourced from the Company's transaction, reference, position and asset servicing data.

*Investment income (loss), net.* Revenue derived from this revenue stream is related to changes in the fair values of investment assets related to the Company's deferred compensation plan (structured as a Rabbi Trust). The investment income (loss) is recognized in the period the realized/unrealized gain or loss on investment assets held occurs. A corresponding offset to the investment income (loss) related to the deferred compensation liability is recorded in the same period and is included in the Employee compensation and related benefits in the accompanying Consolidated Statements of Income.

*Rebate.* On September 22, 2021, the Board of Directors authorized a rebate to NSCC Participants for $75 million. The amount of the rebate was determined based on specific metrics at the legal entity level. The Board of Directors did not authorize any rebate for the year ended December 31, 2022. The rebate presented net in Clearing services revenue in the accompanying Consolidated Statements of Income was $0 million and $75 million for the years ended December 31, 2022 and 2021, respectively.

***Accounts receivable and deferred revenue***

The period in which the Company recognizes revenue may differ from the timing of payments received from customers. The Company typically bills its customers up to 30 days in arrears. The Company records a receivable when revenue is recognized prior to payment and there is an unconditional right to payment. See Note 5, Due from Participants and customers for services, net, for the Company's receivables related to revenues from contracts with customers.

Deferred revenue represents the Company's liability to perform services in the future related to payments received in advance of those services. Deferred revenue as of December 31, 2022 and 2021 was $14,532,000 and $17,413,000 respectively, and is included in Other current liabilities and Other non-current liabilities on the accompanying Consolidated Statements of Financial Condition, as disclosed in Note 11. Of the $17,413,000 as of December 31, 2021, $14,199,000 was recognized as revenue during the year ended December 31, 2022.

**Investment income, net.** Investment income, net represents changes in the fair values of investment assets related to the Company's deferred compensation plan (structured as a Rabbi Trust). All of the marketable securities of the Rabbi Trust are classified as trading securities and are recorded at fair value.

## 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

**Non-qualified deferred compensation plan.** 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. The investment assets of the Rabbi Trust are classified as trading securities, and accordingly, changes in their fair values are recorded in Investment income, net in the accompanying Consolidated Statements of Income with a corresponding charge recorded in Employee compensation and related benefits in the accompanying Consolidated Statements of Income. The change in fair value of these investments was a loss of $19,044,000 and income of $17,170,000 for the years ended December 31, 2022 and 2021, respectively.

**Long-term incentive plan.** DTCC's long-term incentive plan is provided to certain designated employees of DTCC to establish retention incentives for certain 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 the plan. The associated liabilities for the plan are classified in Other current liabilities and Other non-current liabilities on the accompanying Consolidated Statements of Financial Condition.

**Retirement plans**

*Defined benefit plans.* DTCC has a qualified non-contributory defined benefit pension plan (the Pension Plan) in the U.S., under which employees hired or rehired before May 1, 2009 were eligible to participate upon attainment of age 21 and completion of six months of service. The Plan is closed to new participants. The Pension Plan was frozen effective December 31, 2013 and all plan participants no longer accrue any benefits. The Pension Plan is qualified under Section 401(a) of the Internal Revenue Code of 1986, as amended. It is subject to the provisions of ERISA. The Pension Plan provides benefits to eligible 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 Pension Plan are determined based on an employee's length of service and earnings. DTCC's funding policy requires the Company to make contributions to the Pension Plan that meet or exceed the minimum funding standards under the Employee Retirement Income Security Act of 1974 (ERISA) and the Internal Revenue Code. DTCC also has defined benefit pension plans that are offered in certain non-U.S. locations based on factors such as eligible compensation, age and/or years of service. It is the Company's policy to fund the pension plans in amounts sufficient to meet the requirements under applicable laws.

DTCC provides health care and life insurance benefits to eligible DTCC retired employees and their beneficiaries in the Retiree Medical and Life Insurance Plans. The Retiree Medical Plan was frozen effective January 1, 2002 and is closed to new participants but is still in existence for employees hired prior to this date. In order to be eligible, management employees hired on or before January 1, 2002, upon termination, must meet the Rule of 75 (age plus year of service must equal 75) and must be over the age of 55 at termination. Bargaining unit employees hired on or before January 1, 2002, upon termination, must have at least 20 years of service and be age 55 or older. When an employee is eligible for retiree medical, they are also eligible for retiree life insurance.

DTCC also sponsors a Supplemental Executive Retirement Plan (SERP) and a Restoration Plan that are non-qualified, non-funded 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 non-qualified 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 non-qualified retirement benefit obligations.

## 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

The annual measurement date for DTCC's defined benefit plans is December 31. Plan assets are determined based on fair value generally representing observable market prices. The projected benefit obligations are the present values determined by discounting projected benefit distributions using the corresponding spot rates as of the measurement date from yield curves of high-quality corporate bonds available in the marketplace. The net periodic pension expense or income includes service and interest costs determined using the same yield curve spot rates, an expected return on plan assets based on an actuarially derived market-related value and amortization of prior years' actuarial gains and losses and prior service cost (credit). Service costs, interest costs, and all other costs are included in Employee compensation and related benefits, Interest expense, and Other non-operating income, respectively, in the accompanying Consolidated Statements of Income.

Actuarial gains and losses include gains or losses related to changes in the amount of the projected benefit obligations 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 of the defined benefit 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.

Market-related value of assets is a balance used to calculate the expected return on plan assets. The market-related value of plan assets is either fair value or a calculated value that recognized changes in fair value in a systematic and rational manner over not more than five years. 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.

*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 overseen by the Company's Employee Benefit Plans Committee, which 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.

The Company matches 50% of the first 6% of the employee's contributions up to the Internal Revenue Service (IRS) compensation limits. Company matching contributions and employee contributions vest immediately.

In addition to the Company matching contributions, the Company offers a supplemental contribution on behalf of the employees in lieu of the contributions to the Pension Plan, which is now frozen. Employees are able to participate in this Pension Contribution Account (PCA) after six months of service. The Company makes contributions equal to a percentage of base and incentive pay based on years of service (3% for less than five years, 4% for five years but less than ten years, 5% for ten years or more). Company supplemental contributions vest over five years at the rate of 20% for each year of service and vest immediately after five years or upon attaining age 55.

In addition to the Company matching and PCA contributions, the Company offers a supplemental contribution on behalf of the employees who were hired or rehired on or before May 1, 2001, also in lieu of the contributions to the Pension Plan. The Pension Transition Account (PTA) contribution ranges from 2% to 3% of eligible pay, for employees whose age plus service combination (in whole years) totaled 55 or higher, as of December 31, 2013. The Company supplemental contributions vest over five years at the rate of 20% for each year of service and vest immediately after five years or upon attaining age 55.

## 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

**Income taxes.** The Provision for income taxes is computed using the asset and liability method. The tax currently payable is based on taxable income for the year. Taxable income differs from Income before taxes as reported in the accompanying Consolidated Statements of Income because it excludes items of income or expense that are taxable or deductible in other years and it further excludes items that are never taxable or deductible. The Company records a deferred income tax (benefit) provision when there are temporary differences between assets and liabilities measured for financial reporting and for income tax return purposes. These temporary differences result in taxable (deferred tax liability) or deductible (deferred tax asset) amounts in future years and are measured using the tax rates and laws that will be in effect when such differences are expected to reverse. 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 by jurisdiction 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.

**Business Employment Incentive Program.** The Company participates in the New Jersey State Business Employment Incentive Program (BEIP). The intent of this program is to encourage businesses to locate and expand in the State of New Jersey through grants that the Company has elected to convert into refundable tax credits. The Company determined the classification of the refundable tax credits to be a form of government grant. The tax credits are recognized as Other non-operating income when the Company has complied with the terms and conditions of BEIP. Total BEIP income included in Other non-operating income, net in the accompanying Consolidated Statements of Income was $12,667,000 and $12,667,000 for the years ended December 31, 2022 and 2021, respectively. The BEIP receivable included in Other current assets on the accompanying Consolidated Statements of Financial Condition was $12,667,000 and $18,091,000 as of December 31, 2022 and 2021, respectively.

**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 General and administrative 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.

**Derivatives and hedging.** The Company uses derivatives for hedging purposes to manage its exposure to changes in interest rates. The Company uses interest rate swaps to mitigate the interest rate risk associated with fixed-rate long-term debt obligations by converting a portion of it's interest expense exposure from fixed rate to a floating rate to more closely align with interest income received on its cash equivalents. The Company does not use derivatives for trading purposes. The Company formally documents all relationships between the 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. See Note 8, Long-term debt, for the Company's fixed-rate senior note being hedged through an interest rate swap.

## 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

**Reconciliation of Cash and cash equivalents and other limited use cash.** When reconciling the beginning and ending total amounts shown in the Consolidated Statements of Cash Flows, the Company includes all cash on the Consolidated Statements of Financial Condition, regardless of which line it is included. The Consolidated Statements of Cash Flows includes Cash and cash equivalents and cash balances that are not available for general corporate purposes due to certain limitations, including - Participants' segregated cash, Participants' and Clearing Funds cash deposits, Cash in Other Participants' assets and Restricted cash.

A reconciliation of Cash and cash equivalents, Participants' segregated cash, Participants' and Clearing Funds cash deposits, Cash in Other Participants' assets and Restricted cash reported within the accompanying Consolidated Statements of Financial Condition that sum to the total of the same such amounts shown on the accompanying Consolidated Statements of Cash Flows as of December 31, 2022 and 2021 follows (in thousands):

| | 2022 | 2021 |
|---|---|---|
| Cash and cash equivalents | $ 16,167,430 | $ 14,236,922 |
| Participants' segregated cash | 2,020 | 6,078 |
| Participants' and Clearing Funds cash deposits | 31,970,747 | 28,480,163 |
| Cash in Other Participants' assets | 931,071 | 1,326,873 |
| Restricted cash included in Other non-current assets | 8,087 | 7,989 |
| Total Cash and cash equivalents, Participants' segregated cash, Participants' and Clearing Funds cash deposits, Cash in Other Participants' assets and Restricted cash shown on the Consolidated Statements of Cash Flows | $ 49,079,355 | $ 44,058,025 |

**Global Events and Crises.** Global pandemics, sanctions, war, or natural disasters may have an adverse impact on market, economic and geopolitical conditions and trigger a period of global economic slowdown. Such a slowdown may have a material impact on the Company's financial results including changes in revenue, interest rates, liquidity/credit, and government and regulatory policy.

## 3. ACCOUNTING AND REPORTING DEVELOPMENTS

| Standard | Description | Impact on the financial statements or other significant matters |
|---|---|---|
| *Recently Adopted Accounting Standards* | | |
| ASU 2021-10 - Government Assistance (Topic 832): Disclosures by Business Entities about Government Assistance<br><br>*Issued November 2021* | • Applies to business entities that account for a transaction with a government by applying a grant and accounting model by analogy to other accounting guidance (for example, the grant model within International Accounting Standards (IAS) 20, Accounting for Government Grants).<br><br>• Requires the following annual disclosures:<br>◦ Information about the nature of the transaction(s) and the related accounting policy used to account for the transactions.<br>◦ The line items on the balance sheet and income statement that are affected by the transactions, and the amounts applicable to each financial statement line item.<br>◦ Significant terms and conditions of the transactions, including commitments and contingencies. | • Adopted January 1, 2022.<br><br>• The adoption of the standard did not have a material impact on the Company's consolidated financial statements and related disclosures.<br><br>• The required annual disclosures were included in the Company's notes to consolidated financial statements. See Note 2, Business Employment Incentive Program. |

## 3. ACCOUNTING AND REPORTING DEVELOPMENTS (CONTINUED)

| Standard | Description | Impact on the financial statements or other significant matters |
|---|---|---|
| *Recently Adopted Accounting Standards* | | |
| ASU 2021-08 - Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers<br><br>*Issued October 2021* | • Requires contract assets and contract liabilities (i.e. deferred revenue) acquired in a business combination to be recognized and measured by the acquirer on the acquisition date in accordance with ASC 606, Revenue from Contracts with Customers, which results in the acquirer recognizing contract assets and contract liabilities at the same amounts recorded by the acquiree. | • Adopted December 31, 2022.<br><br>• The adoption of the standard did not have an impact on the Company's consolidated financial statements and related disclosures. |
| ASU 2021-09 - Leases (Topic 842): Discount rate for Lessees that are not Public Business Entities<br><br>*Issued November 2021* | • Provides lessees that are not public business entities with the option to elect, as an accounting policy, the use of a risk-free rate as the discount rate by class of underlying asset rather than at the entity-wide level for all leases.<br><br>• Requires entities that make the risk-free rate election to disclose which asset classes it has elected to apply a risk-free rate. | • Adopted December 31, 2022.<br><br>• The Company did not elect the use of a risk-free rate as the discount rate. The adoption of the standard did not have an impact on the Company's consolidated financial statements and related disclosures. |
| ASU 2019-12 Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes<br><br>*Issued December 2019* | • Clarifies and simplifies aspects of accounting for income taxes.<br><br>• Eliminates certain exceptions related to the approach for intraperiod tax allocation, the methodology for calculating income taxes in an interim period and the recognition of deferred tax liabilities for basis differences between book and tax. | • Adopted December 31, 2022.<br><br>• The adoption of the standard did not have a material impact on the Company's consolidated financial statements and related disclosures. |

## 4. 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, 2022 and 2021 follow (in thousands):

| | 2022 | 2021 |
|---|---|---|
| Assets: | | |
| Participants' segregated cash | $ 2,020 | $ 6,078 |
| Other Participants' assets | 931,071 | 1,326,873 |
| Total | $ 933,091 | $ 1,332,951 |
| Liabilities: | | |
| Payable to Participants | $ 933,091 | $ 1,332,951 |

## 5. ACCOUNTS RECEIVABLE

Details for Accounts receivable as of December 31, 2022 and 2021 follow (in thousands):

| | 2022 | 2021 |
|---|---|---|
| Due from Participants and customers for services | $ 172,330 | $ 226,571 |
| Allowance for credit losses | (2,220) | (253) |
| Due from Participants and customers for services, net | 170,110 | 226,318 |
| Other receivables | 21,134 | 17,772 |
| Total | $ 191,244 | $ 244,090 |

Details for allowance for credit losses for the years ended December 31, 2022 and 2021 follow (in thousands):

| | 2022 | 2021 |
|---|---|---|
| Beginning balance of allowance for credit losses | $ 253 | $ 259 |
| Increase in allowance | 2,539 | 566 |
| Less: Write-offs | (572) | (572) |
| Ending balance of allowance for credit losses | $ 2,220 | $ 253 |

## 6. PARTICIPANTS' AND CLEARING FUNDS

Details for the Participants' and Clearing Funds as of December 31, 2022 and 2021 follow (in thousands):

| | 2022 | | | |
|---|---|---|---|---|
| | DTC | NSCC | FICC | Total |
| Total deposits | $ 2,001,893 | $ 12,002,310 | $ 47,730,885 | $ 61,735,088 |
| Less: Required deposits | 1,170,000 | 10,817,731 | 37,612,013 | 49,599,744 |
| Excess deposits | $ 831,893 | $ 1,184,579 | $ 10,118,872 | $ 12,135,344 |

| | 2021 | | | |
|---|---|---|---|---|
| | DTC | NSCC | FICC | Total |
| Total deposits | $ 1,962,667 | $ 14,753,453 | $ 39,785,815 | $ 56,501,935 |
| Less: Required deposits | 1,150,000 | 8,343,253 | 29,720,679 | 39,213,932 |
| Excess deposits | $ 812,667 | $ 6,410,200 | $ 10,065,136 | $ 17,288,003 |

## 6. PARTICIPANTS' AND CLEARING FUNDS

**Cash and Securities.** Details for cash and securities of the Participants' and Clearing Funds, which may be applied to satisfy obligations of the depositing Participant, other Participants, or the Company pursuant to the rules of the relevant subsidiaries of the Company, as of December 31, 2022 and 2021 follow (in thousands):

| | 2022 | | | |
|---|---|---|---|---|
| | DTC | NSCC | FICC | Total |
| Cash and cash equivalents | $ 2,001,893 | $ 11,201,776 | $ 18,767,078 | $ 31,970,747 |
| U.S. Treasury Securities | — | 800,534 | 25,939,504 | 26,740,038 |
| U.S. Agency Residential Mortgage-Backed Securities | — | — | 2,693,060 | 2,693,060 |
| U.S. Agency Issued Debt Securities | — | — | 331,243 | 331,243 |
| Total | $ 2,001,893 | $ 12,002,310 | $ 47,730,885 | $ 61,735,088 |

| | 2021 | | | |
|---|---|---|---|---|
| | DTC | NSCC | FICC | Total |
| Cash and cash equivalents | $ 1,962,667 | $ 13,941,679 | $ 12,575,817 | $ 28,480,163 |
| U.S. Treasury Securities | — | 811,774 | 24,200,940 | 25,012,714 |
| U.S. Agency Residential Mortgage-Backed Securities | — | — | 2,879,411 | 2,879,411 |
| U.S. Agency Issued Debt Securities | — | — | 129,647 | 129,647 |
| Total | $ 1,962,667 | $ 14,753,453 | $ 39,785,815 | $ 56,501,935 |

Details for the Participants' and Clearing Funds cash deposits as of December 31, 2022 and 2021 follow (in thousands):

| | 2022 | | | |
|---|---|---|---|---|
| | DTC | NSCC | FICC | Total |
| Bank deposits | $ 2,001,893 | $ 11,201,776 | $ 18,767,078 | $ 31,970,747 |
| Total | $ 2,001,893 | $ 11,201,776 | $ 18,767,078 | $ 31,970,747 |

| | 2021 | | | |
|---|---|---|---|---|
| | DTC | NSCC | FICC | Total |
| Bank deposits | $ 1,962,667 | $ 12,197,679 | $ 10,662,817 | $ 24,823,163 |
| Money market fund investments - at fair value | — | 1,744,000 | 1,913,000 | 3,657,000 |
| Total | $ 1,962,667 | $ 13,941,679 | $ 12,575,817 | $ 28,480,163 |

## 7. PREMISES AND EQUIPMENT

The cost, accumulated depreciation and net book value of Premises and equipment as of December 31, 2022 and 2021 follow (in thousands):

| | 2022 | 2021 |
|---|---|---|
| Furniture and equipment | $ 262,521 | $ 247,947 |
| Leasehold improvements | 185,965 | 173,626 |
| Buildings and improvements | 22,483 | 22,722 |
| Finance leases | 188 | 212 |
| Land | 4,221 | 4,221 |
| Total Premises and equipment | 475,378 | 448,728 |
| Less: Accumulated depreciation | (280,175) | (258,402) |
| Net book value | $ 195,203 | $ 190,326 |

## 7. PREMISES AND EQUIPMENT (CONTINUED)

Depreciation expense for premises and equipment for the years ended December 31, 2022 and 2021 was $49,823,000 and $47,655,000, respectively, and is included in Depreciation and amortization in the accompanying Consolidated Statements of Income.

The Company disposed of fully depreciated premises and equipment that resulted in the removal of costs and accumulated depreciation of $28,074,000 and $56,797,000 for the years ended December 31, 2022 and 2021, respectively.

## 8. GOODWILL AND INTANGIBLE ASSETS

The gross carrying value, accumulated amortization and net book value of Goodwill and Intangible assets as of December 31, 2022 and 2021 follow (in thousands):

| | 2022 | 2021 |
|---|---|---|
| Goodwill: | | |
| Gross carrying value | $ 57,699 | $ 57,699 |
| Intangible assets: | | |
| Customer relationships: | | |
| Gross carrying value | 231,700 | 231,700 |
| Accumulated amortization | (178,602) | (159,294) |
| Net book value | 53,098 | 72,406 |
| Capitalized software: | | |
| Gross carrying value | 679,229 | 633,384 |
| Accumulated amortization | (441,904) | (377,155) |
| Net book value | 237,325 | 256,229 |
| Total Intangible assets - net of accumulated amortization | $ 290,423 | $ 328,635 |

*Goodwill impairment testing.* DTCC completed its annual goodwill impairment test in the fourth quarter of 2022 and concluded that goodwill was not impaired. DTCC performed a qualitative assessment to test the goodwill for impairment and determined it was more likely than not that the fair value of each reporting unit exceeded their carrying value and therefore goodwill was deemed not impaired.

*Intangible assets.* Amortization expense for intangible assets for the years ended December 31, 2022 and 2021 was $124,716,000 and $118,868,000, respectively, and is included in Depreciation and amortization in the accompanying Consolidated Statements of Income.

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

| | |
|---|---|
| 2023 | $ 128,325 |
| 2024 | 94,374 |
| 2025 | 56,856 |
| 2026 | 10,868 |
| 2027 | — |
| Thereafter | — |
| Total future estimated amortization | $ 290,423 |

During the years ended December 31, 2022 and 2021, disposals of fully amortized capitalized software resulted in the removal of cost and accumulated amortization of $37,376,000 and $241,938,000, respectively.

## 8. GOODWILL AND INTANGIBLE ASSETS (CONTINUED)

The Company recognized impairment charges of $17,467,000 and $14,467,000 related to capitalized software for the years ended December 31, 2022 and 2021, respectively. The impairment charges are included in Impairment of intangible assets in the accompanying Consolidated Statements of Income.

During the year ended December 31, 2022 the Company recognized the following impairments of internally developed software and purchased software related to these projects:

The GMEI project experienced cost over-runs exceeding projected revenue, the necessity for rewriting portions of the code and changes in legal and regulatory requirements triggering an evaluation for impairment. The evaluation concluded that the $6,369,000 carrying value of its internally developed software was not recoverable and exceeded its fair value.

The Client Management Reporting System project experienced a reduction in revenue projections triggering an evaluation for impairment. The evaluation concluded that the $6,225,000 carrying value of its internally developed software was not recoverable and exceeded its fair value.

The Common Matching project experienced a change in strategy which resulted in a reprioritization of efforts triggering an evaluation for impairment. The evaluation concluded that the $3,331,000 carrying value of its internally developed software software was not recoverable and exceeded its fair value.

The Securities Financing Transactions Regulation project experienced a change in strategy and legal and regulatory requirements triggering an evaluation for impairment. The evaluation concluded that the $1,542,000 carrying value of its internally developed software was not recoverable and exceeded its fair value.

During the year ended December 31, 2021 the Company recognized the following impairments of internally developed software related to these projects:

The Common Margining project experienced continued delays, the necessity for rewriting portions of the code and changes in legal and regulatory requirements triggering an evaluation for impairment. The evaluation concluded that the $10,446,000 carrying value of its internally developed software was not recoverable and exceeded its fair value.

The Report Hub project experienced a change in strategy which included migration to CMRS triggering an evaluation for impairment. The evaluation concluded that the $2,596,000 carrying value of its internally developed software would no longer be used after the migration is completed.

The Inventory Management System Ingestion project was not performing as intended triggering an evaluation for impairment. The evaluation concluded that the $1,425,000 carrying value of its internally developed software was not recoverable and exceeded its fair value.

## 9. LEASES

The Company leases corporate offices, data centers and certain equipment primarily through operating leases. The Company's leases have remaining lease terms of 1 to 10 years, some of which may include options to extend the lease up to 10 additional years, and some of which may include options to terminate the lease within 1 year.

The Company determines if an arrangement is or contains a lease at contract inception and accounts for lease and non-lease components as a single lease component. Operating leases are included in Operating lease right-of-use (ROU) asset, Current portion of operating lease liability, and Non-current operating lease liability on the Company's Consolidated Statements of Financial Condition.

## 9. LEASES (CONTINUED)

ROU assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the Company's obligation to make lease payments arising from the lease. The ROU assets are initially measured at the amount equal to the lease liabilities, adjusted for balances of accrued or prepaid rent and unamortized lease incentives provided by lessors. For operating leases, expense is generally recognized on a straight-line basis over the lease term.

Operating lease liabilities are recognized based on the present value of the future lease payments over the remaining lease term. The Company uses its incremental borrowing rate, factoring in the lease term, to determine the lease liability. When determining lease term, the Company considers renewal options that the Company is reasonably certain to exercise and termination options that the Company is reasonably certain not to exercise.

Details for operating lease assets and lease liabilities as of December 31, 2022 and 2021 follow (in thousands):

| | 2022 | 2021 |
|---|---|---|
| Assets | | |
| Operating lease right-of-use-asset | $ 188,552 | $ 222,341 |
| Liabilities | | |
| Current portion of operating lease liability | 30,512 | 28,705 |
| Non-current operating lease liability | 209,910 | 242,846 |
| Total operating lease liabilities | $ 240,422 | $ 271,551 |

Details for the maturity of operating lease liabilities as of December 31, 2022 for each of the next five years and thereafter follow (in thousands):

| | |
|---|---|
| 2023 | $ 34,495 |
| 2024 | 34,877 |
| 2025 | 30,941 |
| 2026 | 28,007 |
| 2027 | 24,836 |
| Thereafter | 122,094 |
| Total lease payments | 275,250 |
| Less: Imputed interest | (34,828) |
| Present value of lease liability | $ 240,422 |

Details for lease expense for the years ended December 31, 2022 and 2021 follow (in thousands):

| | 2022 | 2021 |
|---|---|---|
| Occupancy | $ 35,430 | $ 28,359 |
| Information technology | 5,642 | 4,982 |
| Total lease expense | 41,072 | 33,341 |
| Sublease income (1) | (5,053) | (4,894) |
| Net lease expense | $ 36,019 | $ 28,447 |

(1) Included in Occupancy and Other non-operating income, net in the accompanying Consolidated Statements of Income.

## 9. LEASES (CONTINUED)

Details for supplemental cash flow information related to lease liabilities for the years ended December 31, 2022 and 2021 follow (in thousands):

| | 2022 | 2021 |
|---|---|---|
| Lease payments included in the measurement of lease liabilities | $ (38,383) | $ (40,909) |
| Accretion of lease liabilities | 7,379 | 8,884 |
| Net decrease in Operating lease liability(1) | $ (31,004) | $ (32,025) |

(1) Included in operating activities in the Consolidated Statements of Cash Flows

Details of the weighted average remaining lease term and weighted average discount rate used to determine the lease liability as of December 31, 2022 and 2021 follow:

| | 2022 | 2021 |
|---|---|---|
| Weighted average remaining lease term (years) | 8.9 | 9.3 |
| Weighted average discount rate | 3.02 % | 2.85 % |

Lease right-of-use assets obtained in exchange for operating lease obligations for new and modified leases were $781,000 and $17,971,000 for the years ended December 31, 2022 and 2021, respectively.

## 10. OTHER ASSETS

Details for Other assets as of December 31, 2022 and 2021 follow (in thousands):

| | 2022 | 2021 |
|---|---|---|
| Prepaids | $ 136,503 | $ 120,796 |
| Interest receivable | 25,838 | 1,279 |
| Prepaid taxes | 20,154 | 35,316 |
| Business employment incentive program | 12,667 | 18,091 |
| Interest rate swap | 1,035 | — |
| Other current assets | 1,731 | 870 |
| Total other current assets | 197,928 | 176,352 |
| Long-term incentive plan assets | 121,171 | 159,502 |
| Cash surrender value on insurance policies | 65,105 | 70,411 |
| Prepaids | 51,103 | 34,822 |
| Equity investments | 50,389 | 12,393 |
| Pension and postretirement | 28,867 | 13,630 |
| Deferred tax assets | 14,369 | 11,183 |
| Restricted cash | 8,087 | 7,989 |
| Investment in Federal reserve stock | 6,402 | 6,402 |
| Other non-current assets | 2,196 | 2,297 |
| Total other non-current assets | 347,689 | 318,629 |
| Total | $ 545,617 | $ 494,981 |

## 11. OTHER LIABILITIES

Details for Other liabilities as of December 31, 2022 and 2021 follow (in thousands):

| | 2022 | 2021 |
|---|---|---|
| Compensation payable | $ 176,086 | $ 171,975 |
| Accrued payroll and payroll withholdings | 46,081 | 44,247 |
| Long-term incentive plan liabilities | 30,814 | 31,294 |
| Payroll taxes payable | 20,214 | 19,435 |
| Deferred revenue | 13,768 | 16,482 |
| Deferred sublease income | 5,687 | 7,720 |
| Other current liabilities | 115 | 98 |
| Total other current liabilities | 292,765 | 291,251 |
| Long-term incentive plan liabilities | 207,757 | 245,179 |
| Unrecognized tax benefits | 25,954 | 21,822 |
| Asset retirement obligations(1) | 2,597 | 2,748 |
| Deferred revenue | 764 | 931 |
| Deferred tax liabilities | 5,927 | 183 |
| Total other non-current liabilities | 242,999 | 270,863 |
| Total | $ 535,764 | $ 562,114 |

(1) The Company is legally required under certain lease agreements to restore its leased sites to the original condition at the end of the agreement. The amount of asset retirement obligations are accreted to the estimated undiscounted obligations that will be paid to restore the leased sites to the original condition and such accretion is recognised as expense.

## 12. COMMERCIAL PAPER

Details for Commercial paper as of December 31, 2022 and 2021 follow (in thousands):

| | 2022 | 2021 |
|---|---|---|
| Commercial paper - net of unamortized discount of $27,750 and $1,067 as of December 31, 2022 and 2021, respectively | $ 9,109,638 | $ 8,291,933 |
| Weighted-average interest rate | 4.11 % | 0.13 % |

Interest expense on Commercial paper, included in Interest expense in the accompanying Consolidated Statements of Income, was $158,761,000 and $9,179,000 for the years ended December 31, 2022 and 2021, respectively.

## 13. LONG-TERM DEBT

Details for Long-term debt as of December 31, 2022 and 2021 follow (in thousands):

| | 2022 | 2021 |
|---|---|---|
| Senior notes - net of unamortized discount and debt issuance costs | $ 4,733,593 | $ 3,731,814 |
| Less: Current portion of long-term debt | (1,997,307) | — |
| Non-current portion of long-term debt | $ 2,736,286 | $ 3,731,814 |

## 13. LONG-TERM DEBT (CONTINUED)

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

| | |
|---|---|
| 2023 | $ 2,000,000 |
| 2024 | 400,000 |
| 2025 | 1,750,000 |
| 2026 | — |
| 2027 | 600,000 |
| Thereafter | — |
| Total | $ 4,750,000 |

**Senior notes.** The proceeds from the issuances constitute liquid resources that, together with other liquid resources of the Company, are available to enable NSCC to affect the settlement of its payment obligations in the event of the default of any of its Participants pursuant to NSCC's rules.

Details of the senior notes as of December 31, 2022 follow (in thousands):

| Issue Date | Maturity | Payable | Rate | Principal Balance | Carrying Value |
|---|---|---|---|---|---|
| April 23, 2020 | April 23, 2023 | Semi-annually | 1.20%(1) | $ 1,000,000 | $ 999,331 |
| April 23, 2020 | April 23, 2025 | Semi-annually | 1.50%(1) | 1,000,000 | 996,110 |
| December 7, 2020 | December 7, 2023 | Semi-annually | 0.40%(2) | 1,000,000 | 997,982 |
| December 7, 2020 | December 7, 2025 | Semi-annually | 0.75%(2) | 750,000 | 745,800 |
| November 21, 2022 | November 21, 2024 | Semi-annually | 5.05%(3) | 400,000 | 397,482 |
| November 21, 2022 | November 21, 2027 | Semi-annually | 5.10%(3) | 600,000 | 596,888 |
| | | | | $ 4,750,000 | $ 4,733,593 |

Interest expense and amortization of discount and issuance costs, included in Interest expense in the accompanying Consolidated Statements of Income, were $49,933,000 and $43,970,000 for the years ended December 31, 2022 and 2021, respectively. The weighted-average interest rate was 1.84% and 0.98% as of December 31, 2022 and 2021. The aggregate debt issuance costs and unamortized discount associated with the senior notes were $17,850,000 and $18,186,000, as of December 31, 2022 and 2021, respectively.

*Fair value hedge.* On November 21, 2022, the Company entered into an interest rate swap contract with a notional amount of $600 million to receive a fixed-rate of 5.1% and pay float-rate of USD-Federal Funds-OIS Compound plus 1.365%. The Company uses the interest rate swap to hedge the fair value of a fixed-rate senior note of $600 million, maturing November 21, 2027. The Company designated the interest rate swap as a fair value hedge of the related long-term debt and applied the short-cut method for hedge accounting purposes.

Details for the total fair value of derivative assets and liabilities as of December 31, 2022 and 2021 follow (in thousands):

| | Other Current Assets | | Accounts payable and accrued expenses | |
|---|---|---|---|---|
| | 2022 | 2021 | 2022 | 2021 |
| Derivatives designated as hedging instruments: | | | | |
| Fair value hedges - Interest rate swap contract | 1,443 | — | — | — |

See Note 14, Fair Value Measurements, Financial assets and liabilities measured at fair value on a recurring basis, for the Company's fair value measurement of the interest rate swap and the underlying long-term senior note. Interest rate swaps may expose the Company to credit-related losses in the event of nonperformance by its counterparty. Credit risk is monitored on an ongoing basis. See Note 20, Off Balance Sheet and Concentrations of Credit Risks, for the Company's concentration of credit risk related to interest rate swap.

## 13. LONG-TERM DEBT (CONTINUED)

**Lines of credit.** DTCC maintains a committed line of credit for general funding purpose, while its subsidiaries DTC and NSCC maintain committed lines of credit, pursuant to its respective rules, to support settlement of its payment obligations in the event any of its Participants default.

Details for the terms of the outstanding lines of credit as of December 31, 2022 and 2021 follow:

| | 2022 | 2021 |
|---|---|---|
| ***DTCC*** | | |
| **Committed Amount** | $500 million | $500 million |
| **Denomination** | USD | USD |
| **Number of Participants/Lenders** | 13/13 | 10/10 |
| **Borrowing Rate** | Base Rate plus 0.125%, or Adjusted Term Secure Overnight Financing Rate (SOFR) or Adjusted Daily SOFR plus 1.125% | Either base rate plus 0.25% or eurodollar plus 1.25% |
| **Maturity Date** | January 2025 | January 2022 |
| **Annual Facility Fee** | 0.15%(1) | 0.15%(1) |
| ***DTC*** | | |
| **Committed Amount** | $1.9 billion | $1.9 billion |
| **Denomination** | USD | USD |
| **Number of Participants/Lenders** | 30/36 | 29/35 |
| **Borrowing Rate** | The greatest of the FRBNY rate, Adjusted Daily SOFR, or zero on the day of borrowing, plus 1.40% | The greatest of the FRBNY rate, adjusted LIBOR, or zero, on the day of borrowing, plus 1.40% |
| **Maturity Date** | May 2023 | May 2022 |
| **Annual Facility Fee** | 0.10%(1) | 0.10%(1) |
| **Uncommitted Amount(2)** | — | C$200 million |
| **Denomination** | — | CAD |
| **Number of Participants/Lenders** | — | 1/1 |
| **Borrowing Rate** | — | A rate per annum equal to the Canadian Prime Rate minus 0.50% |
| **Maturity Date** | — | On Demand |
| ***NSCC*** | | |
| **Committed Amount** | $10.0 billion | $9.3 billion |
| **Denomination** | USD | USD |
| **Number of Participants/Lenders** | 30/36 | 29/35 |
| **Borrowing Rate** | The greatest of the FRBNY rate, Adjusted Daily SOFR, or zero on the day of borrowing plus 1.40% | The greatest of the FRBNY rate, adjusted LIBOR, or zero, on the day of borrowing, plus 1.40% |
| **Maturity Date** | May 2023 | May 2022 |
| **Annual Facility Fee** | 0.10%(1) | 0.10%(1) |

(1) The annual facility fee associated with maintaining the line of credit is included in Professional and other services in the accompanying Consolidated Statements of Income.

(2) DTC no longer permits settlement in Canadian dollars. Effective August 19, 2022 the uncommitted C$200 million line of credit, used to support Canadian settlement, was terminated.

There were no borrowings under the lines of credit during 2022 and 2021.

## 13. LONG-TERM DEBT (CONTINUED)

Details for debt covenants related to the lines of credit as of December 31, 2022 and 2021 follow:

| | 2022 | 2021 |
|---|---|---|
| ***DTCC*** | | |
| **Minimum Net Worth** | $1.65 billion | $1.25 billion |
| **Maximum Priority Debt** | $200 million | $200 million |
| ***DTC*** | | |
| **Minimum Net Worth** | $200 million | $200 million |
| **Minimum Participants' Fund deposits** | $750 million | $750 million |
| ***NSCC*** | | |
| **Minimum Net Worth** | $200 million | $200 million |
| **Minimum Clearing Fund deposits** | $1.5 billion | $1.5 billion |

As of December 31, 2022 and 2021, 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 issuer credit ratings and ratings outlooks for DTCC and its three clearing agency subsidiaries as of December 31, 2022 follow:

| | Moody's (1) | | | S&P | | |
|---|---|---|---|---|---|---|
| | **Long-term** | **Short-term** | **Outlook** | **Long-term** | **Short-term** | **Outlook** |
| **DTCC** | Aa3 | N/A | Stable | AA- | A-1+ | Stable |
| **DTC** | Aaa | P-1 | Stable | AA+ | A-1+ | Stable |
| **FICC** | Aaa | P-1 | Stable | AA | A-1+ | Stable |
| **NSCC** | 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.

## 14. 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 a financial 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 within the valuation hierarchy is based on the lowest level of input that is significant to the fair value measurement.

**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:

| Product/ Instrument | Valuation Methodology | Classification in the valuation hierarchy |
|---|---|---|
| **Assets - Participants' and Clearing Funds - Securities on deposit** | | |
| U.S. Treasury Securities<br>U. S. Agency Issued Debt Securities | Quoted market price of identical assets obtained from pricing services engaged by the Company. | Level 1 |
| U. S. Agency Issued Debt Securities<br>U.S. Agency Residential Mortgage-Backed Securities | Quoted market price of recent trades of similar securities obtained from pricing services engaged by the Company. | Level 2 |
| **Assets - Participants' and Clearing Funds - Cash deposits** | | |
| Money market fund investments | Quoted market price of identical assets obtained from pricing services engaged by the Company. | Level 1 |

## 14. FAIR VALUE MEASUREMENTS (CONTINUED)

| Product/ Instrument | Valuation Methodology | Classification in the valuation hierarchy |
|---|---|---|
| **Current Assets - Other current assets** | | |
| Interest rate swap<br>*Maturing November 21, 2027* | Quoted fair value obtained from discounted future cash flows using contractual terms like notional amount, coupon rates and observable market inputs and estimates | Level 2 |
| **Non-Current Assets - Other non-current assets** | | |
| Long-term incentive plan assets - Mutual fund and Stable value fund investments | Quoted market price of identical assets obtained from pricing services engaged by the Company | Level 1 |
| | Quoted market price of recent trades of similar securities obtained from pricing services engaged by the Company. | Level 2 |
| **Liabilities - Participants' and Clearing Funds - Securities on deposit and Cash deposits - Money market fund investments** | | |
| Participants' and Clearing Funds liabilities | Derived from the corresponding Participants' and Clearing Funds assets (see above). | Level 1 and Level 2 |

## 14. FAIR VALUE MEASUREMENTS (CONTINUED)

Fair value measurements of those items measured on a recurring basis as of December 31, 2022 and 2021 follow (in thousands):

| | 2022 | | | |
|---|---|---|---|---|
| | Level 1 | Level 2 | Level 3 | Total |
| Assets: | | | | |
| Clearing Funds | | | | |
| U.S. Treasury Securities | $ 26,740,038 | $ — | $ — | $ 26,740,038 |
| U.S. Agency Issued Debt Securities | 217,206 | 114,038 | — | 331,244 |
| U.S. Agency Residential Mortgage-Backed Securities | — | 2,693,059 | — | 2,693,059 |
| Current assets | | | | |
| Interest rate swap (maturing November 21, 2027) | — | 1,443 | — | 1,443 |
| Non-current assets | | | | |
| Long-term incentive plan assets - Mutual fund and Stable value fund investments | 102,528 | 18,643 | — | 121,171 |
| Total assets | $ 27,059,772 | $ 2,827,183 | $ — | $ 29,886,955 |
| Liabilities: | | | | |
| Clearing Funds | | | | |
| Securities liabilities | $ 26,957,244 | $ 2,807,097 | $ — | $ 29,764,341 |
| Total liabilities | $ 26,957,244 | $ 2,807,097 | $ — | $ 29,764,341 |

| | 2021 | | | |
|---|---|---|---|---|
| | Level 1 | Level 2 | Level 3 | Total |
| Assets: | | | | |
| Clearing Funds | | | | |
| U.S. Treasury Securities | $ 25,012,714 | $ — | $ — | $ 25,012,714 |
| U.S. Agency Issued Debt Securities | 129,647 | — | — | 129,647 |
| U.S. Agency Residential Mortgage-Backed Securities | — | 2,879,411 | — | 2,879,411 |
| Cash deposits - Money market fund investments | 3,657,000 | — | — | 3,657,000 |
| Non-current assets | | | | |
| Long-term incentive plan assets - Mutual fund and Stable value fund investments | 135,525 | 23,977 | — | 159,502 |
| Total assets | $ 28,934,886 | $ 2,903,388 | $ — | $ 31,838,274 |
| Liabilities: | | | | |
| Clearing Funds | | | | |
| Securities liabilities | $ 25,142,361 | $ 2,879,411 | $ — | $ 28,021,772 |
| Money market fund investments liabilities | 3,657,000 | — | — | 3,657,000 |
| Total liabilities | $ 28,799,361 | $ 2,879,411 | $ — | $ 31,678,772 |

## 14. FAIR VALUE MEASUREMENTS (CONTINUED)

**Financial Assets and Liabilities measured at other than fair value**

*Financial assets and liabilities whose carrying value approximates fair value.* The carrying values of certain financial 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, Participants' segregated cash, Short-term investments, and Participants' and Clearing Funds - Cash deposits - Bank deposits (and corresponding liabilities), Other Participants' assets, Commercial paper, Payable to Participants, and Long-term debt.

The carrying values, fair values and fair value hierarchy levels of all financial instruments measured at other than fair value on the accompanying Consolidated Statements of Financial Condition as of December 31, 2022 follow (in thousands):

| | 2022 | | | | |
|---|---|---|---|---|---|
| | Carrying Amount | Total Fair Value | Level 1 | Level 2 | Level 3 |
| Assets: | | | | | |
| Cash and cash equivalents | $16,167,430 | $16,167,430 | $16,167,430 | $ — | $ — |
| Participants' segregated cash | 2,020 | 2,020 | 2,020 | — | — |
| Short-term investments | 750,000 | 750,000 | — | 750,000 | — |
| Participants' and Clearing Funds: | | | | | |
| Cash deposits - Bank deposits | 31,970,747 | 31,970,747 | 31,970,747 | — | — |
| Other Participants' assets | 931,071 | 931,071 | 931,071 | — | — |
| Total | $49,821,268 | $49,821,268 | $49,071,268 | $ 750,000 | $ — |
| Liabilities: | | | | | |
| Commercial paper | $ 9,109,638 | $ 9,109,638 | $ — | $ 9,109,638 | $ — |
| Participants' and Clearing Funds: | | | | | |
| Cash deposits - Bank deposits | 31,970,747 | 31,970,747 | 31,970,747 | — | — |
| Payable to Participants | 933,091 | 933,091 | 933,091 | — | — |
| Long-term debt | 4,733,593 | 4,570,058 | — | 4,570,058 | — |
| Total | $46,747,069 | $46,583,534 | $32,903,838 | $13,679,696 | $ — |

## 14. FAIR VALUE MEASUREMENTS (CONTINUED)

The carrying values, fair values and fair value hierarchy levels of all financial instruments measured at other than fair value on the accompanying Consolidated Statements of Financial Condition as of December 31, 2021 follow (in thousands):

| | 2021 | | | | |
|---|---|---|---|---|---|
| | Carrying Amount | Total Fair Value | Level 1 | Level 2 | Level 3 |
| Assets: | | | | | |
| Cash and cash equivalents | $14,236,922 | $14,236,922 | $14,236,922 | $ — | $ — |
| Participants' segregated cash | 6,078 | 6,078 | 6,078 | — | — |
| Short-term investments | 445,000 | 445,000 | — | 445,000 | — |
| Participants' and Clearing Funds: | | | | | |
| Cash deposits - Bank deposits | 24,823,163 | 24,823,163 | 24,823,163 | — | — |
| Other Participants' assets | 1,326,873 | 1,326,873 | 1,326,873 | — | — |
| Total | $40,838,036 | $40,838,036 | $40,393,036 | $ 445,000 | $ — |
| Liabilities: | | | | | |
| Commercial paper | $ 8,291,933 | $ 8,291,933 | $ — | $ 8,291,933 | $ — |
| Participants' and Clearing Funds: | | | | | |
| Cash deposits - Bank deposits | 24,823,163 | 24,823,163 | 24,823,163 | — | — |
| Payable to Participants | 1,332,951 | 1,332,951 | 1,332,951 | — | — |
| Long-term debt | 3,731,814 | 3,744,935 | — | 3,744,935 | — |
| Total | $38,179,861 | $38,192,982 | $26,156,114 | $12,036,868 | $ — |

**Assets measured at fair value on a non-recurring basis.** Certain financial 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 or when an observable event occurs.

Financial assets measured at fair value on a non-recurring basis include equity investments, which are classified as Level 3 instruments. During the years ended December 31, 2022, there was a $37,996,000 mark-to-market investment gain included in Other non-operating income, net in the accompanying Consolidated Statements of Income. The carrying amount of the investments were $50,389,000 and $12,393,000 as of December 31, 2022 and December 31, 2021, respectively. The fair value of the investments were determined based on a recent observable event resulting in a recognition of the gain.

## 15. RETIREMENT PLANS

**U.S. defined benefit pension and other postretirement benefit plans.**

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

| | Pension Benefits | | Other Benefits | |
|---|---|---|---|---|
| | 2022 | 2021 | 2022 | 2021 |
| Benefit obligations, beginning of year: | $ 1,130,979 | $ 1,232,651 | $ 62,473 | $ 68,713 |
| Service cost | 1,532 | 1,923 | 445 | 548 |
| Interest cost | 26,376 | 23,054 | 1,361 | 1,157 |
| Gross benefits paid | (77,010) | (64,907) | (1,463) | (1,252) |
| Expenses paid | (1,445) | (1,622) | — | — |
| Actuarial gain | (267,068) | (60,120) | (16,586) | (6,693) |
| Total benefit obligations at end of year | $ 813,364 | $ 1,130,979 | $ 46,230 | $ 62,473 |
| Total accumulated benefit obligations at end of year | $ 811,279 | $ 1,128,017 | N/A | N/A |

The Accumulated Benefit Obligations are defined as the actuarial present value of Pension benefits attributed to employee services rendered before December 31, 2022 and 2021, respectively, and based on employee service and compensation prior to the measurement date.

*Funded status.* The funded status of the plans, as of December 31, 2022 and 2021, follow (in thousands):

| | Pension Benefits | | | | Other Benefits | |
|---|---|---|---|---|---|---|
| | Pension Plan | | Other Supplemental Pension Plans | | Medical & Life Plans | |
| | 2022 | 2021 | 2022 | 2021 | 2022 | 2021 |
| Benefit obligations at end of year: | | | | | | |
| Qualified plan | $ 728,634 | $ 1,013,449 | $ — | $ — | $ — | $ — |
| Other plans | — | — | 84,730 | 117,530 | 46,230 | 62,473 |
| Total benefit obligations at end of year | 728,634 | 1,013,449 | 84,730 | 117,530 | 46,230 | 62,473 |
| Total fair value of plan assets at end of year | 756,941 | 1,027,140 | — | — | — | — |
| Funded (unfunded) status | $ 28,307 | $ 13,691 | $ (84,730) | $ (117,530) | $ (46,230) | $ (62,473) |
| Amounts recognized in the Consolidated Statements of Financial Condition consist of: | | | | | | |
| Non-current assets | $ 28,307 | $ 13,691 | $ — | $ — | $ — | $ — |
| Current liability | — | — | (17,498) | (29,939) | (3,918) | (4,006) |
| Non-current liability | — | — | (67,232) | (87,591) | (42,312) | (58,467) |
| Amount recognized, end of year | $ 28,307 | $ 13,691 | $ (84,730) | $ (117,530) | $ (46,230) | $ (62,473) |

## 15. RETIREMENT PLANS (CONTINUED)

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

| | Pension Benefits | | Other Benefits | |
|---|---|---|---|---|
| | 2022 | 2021 | 2022 | 2021 |
| Fair value of plan assets, beginning of year | $ 1,027,140 | $ 1,087,848 | $ — | $ — |
| Actual return on plan assets | (213,928) | 665 | — | — |
| Employer contribution | 22,185 | 5,157 | 1,439 | 1,252 |
| Gross benefits paid | (77,010) | (64,907) | (1,439) | (1,252) |
| Expenses paid | (1,446) | (1,623) | — | — |
| Fair value of plan assets, end of year | $ 756,941 | $ 1,027,140 | $ — | $ — |

In Details of the classification of plan assets in accordance with the three-tier fair valuation hierarchy and current asset allocations as of December 31, 2022 and 2021, follow (in thousands, except percentages).

| | Target Allocation 2022 | Percentage of Plan Assets, December 31, 2022 | Total | Quoted Prices in Active Markets for Identical Assets (Level 1)(1) | Quoted Prices in Active Markets for Similar Assets (Level 2)(1) |
|---|---|---|---|---|---|
| Pension assets as of December 31, 2022: | | | | | |
| Short-term investment fund | 0.50 % | 0.53 % | $ 4,021 | $ — | $ 4,021 |
| Equity Portfolio: | | | | | |
| Domestic large cap growth | | | 14,178 | — | 14,178 |
| Domestic large cap value | | | 14,553 | — | 14,553 |
| Domestic large cap core | | | 29,081 | — | 29,081 |
| Domestic small core | | | 5,512 | 2,740 | 2,772 |
| International core | | | 8,692 | 8,692 | — |
| International emerging markets | | | 2,882 | 2,882 | — |
| Total equity securities | 9.50 % | 9.90 % | 74,898 | 14,314 | 60,584 |
| Fixed income portfolio: | | | | | |
| Domestic liability driven investment (2) | 88.00 % | 88.57 % | 670,423 | — | 670,423 |
| Guaranteed insurance contracts: | | | | | |
| Group annuity contract (3) | 2.00 % | 1.00 % | 7,599 | — | — |
| Total pension assets as of December 31, 2022 | | | $ 756,941 | $ 14,314 | $ 735,028 |

## 15. RETIREMENT PLANS (CONTINUED)

| | Target Allocation 2021 | Percentage of Plan Assets, December 31, 2021 | Total | Quoted Prices in Active Markets for Identical Assets (Level 1)(1) | Quoted Prices in Active Markets for Similar Assets (Level 2)(1) |
|---|---|---|---|---|---|
| Pension assets as of December 31, 2021: | | | | | |
| Short-term investment fund | 0.50 % | 0.05 % | $ 556 | $ — | $ 556 |
| Equity Portfolio: | | | | | |
| Domestic large cap growth | | | 20,043 | — | 20,043 |
| Domestic large cap value | | | 20,246 | — | 20,246 |
| Domestic large cap core | | | 40,822 | — | 40,822 |
| Domestic small core | | | 7,763 | 3,856 | 3,907 |
| International core | | | 11,919 | 11,919 | — |
| International emerging markets | | | 3,769 | 3,769 | — |
| Total equity securities | 9.50 % | 10.18 % | 104,562 | 19,544 | 85,018 |
| Fixed income portfolio: | | | | | |
| Domestic liability driven investment (2) | 88.00 % | 88.37 % | 907,673 | — | 907,673 |
| Guaranteed insurance contracts: | | | | | |
| Group annuity contract (3) | 2.00 % | 1.40 % | 14,349 | — | — |
| Total pension assets as of December 31, 2021 | | | $ 1,027,140 | $ 19,544 | $ 993,247 |

(1) Investments are classified based on the lowest level of input that is significant to the fair value measurement.

(2) *Pension Plan concentration of investments.* During 2021, Wells Fargo Institutional Retirement and Trust (Wells Fargo) was the trustee of all investments in the Pension Plan exclusive of the group annuity contract, which was managed by MetLife. Wells Fargo sold the trust and custody business to Principal Financial Group, who became the trustee of the Pension Plan effective February 22, 2022. As of December 31, 2022, the balance included Principal/ Multi-Manager Liability Driven Solution Collective Investment Trust I of $365 million and Principal/Multi-Manager Liability Driven Solution Collective Investment Trust II of $299 million, representing 48% and 39% of total investments, respectively. As of December 31, 2021, the balance included Wells Fargo Liability Driven Solution Collective Investment Trust I of $335 million and Wells Fargo Liability Driven Solution Collective Investment Trust II of $563 million, representing 33% and 55% of total investments, respectively. A significant decline in the market value of these investments would significantly affect the plan assets.

(3) As permitted by U.S. GAAP, this group annuity contract is accounted for at contract value, which approximates fair value. This investment is reported at contract value because it is the amount received by participants if they were to initiate permitted transactions under the terms of the pension plan. Contract value as reported represents contributions made under the contract, plus earnings, less participant withdrawals and administrative expenses.

## 15. RETIREMENT PLANS (CONTINUED)

*Net periodic benefit expense (income).* Details of the components of net periodic benefit expense (income) for the years ended December 31, 2022 and 2021, follow (in thousands):

| | Pension Benefits | | Other Benefits | |
|---|---|---|---|---|
| | 2022 | 2021 | 2022 | 2021 |
| Components of net periodic benefit expense (income): | | | | |
| Expected return on plan assets | $ (38,124) | $ (37,846) | $ — | $ — |
| Interest cost | 26,376 | 23,054 | 1,360 | 1,156 |
| Service cost | 1,532 | 1,923 | 444 | 548 |
| Amortizations: | | | | |
| Prior service cost (credit) | 88 | 87 | (1,040) | (5,146) |
| Actuarial loss | 9,217 | 12,563 | 135 | 1,335 |
| Settlement loss | 1,628 | 403 | — | — |
| Net periodic benefit expense (income) | $ 717 | $ 184 | $ 899 | $ (2,107) |

*Changes in OCI.* Details of the changes in plan assets and benefit obligations recognized in OCI for the years ended December 31, 2022 and 2021, follow (in thousands):

| | Pension Benefits | | Other Benefits | |
|---|---|---|---|---|
| | 2022 | 2021 | 2022 | 2021 |
| Other changes recognized in OCI: | | | | |
| Net loss (gain) arising during the period | $ (15,015) | $ (22,939) | $ (16,585) | $ (6,693) |
| Amortizations: | | | | |
| Prior service credit (cost) | (87) | (87) | 1,040 | 5,146 |
| Actuarial and settlement loss | (10,846) | (12,966) | (135) | (1,335) |
| Net other changes in OCI, pre-tax | $ (25,948) | $ (35,992) | $ (15,680) | $ (2,882) |

Details of the net amount recognized in Accumulated other comprehensive loss on the accompanying Consolidated Statements of Financial Condition as of December 31, 2022 and 2021, follow (in thousands):

| | Pension Benefits | | Other Benefits | |
|---|---|---|---|---|
| | 2022 | 2021 | 2022 | 2021 |
| Amount not reflected in net periodic benefit (cost) and included in Accumulated other comprehensive income (loss): | | | | |
| Prior service credit (cost) | $ (1,565) | $ (1,652) | $ — | $ 1,040 |
| Accumulated income (loss) | (223,851) | (249,712) | 7,926 | (8,794) |
| Accumulated other comprehensive income (loss), pre-tax | $ (225,416) | $ (251,364) | $ 7,926 | $ (7,754) |

## 15. RETIREMENT PLANS (CONTINUED)

*Assumptions for net periodic benefit expense (income).* Details for the defined benefit plans assumptions used by actuaries to determine net periodic benefit expense (income) as of December 31, 2022 and 2021 follow:

| | Pension Benefits | | Other Benefits | |
|---|---|---|---|---|
| | **2022** | **2021** | **2022** | **2021** |
| Weighted-average assumptions used to determine net periodic benefit expense (income) for the years ended December 31: | | | | |
| Discount rate | 2.86% | 2.50% | 2.77% | 2.38% |
| Expected long-term rate of return on plan assets | 4.05% | 4.05% | n/a | n/a |
| Assumed health care cost trend rates as of December 31: | | | | |
| Health care cost trend rate assumed for next year | | | 5.81% | 5.57% |
| Rate to which the cost trend rate is assumed to decline | | | | |
| (the ultimate trend rate) | | | 4.00% | 4.46% |
| Year that the rate reaches the ultimate trend rate | | | 2045 | 2038 |

The discount rate reflects the rate at which defined benefit plan 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 obligations. 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 defined benefit plans assumptions used by actuaries to determine benefit obligations as of December 31, 2022 and 2021 follow:

| | Pension Benefits | | Other Benefits | |
|---|---|---|---|---|
| | **2022** | **2021** | **2022** | **2021** |
| Weighted-average assumptions used to determine benefit obligations as of December 31: | | | | |
| Discount rate | 5.42% | 2.86% | 5.41% | 2.77% |
| Rate for interest cost | 2.49% | 2.03% | 2.29% | 1.78% |
| Rate for service cost | n/a | n/a | 2.93% | 2.60% |
| Rate for interest on service cost | n/a | n/a | 2.80% | 2.37% |
| Assumed health care cost trend rates as of December 31: | | | | |
| Health care cost trend rate assumed for next year | | | 6.60% | 5.81% |
| Rate to which the cost trend rate is assumed to decline | | | | |
| (the ultimate trend rate) | | | 4.00% | 4.00% |
| Year that the rate reaches the ultimate trend rate | | | 2047 | 2045 |

## 15. RETIREMENT PLANS (CONTINUED)

*Assumptions for defined benefit obligations.* Mortality is a key assumption used to determine the benefit obligations for the Company's defined benefit plans. The mortality assumption for all plans uses the Pri-2012 mortality tables projected generationally with scale MMP-2021. The mortality tables 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 Pension Plan continues to use no collar adjustment. On a lump sum basis, mortality is based on IRS prescribed tables projected using scale MP-2021, with segmented interest rate adjustments.

*Expected cash flows.* The Company did not make any contributions to the Pension Plan during 2022 and 2021. Settlement losses relate to early retirement of executives who elected lump-sum and periodic payments. Settlement losses totaled $1,628,000 and $403,000 for the years ended December 31, 2022 and 2021, respectively. There were no participant contributions to the plans in 2022 and 2021.

Details for the benefit payments for the pension plans and other plans for 2022 and 2021 follow (in thousands):

| | 2022 | 2021 |
|---|---|---|
| Pension plans | $ 77,010 | $ 64,907 |
| Other plans | 1,439 | 1,252 |
| Total | $ 78,449 | $ 66,159 |

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

| | Pension | Employer Benefits Payments | Medicare Subsidy Receipts |
|---|---|---|---|
| 2023 | $ 73,092 | $ 3,918 | $ 9 |
| 2024 | 69,404 | 4,034 | 8 |
| 2025 | 64,549 | 4,109 | 7 |
| 2026 | 59,062 | 4,041 | 6 |
| 2027 | 65,043 | 3,947 | 5 |
| Thereafter | 297,810 | 17,974 | 16 |
| Total | $ 628,960 | $ 38,023 | $ 51 |

**Defined contribution retirement plans.** Total expense for the defined contribution retirement plans included in Employee compensation and related benefits in the accompanying Consolidated Statements of Income was $49,933,000 and $46,933,000 for the years ended December 31, 2022 and 2021, respectively.

## 16. INCOME TAXES

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

Details for the components of the Company's Provision for income taxes for the years ended December 31, 2022 and 2021 follow (in thousands):

| | 2022 | 2021 |
|---|---|---|
| Current income tax: | | |
| Federal | $ 61,228 | $ 29,518 |
| State and local | 50,521 | 3,458 |
| Foreign | 20,716 | 26,372 |
| Total current income tax | 132,465 | 59,348 |
| Deferred income tax: | | |
| Federal | (4,608) | 9,093 |
| State and local | 2,253 | 1,632 |
| Foreign | (7,030) | (5,541) |
| Total deferred income tax | (9,385) | 5,184 |
| Provision for income taxes | $ 123,080 | $ 64,532 |

The 2022 and 2021 effective tax rates differ from the 21% Federal statutory tax rate mainly due to state and local taxes, changes in unrecognized tax benefits, U.S. taxes on foreign operations, rate differential from foreign operations, 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, 2022 and 2021 follow:

| | 2022 | 2021 |
|---|---|---|
| U.S. statutory tax rate | 21.0 % | 21.0 % |
| State and local income taxes, net of Federal income tax benefit | 7.2 | 5.5 |
| Change in unrecognized tax benefits | 0.4 | 1.9 |
| Settlements of tax audits | — | (5.1) |
| Research activities | 0.2 | (2.7) |
| Benefit on foreign operations | (1.3) | (1.3) |
| Income from foreign operations | (1.2) | (1.1) |
| Valuation allowance | 0.9 | — |
| Other | (0.2) | (0.1) |
| Effective tax rate | 27.0 % | 18.1 % |

## 16. INCOME TAXES (CONTINUED)

Details for the components of deferred tax assets and liabilities as of December 31, 2022 and 2021 follow (in thousands):

| | 2022 | 2021 |
|---|---|---|
| Deferred tax assets: | | |
| Accrued compensation and benefits | $ 87,914 | $ 110,494 |
| Operating lease liabilities and deferred rent | 57,092 | 63,043 |
| Other | 44,772 | 32,944 |
| Total deferred tax assets | 189,778 | 206,481 |
| Deferred tax liabilities: | | |
| Capitalized software | 40,636 | 64,787 |
| Lease right-of-use asset | 42,054 | 48,632 |
| Investment tax basis difference | 54,685 | 42,126 |
| Depreciation | 39,758 | 39,936 |
| Total deferred tax liabilities | 177,133 | 195,481 |
| Net deferred tax assets before valuation allowance | 12,645 | 11,000 |
| Valuation allowance | (4,203) | — |
| Net deferred tax assets | $ 8,442 | $ 11,000 |

A valuation allowance has been recorded against deferred tax assets of $4,203,000 as of December 31, 2022 due to uncertainties related to the ability to utilize these assets. In assessing whether its deferred tax assets are realizable, the Company considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized and adjusts the valuation allowance accordingly. The Company considers all available positive and negative evidence including future reversals of existing taxable temporary differences, taxable income in prior carryback years, projected future taxable income, tax planning strategies and recent financial operations. For the remaining deferred tax assets, they are expected to be fully realized and, accordingly, no valuation allowance was established.

Details for unrecognized tax benefits, included in Other non-current liabilities, as of December 31, 2022 and 2021 follow (in thousands):

| | 2022 | 2021 |
|---|---|---|
| Beginning balance | $ 19,954 | $ 27,267 |
| Increases: | | |
| Prior period tax positions | 4,635 | 5,767 |
| Current period tax positions | 6,162 | 2,905 |
| Decreases: | | |
| Prior period tax positions | (5,879) | (11,529) |
| Statute of limitations | (1,227) | (1,164) |
| Settlements with tax authorities | — | (3,292) |
| Unrecognized tax benefit | 23,645 | 19,954 |
| Accrued interest | 2,309 | 1,868 |
| Ending balance | $ 25,954 | $ 21,822 |

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. The Company recognized accrued interest of $441,000 and $0 for the years ended December 31, 2022 and 2021 respectively.

## 16. INCOME TAXES (CONTINUED)

Unrecognized tax benefits are estimated based on judgment, assessment of relevant risks, facts and circumstances. Actual results could differ materially from those estimates. The Company believes that the liability for unrecognized tax benefits is the best estimate in relation to the potential for additional assessments. Unexpected results from one or more such tax audits could significantly adversely affect the Company's income tax provision and results of operations. On February 1, 2021, the Company and the New York City tax authority reached a settlement agreement related to income tax audits of the 2010-2014 fiscal years. The Company reduced the related unrecognized tax benefit and accrued interest by $11,317,000 and $11,810,000, respectively, as of the year ended December 31, 2021.

Details for the periods currently under examination and remaining subject to examination by jurisdiction as of December 31, 2022 follow:

| | Tax Years | |
|---|---|---|
| **Jurisdiction** | **Under Examination** | **Subject to Examination** |
| U.S. Federal - Internal Revenue Service | - | 2019 - 2021 |
| New York State | - | 2019 - 2021 |
| New York City | 2015 - 2017 | 2019 - 2021 |
| State of Florida | - | 2019 - 2021 |
| California | 2017 - 2018 | 2019 - 2021 |
| Michigan | 2016 - 2019 | - |

## 17. 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"). 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.** 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, in accordance with the Amended Certificate of Incorporation of DTCC, dividends on the Series C Preferred stock were payable in arrears on June 15 and December 15 of each year through June 15, 2020 at a fixed rate of 4.875% per annum. From June 15, 2020 onward, dividends accrued at a floating rate equal to three-month LIBOR plus 3.167% per annum (3.351% at June 15, 2021), and, when declared by DTCC's Board of Directors, dividends on the Series C Preferred stock were payable in arrears on March 15, June 15, December 15 and December 15 of each year beginning on December 15, 2020. On June 15, 2021, DTCC redeemed all 1,600 shares outstanding related to the Series C Preferred stock totaling $400,000,000 for a price equal to $250,000 per share with issuance costs of $9,484,000.

Details of dividends paid to holders of the Series C Preferred Stock during the year ended December 31, 2021 follow:

| Approved and Declared Date | Record Date | Payment Date | Declared Dividend | Shares Outstanding | Dividend Paid |
|---|---|---|---|---|---|
| April 13, 2021 | May 25, 2021 | June 15, 2021 | $ 2,140.84 | 1,600 | $ 3,425,344 |
| January 14, 2021 | February 25, 2021 | March 15, 2021 | $ 2,114.69 | 1,600 | $ 3,383,504 |

## 17. SHAREHOLDERS' EQUITY (CONTINUED)

**DTCC Series D Fixed Rate Reset Non-Cumulative Perpetual Preferred stock.** On June 8, 2021, DTCC issued 2,000 shares of Fixed Rate Reset Non-Cumulative Perpetual Preferred stock, Series D, $0.50 par value per share, with a liquidation preference of $250,000 per share resulting in issuance costs of $9,100,000 and net proceeds of $490,900,000. When declared by DTCC's Board of Directors, dividends on the Series D Preferred stock are payable in arrears on June 20 and December 20 of each year, beginning December 20, 2021 through June 20, 2026, at a fixed rate of 3.375% per annum. From June 20, 2026 onward, dividends will accrue at a rate equal to the five-year U.S. Treasury rate plus 2.606% per annum.

Details of dividends paid to holders of the Series D Preferred Stock during the year ended December 31, 2022 follow:

| Approved and Declared Date | Record Date | Payment Date | Declared Dividend | Shares Outstanding | Dividend Paid |
|---|---|---|---|---|---|
| November 10, 2022 | November 10, 2022 | December 20, 2022 | $ 4,218.75 | 2,000 | $ 8,437,500 |
| May 9, 2022 | May 10, 2022 | June 21, 2022 | $ 4,218.75 | 2,000 | $ 8,437,500 |

Details of dividends paid to holders of the Series D Preferred Stock during the year ended December 31, 2021 follow:

| Approved and Declared Date | Record Date | Payment Date | Declared Dividend | Shares Outstanding | Dividend Paid |
|---|---|---|---|---|---|
| November 9, 2021 | November 30, 2021 | December 20, 2021 | $ 4,335.94 | 2,000 | $ 8,671,875 |

**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 DTC Series A preferred stock. The ownership of DTC preferred stock is reported as non-controlling interests in the consolidated financial statements. There was $150,000,000 of DTC Series A preferred stock (1,500,000 shares at par value of $100 per share) outstanding as of December 31, 2022 and 2021. Dividends are subject to regulatory limitations and restrictions per the New York Banking Law and Federal Reserve Act and must be approved and declared by the Board of Directors. When declared, dividend amounts are based on the weighted-average rate of interest paid by the Company on required Participants' Fund deposits during the dividend period as disclosed in the DTC's rules.

Details of dividends paid to holders of the DTC Series A Preferred Stock during the year ended December 31, 2022 follow:

| Approved and Declared Date | Record Date | Payment Date | Declared Dividend | Dividend Paid |
|---|---|---|---|---|
| February 23, 2022 | February 23, 2022 | April 11, 2022 | $ 45,000 | $ 45,000 |
| December 15, 2021 | December 17, 2021 | January 11, 2022 | $ 90,000 | $ 90,000 |

Details of dividends paid to holders of the DTC Series A Preferred Stock during the year ended December 31, 2021 follow:

| Approved and Declared Date | Record Date | Payment Date | Declared Dividend | Dividend Paid |
|---|---|---|---|---|
| February 10, 2021 | February 11, 2021 | April 9, 2021 | $ 480,000 | $ 480,000 |

## 18. CAPITAL REQUIREMENTS

As required by Rule 17Ad-22(e)(15) of the CCAS and pursuant to the Clearing Agency Policy on Capital Requirements, the Company must meet its total capital requirement by holding liquid net assets funded by equity. The total capital requirement for each of the clearing agencies is equal to the sum of the general business risk capital requirement and corporate contribution, as described below.

**General Business Risk Capital Requirement.** This capital requirement is held to cover potential general business losses so that the clearing agencies can continue operations and provide services as a going concern if those losses materialize. It is determined based on the general business risk profile and estimated time to execute a recovery or orderly wind-down of critical operations for each of the clearing agencies and, at a minimum, is equal to six months of operating expenses.

As required by Rule 17Ad-22(e)(15) of the CCAS and pursuant to the Clearing Agency Policy on Capital Requirements, the Company must meet its total capital requirement by holding liquid net assets funded by equity. The total capital requirement for each of the clearing agencies is equal to the sum of the general business risk capital requirement and corporate contribution, as described below.

**General Business Risk Capital Requirement.** This capital requirement is held to cover potential general business losses so that the clearing agencies can continue operations and provide services as a going concern if those losses materialize. It is determined based on the general business risk profile and estimated time to execute a recovery or orderly wind-down of critical operations for each of the clearing agencies and, at a minimum, is equal to six months of operating expenses.

**Corporate Contribution.** The corporate contribution is applied to losses as provided in each of the respective clearing agencies rules. The amount of the corporate contribution is generally equal to 50% of each clearing agency's general business risk capital requirement.

Details of the general business risk capital requirement, corporate contribution and liquid net assets funded by equity for the clearing agencies as of December 31, 2022 and 2021 follow (in thousands):

| | 2022 | | |
|---|---|---|---|
| | DTC | NSCC | FICC |
| General business risk capital requirement | $ 229,966 | $ 224,590 | $ 150,500 |
| Corporate contribution | 114,983 | 112,295 | 75,250 |
| Total requirement | 344,949 | 336,885 | 225,750 |
| Liquid net assets funded by equity | 648,185 | 645,416 | 336,147 |
| Excess | $ 303,236 | $ 308,531 | $ 110,397 |

| | 2021 | | |
|---|---|---|---|
| | DTC | NSCC | FICC |
| General business risk capital requirement | $ 193,270 | $ 211,964 | $ 133,407 |
| Corporate contribution | 96,635 | 105,982 | 66,703 |
| Total requirement | 289,905 | 317,946 | 200,110 |
| Liquid net assets funded by equity | 675,456 | 570,329 | 328,792 |
| Excess | $ 385,551 | $ 252,383 | $ 128,682 |

**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 to various regulators, including, but not limited to, FRBNY, the NYSDFS and the CFTC in the United States; ESMA in Europe; FCA in the UK; OSC in Canada; and the MAS in Singapore.

## 18. CAPITAL REQUIREMENTS (CONTINUED)

**Capital adequacy.** DTC is subject to capital guidelines issued by United States federal and state banking regulators.

DTC capital and leverage ratios required by the FRBNY and the NYSDFS as of December 31, 2022 follow:

| | Ratio | Minimum Capital Ratio[a] | Well Capitalized Ratio[a] |
|---|---|---|---|
| Tier 1 capital ratio [1] | 88.33 % | 6.00 % | 8.00 % |
| Total capital ratio [1] | 88.33 % | 8.00 % | 10.00 % |
| Tier 1 leverage ratio [2] | 17.66 % | 4.00 % | 4.00 % |

(a) As defined by the regulations issued by the Federal Reserve, Office of the Comptroller of the Currency and the Federal Deposit Insurance Corporation.

(1) Total capital and Tier 1 capital include common stock, retained earnings and preferred stock. DTC's tier 1 capital and total capital ratios are based on tier 1 capital and total risk-weighted assets.

(2) Tier 1 leverage ratio is based on tier 1 capital and quarterly average total assets.

## 19. GUARANTEES

Certain DTCC subsidiaries (NSCC and FICC) provide central counterparty (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 their Participants default. A Participant default is defined in the respective rules of NSCC, GSD and MBSD. In their guarantor role, each clearing subsidiary has equal claims to and from Participants, as applicable, on opposite sides of the netted transactions. To cover their default risk, NSCC and FICC (through GSD and MBSD) use risk-based margining to collect cash and eligible securities collateral to 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 at the point of trade comparison and validation for bilateral submissions or the point of trade validation for locked-in submissions. 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. In addition, a Participant may be subject to an additional collection of margin on an intraday basis through the Clearing Fund.

**FICC**, through GSD, provides real-time trade matching, clearing, netting, risk management and settlement for trades in U.S. government debt including buy-sell transactions and repurchase agreement ("Repo") transactions, as well as certain Mortgage-Backed Securities in its GCF Repo service. Securities processed by GSD include Treasury bills, bonds, notes, zero-coupon securities, government agency securities and inflation-indexed securities, as well as certain eligible Mortgage-Backed Securities in its GCF Repo service. The U.S. Government securities market is predominantly an over-the-counter market and most buy-sell transactions are settled on trade date plus one day (T+1). Most Repo transactions settle same day, or T+0, via FICC's Same Day Settlement service. 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 through the Clearing Fund and marked-to-market twice-daily through the funds-only settlement process. In addition, a Participant may be subject to an additional amount referred to as the intraday supplemental fund deposit, which, if applicable, may be collected on an intraday basis through the Clearing Fund.

## 19. GUARANTEES (CONTINUED)

MBSD provides real-time trade matching, clearing, netting, risk management and settlement for trades in the U.S. mortgage-backed securities market. Specifically, MBSD processes to-be-announced transactions, specified pool trades and stipulated trades. FICC's guarantee of MBSD transactions may result in potential liability to FICC. Guaranteed positions that have not yet settled are margined and collateralized daily through the Clearing Fund. The daily Clearing Fund includes a mark-to-market component that is calculated using guaranteed positions and prices as of prior end-of-day. In addition, a Participant may become subject to an intraday mark-to-market charge which, if applicable, may be collected on an intraday basis through the Clearing Fund.

If a Participant defaults in either NSCC or FICC, such Participant's deposits to the applicable Clearing Fund is 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) the CCP's corporate contribution, (see Note 18). 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 their corporate contribution (or such higher amount as approved by their Board of Directors), and (iii) by allocating any remaining loss to Participants.

For purposes of loss allocation, in connection with defaulting member, Participant defaults are grouped together chronologically into discrete event periods of 10 business days. If there is remaining loss or liability from one or more Participant default events that occurred within the same event period, they will be treated as follows:

NSCC will assess its non-defaulting Participants as provided for in its rules. The process, in general, allocates any remaining losses or liabilities among the Participants of NSCC who were Participants on the first day of the event period ratably in accordance with their respective average daily required deposits to the Clearing Fund over the prior 70 business days.

FICC Participants are grouped into two different tiers for purposes of loss allocation: Tier 1 and Tier 2. GSD and MBSD will divide such obligation between Tier 1 Participants and Tier 2 Participants. Tier 1 Participants will be assessed ratably in accordance with their respective average daily required deposits to the Clearing Fund over the prior 70 business days. Tier 2 Participants will only be subject to such loss or liability to the extent they traded with the defaulting Participant. Sponsored Members are not obligated for loss allocation. If the loss arises in connection with Sponsored Member trades (that is, in connection with the default of a Sponsoring Member), the loss shall be allocated to Tier 1 Participants. If the loss arises in connection with a default other than of the Sponsoring Member, the Sponsoring Member shall be responsible for any loss allocated to the Sponsoring Member Omnibus Account. GSD Participants who act as inter-dealer brokers are limited to a loss allocation of $5 million per event period in respect of their inter-dealer broker activity.

Amounts that may be available under cross-guaranty agreements include, for NSCC, amounts available under the netting contract and limited cross-guaranty between DTC and NSCC relating to collateralization across the DTC-NSCC interface, or for FICC, amounts available under the cross-margining agreements between GSD and the Chicago Mercantile Exchange Inc., which may provide for additional funds if the defaulting member was a cross-margining Participant.

DTC, NSCC, FICC and The Options Clearing Corporation (OCC) have also entered into a multilateral netting contract and limited cross-guaranty agreement. In accordance with this multilateral netting agreement, the 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.

## 19. GUARANTEES (CONTINUED)

Details for open CCP positions for which a trade guaranty applied as of December 31, 2022 and 2021 follow (in billions):

| | 2022 | 2021 |
|---|---|---|
| FICC | | |
| GSD | $ 1,418 | $ 1,150 |
| MBSD | 282 | 434 |
| NSCC | 166 | 185 |

There were no defaults by Participants to these obligations in 2022 and 2021.

## 20. 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. DTCC's global customer base includes brokers, dealers, institutional investors, banks, trust issuers, mutual fund companies, insurance carriers, hedge funds, qualified institutional buyer clients via the sponsored membership service 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 is primarily derived from providing clearing and settlement service to Participants.

Credit risk arises at DTCC should a Participant fail to fulfill its settlement obligation. The Company manages and mitigates this risk 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 for membership; performing continuous monitoring of Participants' financial condition; reviewing Participants' daily activity and determining appropriate collateral requirements; maintaining its risk-based Participants' Fund and Clearing Fund; netting obligations continuously; marking unsettled obligations to market; and utilizing quantitative analytical tools.

To become a Participant at any of DTCC’s clearing agency or registered clearing house subsidiaries, an applicant must meet minimum eligibility criteria that 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 and/or other forms of surveillance to risk-rate or monitor Participants. The resulting rating or degree of surveillance 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 a Participant’s net debit balance from exceeding the value of collateral in its account. The controls are designed to provide DTC with sufficient collateral to obtain funding for settlement in the event a Participant fails to pay its settlement obligation. 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 requires DTC to maintain sufficient liquidity to complete settlement should any single Participant or Participant family fail to settle.

## 20. OFF BALANCE SHEET AND CONCENTRATION OF CREDIT RISKS (CONTINUED)

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 testing, stress testing and model performance monitoring 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 monitoring may reveal.

DTC maintains a committed, secured line of credit to support potential liquidity needs in the event of a Participant default. NSCC maintains liquid resources to support potential liquidity needs in the event of a Participant default. In addition to the cash deposits to the Clearing Fund, these resources also include the cash that would be obtained from a committed, secured line of credit, proceeds from issuance of senior notes, and proceeds from a commercial paper and extendable note program. NSCC has the Supplemental Liquidity Deposit ("SLD") - a rules-based funding obligation that requires Members whose activity generate liquidity needs in excess of NSCC's then available liquid resources, to fund such additional amounts. SLD deposits must be in cash and are held and maintained in the same manner as other Clearing Fund deposits. FICC maintains a rules-based, committed liquidity resource (i.e., the capped contingency liquidity facility) for each division to support potential liquidity needs in the event of a Netting Member 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 unsatisfied obligations of a common defaulting Participant to the extent they have excess resources of the defaulting Participant. NSCC and DTC are also party to a netting contract and limited cross-guaranty agreement that includes special cross-guaranties and related arrangements designed to permit transactions to flow smoothly between DTC's system and NSCC's CNS system in a collateralized environment. These guaranties reduce risk at NSCC by ensuring that long allocations, or the approximate value of long allocations, will be made available to NSCC in a default situation.

If a DTC Participant defaults, such Participant's deposits to the Participants' Fund would be used 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 in the Participants' Fund or apply a portion of its retained earnings to cover the loss.

Credit risk also comes from the investment of financial assets, which consist principally of cash and cash equivalents, investments, accounts receivable and Participants' and Clearing Funds. 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 FRBNY. The Company's investment policy is designed to limit its 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. 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 credit ratings 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.

## 20. OFF BALANCE SHEET AND CONCENTRATION OF CREDIT RISKS (CONTINUED)

**Marketable securities.** In addition to investing in reverse repurchase agreements, money market funds and bank deposits, the Company also directly invests in U.S. Treasury securities and debt obligations of the U.S. government or those U.S. government agencies guaranteed by the U.S. government, pursuant to its investment policy. Credit risk related to investments in marketable securities involves the risk of nonperformance by the counterparty, which could result in a material loss.

**Accounts receivable.** Credit risk related to accounts receivable involves the risk of non-payment by the counterparty. Credit risk is diversified due to the large number of Participants. The Company also performs ongoing credit evaluations of the financial conditions of its Participants and evaluates the delinquency status of the receivables.

**Participants' Fund and Clearing Funds.** Cash deposits to the Participants' and Clearing Funds are invested in bank accounts that provide same day access to funds.

**Derivatives and hedging.** Derivatives may give rise to counterparty credit risk, which is the risk that a derivative counterparty will default on, or otherwise be unable to perform pursuant to, an uncollateralized derivative exposure. To mitigate derivative credit risk, counterparties are required to be pre-approved and rated as investment grade, and counterparty risk exposures are centrally monitored.

## 21. 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, 2022 and 2021 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 DTCC Parent Company Condensed Statements of Financial Condition follow (in thousands):

| | As of December 31, | |
|---|---|---|
| | 2022 | 2021 |
| **ASSETS:** | | |
| Cash and cash equivalents | $ 1,004,487 | $ 532,060 |
| Investments in subsidiaries | 1,991,521 | 1,784,894 |
| Due from subsidiaries | 276,573 | 423,437 |
| Premises, equipment and intangible assets | 176,158 | 171,890 |
| Operating lease right-of-use asset | 170,533 | 195,937 |
| Other assets | 470,591 | 448,320 |
| TOTAL ASSETS | $ 4,089,863 | $ 3,556,538 |
| | | |
| **LIABILITIES AND SHAREHOLDERS' EQUITY:** | | |
| LIABILITIES: | | |
| Pension and postretirement benefits | $ 130,999 | $ 180,040 |
| Operating lease liability | 221,338 | 243,081 |
| Other liabilities | 469,575 | 203,081 |
| Total liabilities | 821,912 | 626,202 |
| | | |
| **SHAREHOLDERS' EQUITY:** | | |
| Preferred stock | 491,500 | 491,500 |
| Common stock | 5,091 | 5,091 |
| Additional paid-in capital | 411,065 | 411,065 |
| Retained earnings | 2,546,925 | 2,231,213 |
| Accumulated other comprehensive loss, net of tax | (186,630) | (208,533) |
| Total shareholders' equity | 3,267,951 | 2,930,336 |
| TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY | $ 4,089,863 | $ 3,556,538 |

## 21. PARENT COMPANY CONDENSED FINANCIAL STATEMENTS (CONTINUED)

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 estimated 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 2022 and 2021, 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):

| | For the years ended December 31, | |
|---|---|---|
| | 2022 | 2021 |
| REVENUES: | | |
| Equity in earnings of subsidiaries | $ 249,934 | $ 231,482 |
| Interest and other income | 95,593 | 104,118 |
| Total revenues | 345,527 | 335,600 |
| OPERATING EXPENSES (INCOME): | | |
| Professional services | 11,095 | 12,707 |
| Other | (35,618) | 25,541 |
| Total operating (income) expense | (24,523) | 38,248 |
| Income before taxes | 370,050 | 297,352 |
| Provision for income taxes | 37,462 | 5,586 |
| Net income attributable to DTCC | $ 332,588 | $ 291,766 |

## 21. PARENT COMPANY CONDENSED FINANCIAL STATEMENTS (CONTINUED)

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

| | For the years ended December 31, 2022 | For the years ended December 31, 2021 |
|---|---|---|
| CASH FLOWS FROM OPERATING ACTIVITIES: | | |
| Net income | $ 332,588 | $ 291,766 |
| Adjustments to reconcile net income to net cash provided by/(used in) operating activities: | | |
| Equity in earnings of subsidiaries | (249,934) | (231,482) |
| Depreciation and amortization | — | 1,837 |
| Deferred income taxes | 17,592 | 26,771 |
| Other | 20,984 | 8,669 |
| Net change in: | | |
| Due from subsidiaries | 146,864 | (57,536) |
| Operating lease liability | (17,321) | (12,189) |
| Other operating assets and liabilities, net | 505,075 | (80,610) |
| Net cash provided by/(used in) operating activities | 755,848 | (52,774) |
| CASH FLOWS FROM INVESTING ACTIVITIES: | | |
| Investments in subsidiaries | (210,333) | — |
| Distributions from subsidiaries | — | 60,000 |
| Capitalized software development costs and purchases of Premises and equipment | (56,156) | (53,982) |
| Net cash (used in)/provided by investing activities | (266,489) | 6,018 |
| CASH FLOWS FROM FINANCING ACTIVITIES: | | |
| Preferred stock dividend payments | (16,876) | (15,481) |
| Repayments on long-term debt and other borrowings | — | (3,921) |
| Proceeds from issuance of preferred stock, net of issuance costs | — | 490,900 |
| Redemption of preferred stock | — | (400,000) |
| Net cash (used in)/provided by financing activities | (16,876) | 71,498 |
| Effect of foreign exchange rate changes on Cash and cash equivalents | (56) | (11) |
| Net increase in Cash and cash equivalents | 472,427 | 24,731 |
| Cash and cash equivalents - Beginning of year | 532,060 | 507,329 |
| Cash and cash equivalents - End of year | $ 1,004,487 | $ 532,060 |
| SUPPLEMENTAL DISCLOSURES: | | |
| Interest paid | $ 2,788 | $ 2,734 |
| Income taxes paid - net of refunds | $ 5.677 | $ 27,878 |

## 22. SUBSEQUENT EVENTS

The Company evaluated events and transactions occurring after December 31, 2022 through March 27, 2023, the date these consolidated financial statements were available to be issued, for potential recognition or disclosure. No events or transactions occurred during such period that would require recognition or disclosure in these consolidated financial statements.