National Securities Clearing Corporation

Financial Statements as of and for the Years Ended December 31, 2023 and 2022, and Report of Independent Registered Public Accounting Firm

NATIONAL SECURITIES CLEARING CORPORATION

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholder of the
National Securities Clearing Corporation

Opinion on the Financial Statements

We have audited the accompanying statements of financial condition of the National Securities Clearing Corporation (the "Company") as of December 31, 2023 and 2022, the related statements of income, changes in shareholder's equity, and cash flows, and the related footnotes for each of the two years in the period ended December 31, 2023 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2023 and 2022, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2023, in conformity with the accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB and in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

Critical audit matters are matters arising from the current-period audit of the financial statements that were communicated or required to be communicated to the audit committee and that (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. We determined that there are no critical audit matters.

Deloitte & Touche LLP

New York City, New York
February 28, 2024

We have served as the Company's auditor since 2009.

NATIONAL SECURITIES CLEARING CORPORATION

STATEMENTS OF FINANCIAL CONDITION

(In thousands, except share data)	As of December 31, 2023	As of December 31, 2022
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 13,459,115	$ 13,832,897
Participants' segregated cash	57	2,020
Short-term investments	200,000	750,000
Accounts receivable - net of allowance for credit losses	24,276	25,261
Clearing Fund	12,386,378	12,002,310
Other Participants' assets	928	3,434
Other current assets	29,518	25,520
Total current assets	26,100,272	26,641,442
NON-CURRENT ASSETS:		
Premises and equipment - net of accumulated depreciation	2,773	2,870
Intangible assets - net of accumulated amortization	36,863	54,501
Other non-current assets	816	—
Total non-current assets	40,452	57,371
TOTAL ASSETS	$ 26,140,724	$ 26,698,813
LIABILITIES AND SHAREHOLDER'S EQUITY		
CURRENT LIABILITIES:		
Commercial paper - net of unamortized discount	$ 9,076,862	$ 9,109,638
Long-term debt, current portion	398,813	1,997,307
Accounts payable and accrued expenses	291,592	181,561
Clearing Fund	12,386,378	12,002,310
Payable to Participants	985	5,454
Other current liabilities	10,162	7,131
Total current liabilities	22,164,792	23,303,401
OTHER NON-CURRENT LIABILITIES:		
Long-term debt	3,332,961	2,736,286
Other non-current liabilities	5,621	13,710
Total non-current liabilities	3,338,582	2,749,996
Total liabilities	25,503,374	26,053,397
COMMITMENTS AND CONTINGENCIES (Note 2)		
SHAREHOLDER'S EQUITY		
Common stock, \$0.50 par value - 30,000 shares authorized; 20,000 shares issued and outstanding	10	10
Additional paid-in capital	69,442	69,442
Retained earnings	567,898	575,964
Total shareholder's equity	637,350	645,416
TOTAL LIABILITIES AND SHAREHOLDER'S EQUITY	$ 26,140,724	$ 26,698,813

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

NATIONAL SECURITIES CLEARING CORPORATION

STATEMENTS OF INCOME

(In thousands)	For the years ended December 31, 2023	2022
REVENUES		
Clearing services	$ 473,046	$ 540,244
Wealth management services	123,323	120,932
Other services	9,536	8,626
Total revenues	605,905	669,802
EXPENSES		
Employee compensation and related benefits	206,076	195,773
Information technology	69,292	63,307
Professional and other services	136,966	132,758
Occupancy	14,976	15,945
Depreciation and amortization	21,513	20,109
General and administrative	27,891	28,607
Impairment of intangible assets	12,170	1,041
Total expenses	488,884	457,540
Total operating income	117,021	212,262
NON-OPERATING INCOME (EXPENSE)		
Interest income	1,346,699	479,858
Refunds to Participants	(591,938)	(232,944)
Interest expense	(624,742)	(215,160)
Other non-operating income, net	10,170	6,070
Total non-operating income	140,189	37,824
Income before taxes	257,210	250,086
Provision for income taxes	65,276	74,999
Net income	$ 191,934	$ 175,087

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

NATIONAL SECURITIES CLEARING CORPORATION

STATEMENTS OF CHANGES IN SHAREHOLDER'S EQUITY

(In thousands)	**Common Stock**	**Additional Paid-In Capital**	**Retained Earnings**	**Total Shareholder's Equity**
BALANCE - January 1, 2022	$ 10	$ 69,442	$ 500,877	$ 570,329
Common stock dividend	—	—	(100,000)	(100,000)
Net income	—	—	175,087	175,087
BALANCE - December 31, 2022	10	69,442	575,964	645,416
Common stock dividend	—	—	(200,000)	(200,000)
Net income	—	—	191,934	191,934
BALANCE - December 31, 2023	$ 10	$ 69,442	$ 567,898	$ 637,350

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

NATIONAL SECURITIES CLEARING CORPORATION

STATEMENTS OF CASH FLOWS

(In thousands)	**For the years ended December 31, 2023**	**2022**
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net income	$ 191,934	$ 175,087
Adjustments to reconcile net income to net cash provided by/(used in) operating activities:		
Depreciation and amortization	21,513	20,109
Impairment of intangible assets	12,170	1,041
Deferred income taxes	(12,334)	(3,210)
Accretion of discount on Commercial paper, net of associated interest paid	44,323	49,641
Accretion of discount and amortization of debt issuance costs	9,652	7,653
Other	—	25
Net change in:		
Accounts receivable	985	33,375
Other assets	(3,998)	(17,187)
Accounts payable and accrued expenses	10,031	37,555
Other liabilities	4,706	8,193
Clearing Fund liabilities	577,206	(2,739,903)
Payable to Participants	(4,469)	(1,051)
Net cash provided by/(used in) operating activities	851,719	(2,428,672)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchases of Short-term investments	(1,150,000)	(1,645,000)
Maturities of Short-term investments	1,700,000	1,340,000
Capitalized software development costs	(15,948)	(22,634)
Net cash provided by/(used in) investing activities	534,052	(327,634)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Proceeds from Commercial paper	51,467,160	64,675,937
Repayments of Commercial paper	(51,544,259)	(63,907,873)
Repayments on Long-term debt	(2,000,000)	—
Proceeds from issuance of Long-term debt, net of debt issuance costs	990,283	992,683
Dividend on common stock	(100,000)	(170,000)
Net cash (used in)/provided by financing activities	(1,186,816)	1,590,747
Net increase/(decrease) in Cash and cash equivalents, Participants' segregated cash, Clearing Fund cash deposits, Cash in Other Participants' assets	198,955	(1,165,559)
Cash and cash equivalents, Participants' segregated cash, Clearing Fund cash deposits, Cash in Other Participants' assets - Beginning of year	25,040,127	26,205,686
Cash and cash equivalents, Participants' segregated cash, Clearing Fund cash deposits, Cash in Other Participants' assets - End of year	$ 25,239,082	$ 25,040,127
SUPPLEMENTAL DISCLOSURES:		
Interest paid	$ 566,910	$ 151,582
Income taxes paid - net of refunds	$ 71,460	$ 71,400

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

1. BUSINESS AND OWNERSHIP

National Securities Clearing Corporation (NSCC or the Company) is organized as a business corporation under New York law, and is a clearing agency registered with the U.S. Securities and Exchange Commission (SEC). NSCC provides central counterparty (CCP) services, including clearing, settlement and risk management services to its members (referred to herein as its Participants) for trades involving equities, corporate and municipal debt, exchange-traded funds, and unit investment trusts.

NSCC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation (DTCC). Other subsidiaries of DTCC include The Depository Trust Company (DTC), Fixed Income Clearing Corporation (FICC), DTCC ITP LLC, DTCC Deriv/SERV LLC and DTCC Solutions LLC.

NSCC is designated as a Systemically Important Financial Market Utility (SIFMU) 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, which subjects the Company to enhanced standards for risk management, operation and governance, as established by the SEC's Standards for Covered Clearing Agencies (CCAS).

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of presentation. The accompanying financial statements are prepared in accordance with generally accepted accounting principles in the United States of America (U.S. GAAP).

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 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, expense allocations 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. Certain Participants are required by their regulators to segregate a portion of cash and securities in specifically protected accounts on behalf of their clients in a good control location.

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.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

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 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.

Clearing Fund. The rules of NSCC require Participants to maintain deposits related to their respective activities based on calculated requirements. The deposits are available to NSCC to secure Participants' obligations and certain liabilities of the Company. Margin deposits and any additional Participant contributions are maintained within the Clearing Fund on the accompanying 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, cash equivalents and securities. These deposits may be applied to satisfy obligations of the depositing Participant, other Participants, or the Company pursuant to NSCC's rules.

Cash deposits. Deposits and contributions received in the form of cash may only be invested in bank deposit accounts, including Federal Reserve Bank of New York (FRBNY), that provide same day access to funds. All interest earned on investments is accrued and included within Interest income in the accompanying Statements of Income. This interest earned on Clearing Fund is refunded to Participants and is included in Refunds to Participants in the accompanying Statements of Income.

Securities on deposit. 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 NSCC's rules.

Other Participants' assets and Payable to Participants. Consists of residual cash available for end-of-day settlement activity and any ongoing outstanding obligations of members. Such cash is included in Other Participants' assets, with a corresponding liability recorded in Payable to Participants, on the accompanying Statements of Financial Condition.

Premises and equipment. Premises and equipment are stated at cost, net of accumulated depreciation. Routine maintenance, repairs and replacement costs are expensed as incurred, 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 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
Building and improvements	7 - 39 years	Straight-line

Depreciation expense for buildings and improvements is included in Depreciation and amortization in the accompanying Statements of Income.

Intangible assets. Intangible assets represent 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.

Intangible assets are reviewed for impairment whenever events or changes in circumstances indicate the related carrying amount may not be recoverable. Intangible assets are amortized over estimated useful life of three years using the straight-line method.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

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 the Company, are available to enable NSCC 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 and are amortized over the term of the financing using the straight-line method. These costs are generally recorded as a direct deduction from the carrying amount of the related debt liability on the Statements of Financial Condition.

Derivatives and hedging. The Company uses derivatives for hedging purposes to manage it 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 its 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 notes being hedged through interest rate swaps.

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 Statements of Financial Condition, Income or Cash Flows.

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 entity expects to be entitled, upon satisfaction, in exchange for those services.

The Company derives its revenue from transaction fees, subscription revenue, and usage fees. Revenue from transaction fees is billed monthly and calculated based on the number 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 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 Statements of Income follow:

Clearing services. Revenue derived from this revenue stream is in the form of transaction fees that are based on either the volume or value of trading activity. Services include the clearing and settlement of equity, corporate and municipal bond and unit investment trust transactions.

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

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.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Expense allocations. Substantially all expenses are recorded at DTCC and are allocated to its subsidiaries, including NSCC, based upon their estimated use of such goods or services as determined by various allocation factors including level of support provided and utilization of technology resources. Accordingly, the expenses in the accompanying Statements of Income represent allocated costs including Employee compensation and related benefits, Information technology, Professional and other services, Occupancy and General and administrative.

Income taxes. The Provision for income taxes is computed using the asset and liability method. The current tax payable is based on taxable income for the year. Taxable income differs from Income before taxes as reported in the accompanying Statement 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 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 Statements of Financial Condition. The Company provides 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. These provisions, along with the interest and penalties are included in the other non-current liabilities in the accompanying Statements of Financial Condition.

Reconciliation of Cash and cash equivalents and other limited use cash. When reconciling the beginning and ending total amounts shown in the Statements of Cash Flows, the Company includes all cash on the Statements of Financial Condition, regardless of which line it is included. The Statement 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, Clearing Fund cash deposits and Cash in Other Participants' assets.

A reconciliation of Cash and cash equivalents, Participants' segregated cash, Clearing Fund cash deposits, and Cash in Other Participants' assets, reported within the Statements of Financial Condition that sum to the total of the same such amounts shown on the accompanying Statements of Cash Flows as of December 31, 2023 and 2022 follow (in thousands):

	2023	2022
Cash and cash equivalents	$ 13,459,115	$ 13,832,897
Participants' segregated cash	57	2,020
Clearing Fund cash deposits (see Note 4)	11,778,982	11,201,776
Cash in Other Participants' assets	928	3,434
Total Cash and cash equivalents, Participants' segregated cash, Clearing Fund cash deposits and Cash in Other Participants' assets shown on the Statements of Cash Flows	$ 25,239,082	$ 25,040,127

Common stock dividend. On December 14, 2022, the Board of Directors approved a dividend in the amount of $100 million from NSCC to DTCC, which was paid on March 24, 2023. On December 20, 2023, the Board of Directors approved a dividend in the amount of $200 million from NSCC to DTCC. The dividend is included in Accounts payable and accrued expense on the accompanying Statement of Financial Condition, and has been paid on January 8, 2024.

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. At this time, the Company has not experienced any material adverse financial impacts from these events and crises.

3. ACCOUNTING AND REPORTING DEVELOPMENTS

Standard	Description	Impact on the financial statements or other significant matters
Financial Accounting Standards Board Standard Issued, but not yet Adopted		
ASU 2023-09 - Income Taxes (Topic 740): Improvements to Income Tax Disclosures *Issued December 2023*	• Enhances disclosures related to the rate reconciliation and income taxes paid. The amendment requires consistent categories and greater disaggregation of information in the rate reconciliation and income taxes paid disaggregated by jurisdiction. • The amendment requires disclosures of pretax income (or loss) and income tax expense (or benefit) to be consistent with the SEC Regulation S-X 210.4-08(h), Rules of General Application—General Notes to Financial Statements: Income Tax Expense, and eliminates disclosures that no longer are considered cost beneficial or relevant.	• Effective January 1, 2025. • The adoption of the standard will not have a material impact on the Company's financial statements and related disclosures.

4. CLEARING FUND

Details for the Clearing Fund deposits as of December 31, 2023 and 2022 follow (in thousands):

	2023	2022
Total deposits	$ 12,386,378	$ 12,002,310
Less: Required deposits	8,349,399	10,817,731
Excess deposits	$ 4,036,979	$ 1,184,579

Cash and Securities. Details for cash and securities of the Clearing Fund, which may be applied to satisfy obligations of the depositing Participant, other Participants, or the Company pursuant to NSCC's rules, as of December 31, 2023 and 2022 follow (in thousands):

	2023	2022
Cash and cash equivalents[1]	$ 11,778,982	$ 11,201,776
U.S. Treasury Securities	607,396	800,534
Total	$ 12,386,378	$ 12,002,310

(1) The Company's cash and cash equivalents of the Clearing Fund are all bank deposits as of December 31, 2023 and 2022.

5. PREMISES AND EQUIPMENT

The cost, accumulated depreciation and net book value of Premises and equipment as of December 31, 2023 and 2022 follow (in thousands):

	2023	2022
Buildings and improvements	$ 3,786	$ 3,786
Land	840	840
Total Premises and equipment	4,626	4,626
Less: Accumulated depreciation	(1,853)	(1,756)
Net book value	$ 2,773	$ 2,870

Depreciation expense for premises and equipment for the years ended December 31, 2023 and 2022 was $97,000 and $98,000, respectively, and is included in Depreciation and amortization in the accompanying Statements of Income.

6. INTANGIBLE ASSETS

The gross carrying value, accumulated amortization and net book value of capitalized software as of December 31, 2023 and 2022 follow (in thousands):

	2023	2022
Gross carrying value capitalized software	$ 94,668	$ 115,313
Less: Accumulated amortization	(57,805)	(60,812)
Capitalized software, net	$ 36,863	$ 54,501

Amortization expense for capitalized software for the years ended December 31, 2023 and 2022 was $21,416,000 and $20,011,000, respectively, and is included in Depreciation and amortization in the accompanying Statements of Income.

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

2024	$ 15,216
2025	12,440
2026	7,607
2027	1,600
2028	—
Thereafter	—
Total future estimated amortization	$ 36,863

During the years ended December 31, 2023 and 2022, disposals of fully amortized capitalized software resulted in the removal of cost and accumulated amortization of $16,713,000 and $6,090,000, respectively.

The Company recognized impairment charges of $12,170,000 and $1,041,000 related to capitalized software for the years ended December 31, 2023 and 2022, respectively. The impairment charges are included in Impairment of intangible assets in the accompanying Statements of Income.

6. INTANGIBLE ASSETS (CONTINUED)

During the year ended December 31, 2023, the Company recognized the following impairments of internally developed software related to these projects:

The Securities Financing Transactions project experienced delays in revenues and a significant reduction in revenue projections compared to the original forecast triggering an evaluation for impairment. The evaluation concluded that the $11,914,000 carrying value of its internally developed software was not recoverable and exceeded its fair value.

The Analytics and Reporting Management - Data Lineage project experienced a change in strategy due to gaps in technology and increased costs triggering an evaluation for impairment. The evaluation concluded that the $256,000 carrying value of its internally developed software was not recoverable and exceeded its fair value.

During the year ended December 31, 2022, the Company recognized impairments of internally developed software related to the Common Matching project due to a change in strategy that resulted in a reprioritization of efforts triggering an evaluation for impairment. The evaluation concluded that the $1,041,000 carrying value of its internally developed software was not recoverable and exceeded its fair value.

7. COMMERCIAL PAPER

Details for Commercial paper as of December 31, 2023 and 2022 follow (in thousands):

	2023	2022
Commercial paper - net of unamortized discount of $92,370 and $27,750 as of December 31, 2023 and 2022, respectively	$ 9,076,862	$ 9,109,638
Weighted-average interest rate	5.46 %	4.11 %

Interest expense on Commercial paper, included in Interest expense in the accompanying Statements of Income, was $481,691,000 and $158,761,000 for the years ended December 31, 2023 and 2022, respectively.

8. LONG-TERM DEBT

Details for Long-term debt as of December 31, 2023 and 2022 follow (in thousands):

	2023	2022
Senior notes - net of unamortized discount and debt issuance costs	$ 3,731,774	$ 4,733,593
Less: Current portion of long-term debt	(398,813)	(1,997,307)
Non-current portion of long-term debt	$ 3,332,961	$ 2,736,286

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

2024	$ 400,000
2025	2,150,000
2026	—
2027	600,000
2028	600,000
Thereafter	—
Total	$ 3,750,000

8. LONG-TERM DEBT (CONTINUED)

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, 2023 follow (in thousands):

Issue Date	Maturity	Payable	Rate	Principal Balance	Carrying Value
April 23, 2020	April 23, 2025	Semi-annually	1.50%	$ 1,000,000	$ 997,792
December 7, 2020	December 7, 2025	Semi-annually	0.75%	750,000	747,231
November 21, 2022	November 21, 2024	Semi-annually	5.05%	400,000	398,813
November 21, 2022	November 21, 2027	Semi-annually	5.10%	600,000	597,560
May 30, 2023	May 30, 2025	Semi-annually	5.15%	400,000	398,185
May 30, 2023	May 30, 2028	Semi-annually	5.00%	600,000	592,193
				$ 3,750,000	$ 3,731,774

Interest expense and amortization of discount and issuance costs, included in Interest expense in the accompanying Statements of Income, were $118,201,000 and $49,933,000 for the years ended December 31, 2023 and 2022, respectively. The weighted-average interest rate was 3.25% and 1.84% as of December 31, 2023 and 2022, respectively. The aggregate unamortized debt issuance costs and discount associated with the senior notes were $17,915,000 and $17,850,000, as of December 31, 2023 and 2022, respectively.

Fair value hedge. The Company uses interest rate swaps to hedge the fair value of related fixed-rate senior notes. The Company designated the interest rate swaps as a fair value hedge of the related long-term debt and applied the short-cut method for hedge accounting purposes. The fair value of interest rate swaps are included in other assets or other liabilities in the accompanying Statement of Financial Condition.

Details of the outstanding fair value hedges as of December 31, 2023 and 2022 follow (in thousands):

Date Entered	Notional of Swap	Debt Amount Hedged	Fixed Rate Receivable	Floating Rate Payable	Fair Value in Other Assets / (Other Liabilities)	
					2023	2022
November 21, 2022	$ 600,000	$ 600,000	5.10 %	USD-Federal Funds-OIS Compound plus 1.365%	$ 1,184	$ 1,443
May 30, 2023	$ 600,000	$ 600,000	5.00 %	USD-Federal Fund-OIS Compound plus 1.4621%	(1,495)	—
					$ (311)	$ 1,443

Interest rate swaps may expose the Company to credit-related losses in the events of nonperformance by its counterparty. Credit risk is monitored on an ongoing basis. See Note 15, Off Balance Sheet and Concentrations of Credit Risks, for the Company's concentration of credit risk related to interest rate swaps.

8. LONG-TERM DEBT (CONTINUED)

Line of credit. The Company maintains a committed line of credit, pursuant to NSCC's rules, to support settlement of its payment obligations in the event any of its Participants default. Details for the terms of the outstanding line of credit as of December 31, 2023 and 2022 follow:

	2023	2022
Committed Amount	$9.5 billion	$10.0 billion
Number of Participants/Lenders	29/35	30/36
Borrowing Rate	The greatest of the FRBNY rate, Adjusted Daily Secure Overnight Financing Rate (SOFR), or zero on the day of borrowing, plus 1.40%	The greatest of the FRBNY rate, Adjusted Daily Secure Overnight Financing Rate (SOFR), or zero on the day of borrowing, plus 1.40%
Maturity Date	April 2024	May 2023
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 Statements of Income.

There were no borrowings under the line of credit during 2023 and 2022.

Details for debt covenants related to the line of credit as of December 31, 2023 and 2022 follow:

	2023	2022
Minimum Net Worth	$200 million	$200 million
Minimum Clearing Fund deposits	$1.5 billion	$1.5 billion

As of December 31, 2023 and 2022, the Company was in compliance with its debt covenants.

Credit Ratings. The Company is 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 the Company as of December 31, 2023 follow:

Moody's (1)			S&P		
Long-term	**Short-term**	**Outlook**	**Long-term**	**Short-term**	**Outlook**
Aaa	P-1	Negative	AA+	A-1+	Stable

(1) Moody's categorizes the long-term issuer ratings of the Company as a clearing counterparty rating (CCR) under the agency's Clearing Houses Rating Methodology.

9. 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 descriptions 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 - Clearing Fund - Securities on deposit		
U.S. Treasury Securities	Quoted market price of identical assets obtained from pricing services engaged by the Company.	Level 1
Assets - Clearing Fund - Cash deposits		
Money market fund investments	Quoted market price of identical assets obtained from pricing services engaged by the Company.	Level 1
Assets - Other assets / Liabilities - Other liabilities		
Interest rate swaps	The fair value derived from discounted future cash flows using contractual terms like notional amount, coupon rates and observable market inputs and estimates	Level 2
Liabilities - Clearing Fund - Securities on deposit and Cash deposits - Money market fund investments		
Clearing Fund liabilities	Derived from the corresponding Clearing Fund assets (see above).	Level 1

9. FAIR VALUE MEASUREMENTS (CONTINUED)

Fair value measurements for those items measured on a recurring basis as of December 31, 2023 and 2022 are summarized below (in thousands):

	2023			
	Level 1	**Level 2**	**Level 3**	**Total**
Assets:				
Clearing Fund				
U.S. Treasury Securities	$ 607,396	$ —	$ —	$ 607,396
Total	$ 607,396	$ —	$ —	$ 607,396
Liabilities:				
Clearing Fund				
Securities liabilities	$ 607,396	$ —	$ —	$ 607,396
Other non-current liabilities				
Interest rate swaps	—	311	—	311
Total	$ 607,396	$ 311	$ —	$ 607,707

	2022			
	Level 1	**Level 2**	**Level 3**	**Total**
Assets:				
Clearing Fund				
U.S Treasury Securities	$ 800,534	$ —	$ —	$ 800,534
Other current assets				
Interest rate swaps	—	1,443	—	1,443
Total	$ 800,534	$ 1,443	$ —	$ 801,977
Liabilities:				
Clearing Fund				
Securities liabilities	$ 800,534	$ —	$ —	$ 800,534
Total	$ 800,534	$ —	$ —	$ 800,534

There were no transfers between levels within the fair value hierarchy, nor were any amounts classified as Level 3 during the years ended December 31, 2023 and 2022.

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, Clearing Fund - Cash deposits - Bank deposits (and corresponding liabilities), Other Participants' assets, Commercial paper, Payable to Participants, and Long-term debt.

9. 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 Statements of Financial Condition as of December 31, 2023 and 2022 follow (in thousands):

	2023				
	Carrying Amount	Total Fair Value	Level 1	Level 2	Level 3
Assets:					
Cash and cash equivalents	$13,459,115	$13,459,115	$13,459,115	$ —	$ —
Participants' segregated cash	57	57	57	—	—
Short-term investments	200,000	200,000	—	200,000	—
Clearing Fund:					
Cash deposits - Bank deposits	11,778,982	11,778,982	11,778,982	—	—
Other Participants' assets	928	928	928	—	—
Total	$25,439,082	$25,439,082	$25,239,082	$ 200,000	$ —
Liabilities:					
Commercial paper	$ 9,076,862	$ 9,076,862	$ —	$ 9,076,862	$ —
Clearing Fund:					
Cash deposits - Bank deposits	11,778,982	11,778,982	11,778,982	—	—
Payable to Participants	985	985	985	—	—
Long-term debt	3,731,774	3,682,992	—	3,682,992	—
Total	$24,588,603	$24,539,821	$11,779,967	$12,759,854	$ —

	2022				
	Carrying Amount	Total Fair Value	Level 1	Level 2	Level 3
Assets:					
Cash and cash equivalents	$ 13,832,897	$ 13,832,897	$ 13,832,897	$ —	$ —
Participants' segregated cash	2,020	2,020	2,020	—	—
Short-term investments	750,000	750,000	—	750,000	—
Clearing Fund:					
Cash deposits - Bank deposits	11,201,776	11,201,776	11,201,776	—	—
Other Participants' assets	3,434	3,434	3,434	—	—
Total	$ 25,790,127	$ 25,790,127	$ 25,040,127	$ 750,000	$ —
Liabilities:					
Commercial paper	$ 9,109,638	$ 9,109,638	$ —	$ 9,109,638	$ —
Clearing Fund:					
Cash deposits - Bank deposits	11,201,776	11,201,776	11,201,776	—	—
Payable to Participants	5,454	5,454	5,454	—	—
Long-term debt	4,733,593	4,570,058	—	4,570,058	—
Total	$ 25,050,461	$ 24,886,926	$ 11,207,230	$ 13,679,696	$ —

Assets and liabilities measured at fair value on a non-recurring basis. There were no financial assets or liabilities measured at fair value on a non-recurring basis during the years ended December 31, 2023 and 2022.

10. RETIREMENT PLANS

Defined contribution retirement plans. Eligible U.S. DTCC employees participate in one of two defined contribution plans, 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 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.

Defined benefit pension and other postretirement benefit plans. Eligible DTCC employees participate in DTCC's non-contributory defined benefit pension and other postretirement plans, which provide for certain benefits upon retirement. DTCC's sponsored non-contributory plans include a defined benefit pension plan, supplemental executive retirement plan and benefit restoration plan. The other postretirement plans include retiree medical and life insurance plans for eligible retired employees and their beneficiaries.

Cost allocation. DTCC allocates the cost of these plans to its subsidiaries based primarily upon the estimated proportion of each subsidiary's salary cost relative to DTCC's total salary cost. The defined contribution retirement plans costs allocated to NSCC were expense of $11,048,000 and $11,557,000 for the years ended December 31, 2023 and 2022, respectively, and are included in Employee compensation and related benefits in the accompanying Statements of Income. The defined benefit pension and other postretirement benefit plans costs allocated to NSCC were income of $887,000 and expense of $507,000 for the years ended December 31, 2023 and 2022, respectively, and are included in Employee compensation and related benefits, Interest expense, and Other non-operating income, net, in the accompanying Statements of Income.

Details for defined benefit pension and other postretirement benefit plans (income)/costs for the years ended December 31, 2023 and 2022 follow (in thousands):

	2023	2022
Employee compensation and related benefits	$ (354)	$ 520
Interest expense	9,637	6,056
Other non-operating income	(10,170)	(6,069)
Defined benefit pension and other postretirement benefit plans (income)/cost, net	$ (887)	$ 507

11. INCOME TAXES

NSCC is included in DTCC's consolidated Federal and certain state tax returns. NSCC also files other state tax returns on a separate company basis.

Details for the components of the Company's Provision (Benefit) for income taxes calculated on a separate company basis for the years ended December 31, 2023 and 2022 follow (in thousands):

	2023	2022
Current income tax/(benefit):		
Federal	$ 59,023	$ 49,044
State and local	18,587	29,165
Total current income tax/(benefit)	77,610	78,209
Deferred income tax/(benefit):		
Federal	(8,041)	(2,526)
State and local	(4,293)	(684)
Total deferred income tax/(benefit)	(12,334)	(3,210)
Provision for income taxes	$ 65,276	$ 74,999

11. INCOME TAXES (CONTINUED)

Pursuant to a tax sharing agreement between DTCC and NSCC, the Company is liable for its allocable share of Federal, state and local tax liabilities that are paid by DTCC. The Company paid income taxes to DTCC, net of refunds, amounting to $71,460,000 and $71,400,000 for 2023 and 2022, respectively.

The 2023 and 2022 effective tax rates differ from the 21% Federal statutory rate, primarily due to state and local taxes, and changes in unrecognized tax benefits. 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, 2023 and 2022 follow:

	2023	2022
U.S. statutory tax rate	21.0 %	21.0 %
State and local income taxes, net of Federal tax benefit	4.6	8.3
Change in unrecognized tax benefits	0.2	0.8
Other	(0.4)	(0.1)
Effective tax rate	25.4 %	30.0 %

Details for the components of deferred tax assets and liabilities as of December 31, 2023 and 2022 follow (in thousands):

	2023	2022
Deferred tax assets:		
Capitalized software	$ 3,791	$ —
Deferred rent	1,944	3,999
Depreciation and amortization	3,606	3,905
Other	942	271
Total deferred tax assets	10,283	8,175
Deferred tax liabilities:		
Capitalized software	—	(10,411)
Accrued compensation and benefits	(9,467)	(9,282)
Total deferred tax liabilities	(9,467)	(19,693)
Net deferred tax assets/(liabilities)	$ 816	$ (11,518)

The deferred tax assets are expected to be fully realized and, accordingly, no valuation allowance was established as of December 31, 2023 and 2022.

Details for unrecognized tax benefits as of December 31, 2023 and 2022 follow (in thousands):

	2023	2022
Beginning balance	$ 1,747	$ —
Increases:		
Prior period tax positions	1,908	1,747
Current period tax positions	1,065	—
Ending balance	$ 4,720	$ 1,747

In addition, the Company classifies interest and penalties related to unrecognized tax benefits, if incurred, in Provision for income taxes in its accompanying Statements of Income. As of December 31, 2023 and 2022, accrued interest related to unrecognized tax benefits recorded on the accompanying Statements of Financial Condition totaled $591,000 and $445,000, respectively.

11. 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.

Details for the periods currently under examination and remaining subject to examination by jurisdiction as of December 31, 2023 follow:

	Tax Years	
Jurisdiction	**Under Examination**	**Subject to Examination**
U.S. Federal - Internal Revenue Service	-	2020 - 2022
New York State	-	2020 - 2022
New York City	2015 - 2017	2020 - 2022
State of Florida	2017 - 2019	2020 - 2022
State of California	2017 - 2018	2020 - 2022
State of New Jersey	2019 - 2021	2022

12. 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 NSCC 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 Company can continue operations and provide services as a going concern if those losses materialize. It is determined based on the Company's general business risk profile and estimated time to execute a recovery or orderly wind-down of critical operations and, at a minimum, is equal to six months of operating expenses.

Corporate Contribution. The corporate contribution is applied to losses of the Company as provided in NSCC's rules. The amount of the corporate contribution is generally equal to 50% of the Company's general business risk capital requirement.

Details for the general business risk capital requirement, corporate contribution and liquid net assets funded by equity for the Company as of December 31, 2023 and 2022 follow (in thousands):

	2023	2022
General business risk capital requirement	$ 270,191	$ 224,590
Corporate contribution	135,096	112,295
Total requirement	405,287	336,885
Liquid net assets funded by equity	637,350	645,416
Excess	$ 232,063	$ 308,531

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13. TRANSACTIONS WITH RELATED PARTIES

In the ordinary course of the business, the Company enters into significant related party transactions with DTCC and its other subsidiaries.

Transactions with DTCC. NSCC has an agreement with DTCC whereby DTCC pays for substantially all of the operational expenses of NSCC, and, from time-to-time, purchases of long-term assets acquired by DTCC on behalf of NSCC. The related expenses are allocated to NSCC based upon its estimated use of such goods or services. Further, the agreement provides that DTCC performs credit and quantitative risk services, and certain other services for NSCC including administrative, internal audit, finance and legal services. For the years ended December 31, 2023 and 2022, the billing for these services amounted to the allocated expenses plus an 8% and 8% mark-up fee, respectively, excluding charges passed through to Participants and capitalized software costs. The mark-up fee, representing the amount in excess of the actual cost, is included in Professional and other services in the accompanying Statements of Income.

Transactions with DTCC Solutions LLC. DTCC Solutions LLC sells data products including referential and activity-based data, security reference and benchmark analytics, on behalf of NSCC. All of the revenue from the sales is billed back to NSCC and is included in Other services in the accompanying Statements of Income. The associated expenses incurred, plus a 5% mark-up fee, are also billed back to NSCC, and these related expenses are included in substantially all of the operational expenses of NSCC, in the accompanying Statements of Income.

Details for related party transactions for 2023 and 2022 follow (in thousands):

	Revenues (2)		Expenses		Payables/(Receivables) (3)	
	For the years ended December 31,		For the years ended December 31,		As of December 31,	
Related parties	**2023**	**2022**	**2023**	**2022**	**2023**	**2022**
DTCC (1)	$ —	$ —	$ 34,212	$ 32,164	$ 39,488	$ 46,809
DTCC Solutions LLC	9,498	8,477	4,589	4,709	(390)	(230)
Total	$ 9,498	$ 8,477	$ 38,801	$ 36,873	$ 39,098	$ 46,579

(1) DTCC expenses represent the 8% and 8% mark-up fee for services described above.
(2) Included in Other services in the accompanying Statements of Income.
(3) Included in Accounts payable and accrued expenses on the accompanying Statements of Financial Condition.

14. GUARANTEES

NSCC provides CCP services, including clearing, settlement and risk management services. Acting as a CCP, NSCC guarantees the settlement of trades in the event one or more of its Participants defaults. A Participant default is defined in NSCC's Rules. In its guarantor role, NSCC has equal claims to and from Participants on opposite sides of netted transactions. To cover its default risk, NSCC uses risk-based margining to determine Participants' required cash and eligible securities deposits to its Clearing Fund, which are collected at the start of each business day and may also be collected on an intraday basis.

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.

14. GUARANTEES (CONTINUED)

Details for NSCC's open positions for which a trade guaranty applied as of December 31, 2023 and 2022 follow (in billions):

	2023	2022
NSCC	$ 197	$ 166

There were no defaults by Participants to these obligations in 2023 and 2022.

If a Participant defaults, such Participant's deposits to the Clearing Fund is the first source of funds and collateral that NSCC would use to cover any losses that may result from the close-out and liquidation of the defaulting Participant's positions. NSCC may also use amounts that may be available to it under applicable agreements with other registered clearing agencies that relate to the guaranty by one or more clearing agency parties of certain obligations of a defaulting Participant to other clearing agency parties. NSCC is currently party to two such agreements. NSCC is party to a netting contract and limited cross-guaranty with DTC relating to collateralization across the NSCC-DTC interface. NSCC is also party to a multilateral netting contract and limited cross-guaranty agreement with DTC, FICC and The Options Clearing Corporation (OCC). In accordance with this multilateral netting agreement, the clearing agencies have agreed to make payments to each other for unsatisfied obligations of a common defaulting Participant to the extent that these clearing agencies have excess resources belonging to the defaulting Participants.

If NSCC incurs a loss resulting from the liquidation of a defaulting Participant and there is still a deficit after applying such Participant's deposits to the Clearing Fund (along with any other resources of, or attributable to, the defaulting Participant that NSCC may access under NSCC's rules), NSCC would, in accordance with NSCC's rules, satisfy this deficit by applying the corporate contribution, (see Note 12), or such greater amount as the Board of Directors may determine, before allocating any remaining loss to Participants.

For purposes of loss allocation, 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, 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.

15. OFF BALANCE SHEET AND CONCENTRATION OF CREDIT RISKS

As a CCP, NSCC is exposed to significant credit risk to third parties including its Participants, which extends to companies within the global financial services industry. 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 operations. NSCC's global Participant base includes participating brokers, dealers, banks, mutual fund companies, insurance carriers and other financial intermediaries.

Credit risk also comes from the investment of financial assets, which consist principally of cash and cash equivalents, investments, accounts receivable and the Clearing Fund. 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 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 having 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 in such financial institutions may be adjusted.

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

Marketable securities. The Company may invest in reverse repurchase agreements, money market funds, bank deposits, and directly 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.

Clearing Fund. Cash deposits to the NSCC Clearing Fund are invested in bank accounts that provide same day access to funds.

The Company is exposed to credit risk on a daily basis. This risk arises at NSCC as it guarantees certain obligations of its Participants under specified circumstances pursuant to its rules. 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 NSCC 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 trading activity and determining appropriate collateral requirements; maintaining its risk-based Clearing Fund; netting trades continuously; marking unsettled trades to market; and utilizing quantitative analytical tools.

To become a Participant, an applicant must meet minimum eligibility criteria that are specified in the Company's rules. All applicants must provide the Company with certain financial and operational information to be a Participant. This information is reviewed to ensure the applicant has sufficient financial resources to make anticipated contributions to the Clearing Fund and to meet its obligations to the Company. 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 Clearing Fund requirements.

The Company collects Clearing Fund deposits from its Participants using a risk-based margin methodology. The risk-based methodology enables the Company 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 that the monitoring may reveal.

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.

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

The Company also limits its exposure to potential losses from a Participant default through a multilateral netting contract and limited cross-guaranty agreement with DTC, FICC and OCC, under which these clearing agencies have agreed to make payments to each other for unsatisfied obligations of a common defaulting Participant. This arrangement is 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 is also party to a netting contract and limited cross-guaranty agreement with DTC, which includes special cross-guaranties and related arrangements designed to permit transactions to flow smoothly between DTC's system and the 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.

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.

16. SUBSEQUENT EVENTS

The Company evaluated events and transactions occurring after December 31, 2023 through February 28, 2024, the date these financial statements were available to be issued, for potential recognition or disclosure. No events or transactions, other than the one mentioned in Note 2, occurred during such period that would require recognition or disclosure in these financial statements.