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

FORM 10-Q

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the Quarterly Period Ended March 31, 2020

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission File No. 001-36609

NORTHERN TRUST CORPORATION

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

36-2723087

(I.R.S. Employer
Identification No.)

50 South LaSalle Street
Chicago, Illinois
(Address of principal executive offices)

60603
(Zip Code)

Registrant's telephone number, including area code: (312) 630-6000

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

<u>Title of each class</u>	<u>Trading Symbol</u>	<u>Name of each exchange on which registered</u>
Common Stock, \$1.66 2/3 Par Value	NTRS	The NASDAQ Stock Market LLC
Depository Shares, each representing 1/1,000th interest in a share of Series E Non-Cumulative Perpetual Preferred Stock	NTRSO	The NASDAQ Stock Market LLC

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

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

At March 31, 2020, 208,052,036 shares of common stock, \$1.66 2/3 par value, were outstanding.

NORTHERN TRUST CORPORATION
QUARTERLY REPORT ON FORM 10-Q
FOR THE QUARTERLY PERIOD ENDED MARCH 31, 2020

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**CONSOLIDATED FINANCIAL HIGHLIGHTS
(UNAUDITED)**

CONDENSED INCOME STATEMENTS (In Millions)	THREE MONTHS ENDED MARCH 31,		
	2020	2019	% CHANGE ⁽¹⁾
Noninterest Income	\$ 1,179.6	\$ 1,058.9	11%
Net Interest Income	408.1	422.0	(3)
Provision for Credit Losses	61.0	—	N/M
Noninterest Expense	1,065.6	1,028.7	4
Income before Income Taxes	461.1	452.2	2
Provision for Income Taxes	100.5	105.1	(4)
Net Income	\$ 360.6	\$ 347.1	4%

PER COMMON SHARE

Net Income — Basic	\$ 1.56	\$ 1.49	5%
— Diluted	1.55	1.48	5
Cash Dividends Declared Per Common Share	0.70	0.60	17
Book Value — End of Period (EOP)	48.04	44.72	7
Market Price — EOP	75.46	90.41	(17)

SELECTED BALANCE SHEET DATA (In Millions)	MARCH 31, 2020	DECEMBER 31, 2019	% CHANGE ⁽¹⁾
<i>End of Period:</i>			
Assets	\$ 161,709.2	\$ 136,828.4	18%
Earning Assets	145,322.7	125,236.6	16
Deposits	131,491.2	109,120.6	21
Stockholders' Equity	10,879.7	11,091.0	(2)

Average Balances:	THREE MONTHS ENDED MARCH 31,		
	2020	2019	% CHANGE ⁽¹⁾
Assets	\$ 124,170.5	\$ 119,416.7	4%
Earning Assets	110,611.3	110,672.2	—
Deposits	95,085.8	91,369.8	4
Stockholders' Equity	10,787.0	10,428.8	3

CLIENT ASSETS (In Billions)	MARCH 31, 2020	DECEMBER 31, 2019	% CHANGE ⁽¹⁾
Assets Under Custody/Administration ⁽²⁾	\$ 10,876.6	\$ 12,050.4	(10)%
Assets Under Custody	8,254.7	9,233.5	(11)
Assets Under Management	1,119.3	1,231.3	(9)

⁽¹⁾ Percentage calculations are based on actual balances rather than the rounded amounts presented in the Consolidated Financial Highlights.

⁽²⁾ For the purposes of disclosing Assets Under Custody/Administration, to the extent that both custody and administration services are provided, the value of the assets is included only once.

SELECTED RATIOS AND METRICS

THREE MONTHS ENDED MARCH 31,
2020 2019

Financial Ratios:

Return on Average Common Equity	13.4%	14.0%
Return on Average Assets	1.17	1.18
Dividend Payout Ratio	45.2	40.5
Net Interest Margin ⁽¹⁾	1.51	1.58

MARCH 31, 2020 DECEMBER 31, 2019

Capital Ratios:

Northern Trust Corporation

	STANDARDIZED APPROACH	ADVANCED APPROACH	STANDARDIZED APPROACH	ADVANCED APPROACH	WELL- CAPITALIZED RATIOS	MINIMUM CAPITAL RATIOS
Common Equity Tier 1 Capital	11.7%	12.9%	12.7%	13.2%	N/A	4.5%
Tier 1 Capital	12.8	14.1	14.5	15.0	6.0	6.0
Total Capital	14.5	15.7	16.3	16.8	10.0	8.0
Tier 1 Leverage	8.1	8.1	8.7	8.7	N/A	4.0
Supplementary Leverage	N/A	7.2	N/A	7.6	N/A	3.0

The Northern Trust Company

Common Equity Tier 1 Capital	12.0%	13.5%	12.3%	13.0%	6.5%	4.5%
Tier 1 Capital	12.0	13.5	12.3	13.0	8.0	6.0
Total Capital	13.6	14.9	14.0	14.6	10.0	8.0
Tier 1 Leverage	7.6	7.6	7.3	7.3	5.0	4.0
Supplementary Leverage	N/A	6.8	N/A	6.4	3.0	3.0

⁽¹⁾ Net interest margin is presented on a fully taxable equivalent (FTE) basis, a non-generally accepted accounting principle (GAAP) financial measure that facilitates the analysis of asset yields. The net interest margin on a GAAP basis and a reconciliation of net interest income on a GAAP basis to net interest income on an FTE basis are presented on page 28.

PART I – FINANCIAL INFORMATION

Items 2. and 3. Management’s Discussion and Analysis of Financial Condition and Results of Operations and Quantitative and Qualitative Disclosures about Market Risk

FIRST QUARTER CONSOLIDATED RESULTS OF OPERATIONS

General

Northern Trust Corporation (Corporation) is a leading provider of wealth management, asset servicing, asset management and banking solutions to corporations, institutions, families and individuals. The Corporation focuses on managing and servicing client assets through its two client-focused reporting segments: Corporate & Institutional Services (C&IS) and Wealth Management. Asset management and related services are provided to C&IS and Wealth Management clients primarily by the Asset Management business. Except where the context requires otherwise, the terms “Northern Trust,” “we,” “us,” “our,” “its,” or similar terms mean the Corporation and its subsidiaries on a consolidated basis.

The following should be read in conjunction with the consolidated financial statements and related footnotes included in this report. Investors also should read the section entitled “Forward-Looking Statements.”

Overview

During the first quarter of 2020, the COVID-19 global pandemic presented health and economic challenges on an unprecedented scale. During this time, Northern Trust continued to look after the health and safety of its employees, serve its clients, and support its communities. The global business resiliency plan was implemented, with the vast majority of staff working remotely and continuing to maintain Northern Trust’s high level of service and execution. The impacts of recent conditions are not fully reflected in the current quarter due to the quarter-lag and month-lag nature of Northern Trust’s trust, investment and other servicing fees and the timing of recent declines in short-term interest rates. Accordingly, revenue in future periods is expected to be impacted further by recent market events. In addition, our provision for credit losses in the future could be impacted to the extent that actual market and economic conditions deteriorate faster or greater than our forecasts. Key income statement drivers for the first quarter are highlighted below.

Net income per diluted common share increased in the current quarter to \$1.55 from \$1.48 in the first quarter of 2019. Net income increased to \$360.6 million in the current quarter as compared to \$347.1 million in the prior-year quarter. Annualized return on average common equity was 13.4% in the current quarter and 14.0% in the prior-year quarter. The annualized return on average assets was 1.17% in the current quarter as compared to 1.18% in the prior-year quarter.

Revenue increased \$106.8 million, or 7%, from \$1.48 billion in the prior-year quarter to \$1.59 billion in the current quarter.

Noninterest income increased \$120.7 million, or 11%, from \$1.06 billion in the prior-year quarter to \$1.18 billion in the current quarter, primarily reflecting higher trust, investment and other servicing fees, foreign exchange trading income, security commissions and trading income and other operating income.

Net interest income decreased \$13.9 million, or 3%, to \$408.1 million in the current quarter as compared to \$422.0 million in the prior-year quarter, primarily due to a lower net interest margin.

The Corporation adopted Accounting Standards Update (ASU) No. 2016-13, “Financial Instruments—Credit Losses: Measurement of Credit Losses on Financial Instruments” (ASU 2016-13) on January 1, 2020, which significantly changes the way impairment of financial instruments is recognized by requiring immediate recognition of estimated credit losses expected to occur over the remaining life of financial instruments. Upon adoption of ASU 2016-13, the Corporation recorded a \$13.7 million increase in the allowance for credit losses with a corresponding cumulative effect adjustment to decrease retained earnings \$10.1 million, net of income taxes. For more information on the adoption of ASU 2016-13, please refer to Note 2 — Recent Accounting Pronouncements to the consolidated financial statements provided in Item 1. Consolidated Financial Statements (unaudited). The provision for credit losses was a provision of \$61.0 million in the current quarter, as compared to no provision in the prior-year quarter. The current quarter provision was primarily due to an increase in the reserve evaluated on a collective basis driven by current and projected economic conditions resulting from the ongoing COVID-19 pandemic and related market and economic impacts, with the largest increase in the commercial and institutional and commercial real estate portfolios.

FIRST QUARTER CONSOLIDATED RESULTS OF OPERATIONS (continued)

Overview (continued)

Noninterest expense increased \$36.9 million, or 4%, to \$1.07 billion in the current quarter from \$1.03 billion in the prior-year quarter, primarily attributable to higher compensation, equipment and software expense, employee benefits expense, and outside services, partially offset by lower other operating expense.

The provision for income taxes in the current quarter totaled \$100.5 million, representing an effective tax rate of 21.8%. The provision for income taxes in the prior-year quarter totaled \$105.1 million, representing an effective tax rate of 23.2%.

FIRST QUARTER CONSOLIDATED RESULTS OF OPERATIONS (continued)

Noninterest Income

The components of noninterest income are provided below.

TABLE 1: NONINTEREST INCOME

(\$ In Millions)	THREE MONTHS ENDED MARCH 31,				
	2020	2019	CHANGE		
Trust, Investment and Other Servicing Fees	\$ 1,003.6	\$ 928.9	\$ 74.7	8%	
Foreign Exchange Trading Income	88.9	66.2	22.7	34	
Treasury Management Fees	11.0	11.7	(0.7)	(6)	
Security Commissions and Trading Income	41.7	23.3	18.4	79	
Other Operating Income	34.4	29.0	5.4	18	
Investment Security (Losses) Gains, net	—	(0.2)	0.2	N/M	
Total Noninterest Income	\$ 1,179.6	\$ 1,058.9	\$ 120.7	11%	

Trust, investment and other servicing fees are based primarily on the market value of assets held in custody, managed or serviced; the volume of transactions; securities lending volume and spreads; and fees for other services rendered. Certain market value calculations on which fees are based are performed on a monthly or quarterly basis in arrears. Accordingly, the impacts of lower equity markets were not fully reflected in the current quarter. Trust, investment and other servicing fees in future periods will be impacted further by recent market decreases. For a further discussion of trust, investment and other servicing fees and how they are derived, refer to the “Reporting Segments” section.

The following tables present selected market indices and the percentage changes year over year to provide context regarding equity and fixed income market impacts on the Corporation’s results.

TABLE 2: EQUITY MARKET INDICES

	DAILY AVERAGES			PERIOD-END		
	THREE MONTHS ENDED MARCH 31,			AS OF MARCH 31,		
	2020	2019	CHANGE	2020	2019	CHANGE
S&P 500	3,059	2,718	13%	2,585	2,834	(9)%
MSCI EAFE (U.S. dollars)	1,862	1,833	2	1,560	1,875	(17)
MSCI EAFE (local currency)	1,107	1,074	3	938	1,105	(15)

TABLE 3: FIXED INCOME MARKET INDICES

	AS OF MARCH 31,		
	2020	2019	CHANGE
Barclays Capital U.S. Aggregate Bond Index	2,295	2,107	9%
Barclays Capital Global Aggregate Bond Index	510	489	4

Assets under custody/administration (AUC/A) and assets under management form the primary drivers of our trust, investment and other servicing fees. For the purposes of disclosing AUC/A, to the extent that both custody and administration services are provided, the value of the assets is included only once. The following table presents AUC/A by reporting segment.

TABLE 4: ASSETS UNDER CUSTODY / ADMINISTRATION BY REPORTING SEGMENT

(\$ In Billions)	MARCH 31, 2020		DECEMBER 31, 2019		MARCH 31, 2019		CHANGE Q1-20/ Q4-19	CHANGE Q1-20/ Q1-19
	\$		\$		\$		%	%
Corporate & Institutional	\$ 10,236.5		\$ 11,311.6		\$ 10,238.9		(10)%	— %
Wealth Management	640.1		738.8		688.5		(13)	(7)
Total Assets Under Custody / Administration	\$ 10,876.6		\$ 12,050.4		\$ 10,927.4		(10)%	— %

FIRST QUARTER CONSOLIDATED RESULTS OF OPERATIONS (continued)

Noninterest Income (continued)

The following table presents Northern Trust's assets under custody, a component of AUC/A, by reporting segment.

TABLE 5: ASSETS UNDER CUSTODY BY REPORTING SEGMENT

(\$ In Billions)	MARCH 31, 2020	DECEMBER 31, 2019	MARCH 31, 2019	CHANGE Q1-20/ Q4-19	CHANGE Q1-20/ Q1-19
Corporate & Institutional	\$ 7,620.8	\$ 8,497.8	\$ 7,529.1	(10)%	1%
Wealth Management	633.9	735.7	670.6	(14)	(5)
Total Assets Under Custody	\$ 8,254.7	\$ 9,233.5	\$ 8,199.7	(11)%	1%

Consolidated assets under custody increased compared to the prior-year quarter, primarily reflecting net inflows, partially offset by the impact of unfavorable markets and unfavorable currency translation. Consolidated assets under custody decreased from the prior quarter primarily reflecting the impact of unfavorable markets and unfavorable currency translation, partially offset by net inflows.

The following table presents the allocation of Northern Trust's custodied assets by reporting segment.

TABLE 6: ALLOCATION OF ASSETS UNDER CUSTODY

	MARCH 31, 2020			DECEMBER 31, 2019			MARCH 31, 2019		
	C&IS	WM	TOTAL	C&IS	WM	TOTAL	C&IS	WM	TOTAL
Equities	40%	52%	41%	46%	59%	46%	45%	57%	46%
Fixed Income Securities	39	20	38	37	18	35	38	19	36
Cash and Other Assets	19	28	19	15	23	17	15	24	16
Securities Lending Collateral	2	—	2	2	—	2	2	—	2

The following table presents Northern Trust's assets under management by reporting segment.

TABLE 7: ASSETS UNDER MANAGEMENT BY REPORTING SEGMENT

(\$ In Billions)	MARCH 31, 2020	DECEMBER 31, 2019	MARCH 31, 2019	CHANGE Q1-20/ Q4-19	CHANGE Q1-20/ Q1-19
Corporate & Institutional	\$ 842.6	\$ 917.5	\$ 867.9	(8)%	(3)%
Wealth Management	276.7	313.8	294.2	(12)	(6)
Total Assets Under Management	\$ 1,119.3	\$ 1,231.3	\$ 1,162.1	(9)%	(4)%

Consolidated assets under management decreased compared to the prior-year quarter and prior quarter, primarily driven by the impact of unfavorable markets and unfavorable currency translation, partially offset by net inflows.

The following table presents Northern Trust's assets under management by investment type.

TABLE 8: ASSETS UNDER MANAGEMENT BY INVESTMENT TYPE

(\$ In Billions)	MARCH 31, 2020	DECEMBER 31, 2019	MARCH 31, 2019
Equities	\$ 504.5	\$ 650.8	\$ 591.8
Fixed Income Securities	189.8	193.8	185.1
Cash and Other Assets	257.9	223.6	220.1
Securities Lending Collateral	167.1	163.1	165.1
Total Assets Under Management	\$ 1,119.3	\$ 1,231.3	\$ 1,162.1

FIRST QUARTER CONSOLIDATED RESULTS OF OPERATIONS (continued)

Noninterest Income (continued)

The following table presents the allocation of Northern Trust's assets under management by reporting segment.

TABLE 9: ALLOCATION OF ASSETS UNDER MANAGEMENT

	MARCH 31, 2020			DECEMBER 31, 2019			MARCH 31, 2019		
	C&IS	WM	TOTAL	C&IS	WM	TOTAL	C&IS	WM	TOTAL
Equities	45%	46%	45%	53%	53%	53%	51%	50%	51%
Fixed Income Securities	14	27	17	12	25	16	13	25	16
Cash and Other Assets	21	27	23	17	22	18	17	25	19
Securities Lending Collateral	20	—	15	18	—	13	19	—	14

The following table presents activity in consolidated assets under management by product.

TABLE 10: ACTIVITY IN CONSOLIDATED ASSETS UNDER MANAGEMENT BY PRODUCT

(\$ In Billions)	THREE MONTHS ENDED				
	MARCH 31, 2020	DECEMBER 31, 2019	SEPTEMBER 30, 2019	JUNE 30, 2019	MARCH 31, 2019
Beginning Balance of AUM	\$ 1,231.3	\$ 1,201.8	\$ 1,180.2	\$ 1,162.1	\$ 1,069.4
Inflows by Product					
Equities	51.7	50.7	41.7	51.4	49.8
Fixed Income Securities	13.5	9.5	10.3	13.8	14.5
Cash and Other Assets	204.7	135.2	144.5	138.7	133.2
Securities Lending Collateral	79.7	57.0	69.2	60.0	74.3
Total Inflows	349.6	252.4	265.7	263.9	271.8
Outflows by Product					
Equities	(59.9)	(52.5)	(53.0)	(51.2)	(48.8)
Fixed Income Securities	(18.6)	(7.8)	(13.8)	(13.6)	(14.5)
Cash and Other Assets	(168.2)	(139.3)	(128.7)	(145.9)	(127.1)
Securities Lending Collateral	(75.7)	(72.2)	(54.3)	(61.7)	(59.1)
Total Outflows	(322.4)	(271.8)	(249.8)	(272.4)	(249.5)
Net Inflows (Outflows)	27.2	(19.4)	15.9	(8.5)	22.3
Market Performance, Currency & Other					
Market Performance & Other	(132.8)	43.6	10.6	26.0	70.9
Currency	(6.4)	5.3	(4.9)	0.6	(0.5)
Total Market Performance, Currency & Other	(139.2)	48.9	5.7	26.6	70.4
Ending Balance of AUM	\$ 1,119.3	\$ 1,231.3	\$ 1,201.8	\$ 1,180.2	\$ 1,162.1

FIRST QUARTER CONSOLIDATED RESULTS OF OPERATIONS (continued)

Noninterest Income (continued)

Foreign exchange trading income increased compared to the prior-year quarter, primarily due to higher client volumes and increased market volatility, partially offset by decreased foreign exchange swap activity in Treasury.

Security commissions and trading income increased compared to the prior-year quarter, primarily due to higher revenue from interest rate swaps and core brokerage.

Other operating income increased compared to the prior-year quarter, primarily due to higher income related to a bank-owned life insurance program implemented during the second quarter of 2019, lower expenses for existing swap agreements related to Visa Inc. Class B common shares, and non-trading-related foreign exchange income, partially offset by a market value adjustment for a seed capital investment and lower miscellaneous income. The lower miscellaneous income was primarily associated with a market value decline in the supplemental compensation plans, which also resulted in a related decrease in staff-related expenses in other operating expense.

The components of other operating income are provided in the following table.

TABLE 11: OTHER OPERATING INCOME

(\$ In Millions)	THREE MONTHS ENDED MARCH 31,			
	2020	2019	CHANGE	
Loan Service Fees	\$ 11.9	\$ 12.1	(0.2)	(1)%
Banking Service Fees	11.4	11.2	0.2	3
Other Income	11.1	5.7	5.4	89
Total Other Operating Income	\$ 34.4	\$ 29.0	5.4	18 %

FIRST QUARTER CONSOLIDATED RESULTS OF OPERATIONS (continued)

Net Interest Income

Net interest income is defined as the total of interest income and amortized fees on earning assets, less interest expense on deposits and borrowed funds, adjusted for the impact of interest-related hedging activity. Earning assets — including federal funds sold, securities purchased under agreements to resell, interest-bearing due from banks and interest-bearing deposits with banks, Federal Reserve and other central bank deposits and other, securities, and loans and leases — are financed by a large base of interest-bearing funds that include client deposits, short-term borrowings, senior notes and long-term debt. Earning assets are also funded by noninterest-related funds, which include demand deposits and stockholders' equity. Net interest income is subject to variations in the level and mix of earning assets and interest-bearing funds and their relative sensitivity to interest rates. In addition, the levels of nonaccruing assets and client compensating deposit balances used to pay for services impact net interest income.

Net interest margin is the difference between what we earn on our assets and the interest rates we pay for deposits and other sources of funding. The direction and level of interest rates are important factors in our earnings. Net interest margin is calculated by dividing annualized net interest income by average interest-earning assets.

Net interest income stated on a fully taxable equivalent (FTE) basis is a non-generally accepted accounting principle (GAAP) financial measure that facilitates the analysis of asset yields. Management believes an FTE presentation provides a clearer indication of net interest margins for comparative purposes. When adjusted to an FTE basis, yields on taxable, nontaxable, and partially taxable assets are comparable; however, the adjustment to an FTE basis has no impact on net income. A reconciliation of net interest income on a GAAP basis to net interest income on an FTE basis is provided on page 28.

FIRST QUARTER CONSOLIDATED RESULTS OF OPERATIONS (continued)

Net Interest Income (continued)

The following tables present an analysis of average balances and interest rates affecting net interest income and an analysis of net interest income changes.

TABLE 12: AVERAGE CONSOLIDATED BALANCE SHEETS WITH ANALYSIS OF NET INTEREST INCOME

(INTEREST AND RATE ON A FULLY TAXABLE EQUIVALENT BASIS) (\$ In Millions)	FIRST QUARTER					
	2020			2019		
	INTEREST	AVERAGE BALANCE	RATE ⁽⁶⁾	INTEREST	AVERAGE BALANCE	RATE ⁽⁶⁾
Average Earning Assets						
Federal Reserve and Other Central Bank Deposits and Other ⁽¹⁾	\$ 23.0	\$ 19,826.2	0.47%	\$ 61.3	\$ 20,163.2	1.23%
Interest-Bearing Due from and Deposits with Banks ⁽²⁾	12.8	5,838.1	0.88	17.9	6,452.2	1.13
Federal Funds Sold and Securities Purchased under Agreements to Resell	1.6	667.6	0.97	6.8	978.1	2.84
Securities						
U.S. Government	21.7	4,639.2	1.88	28.7	5,238.9	2.22
Obligations of States and Political Subdivisions	10.6	1,723.4	2.46	5.0	770.5	2.57
Government Sponsored Agency	123.7	23,365.9	2.13	148.5	22,439.0	2.69
Other ⁽³⁾	92.2	22,234.7	1.67	102.2	23,440.9	1.77
Total Securities	248.2	51,963.2	1.92	284.4	51,889.3	2.22
Loans and Leases ⁽⁴⁾	251.7	32,316.2	3.13	300.2	31,189.4	3.90
Total Earning Assets	537.3	110,611.3	1.95	670.6	110,672.2	2.46
Allowance for Credit Losses	—	(109.9)	—	—	(114.0)	—
Cash and Due from Banks and Other Central Bank Deposits ⁽⁵⁾	—	2,723.0	—	—	1,940.7	—
Buildings and Equipment	—	501.4	—	—	424.4	—
Client Security Settlement Receivables	—	1,531.0	—	—	981.5	—
Goodwill	—	692.6	—	—	675.5	—
Other Assets	—	8,221.1	—	—	4,836.4	—
Total Assets	\$ —	\$ 124,170.5	—%	\$ —	\$ 119,416.7	—%
Average Source of Funds						
Deposits						
Savings, Money Market and Other	\$ 30.5	\$ 20,251.2	0.61%	\$ 35.0	\$ 14,372.8	0.99%
Savings Certificates and Other Time	4.6	959.8	1.91	2.8	761.4	1.48
Non-U.S. Offices — Interest-Bearing	25.8	54,543.3	0.19	109.8	58,377.2	0.76
Total Interest-Bearing Deposits	60.9	75,754.3	0.32	147.6	73,511.4	0.81
Short-Term Borrowings	32.2	9,701.4	1.34	65.1	10,494.0	2.52
Senior Notes	17.9	2,615.1	2.76	15.9	2,014.1	3.19
Long-Term Debt	8.4	1,168.7	2.90	10.0	1,112.9	3.64
Floating Rate Capital Debt	1.7	277.7	2.41	2.2	277.6	3.27
Total Interest-Related Funds	121.1	89,517.2	0.54	240.8	87,410.0	1.12
Interest Rate Spread	—	—	1.41	—	—	1.34
Demand and Other Noninterest-Bearing Deposits	—	19,331.5	—	—	17,858.4	—
Other Liabilities	—	4,534.8	—	—	3,719.5	—
Stockholders' Equity	—	10,787.0	—	—	10,428.8	—
Total Liabilities and Stockholders' Equity	\$ —	\$ 124,170.5	—%	\$ —	\$ 119,416.7	—%
Net Interest Income/Margin (FTE Adjusted)	\$ 416.2	\$ —	1.51%	\$ 429.8	\$ —	1.58%
Net Interest Income/Margin (Unadjusted)	\$ 408.1	\$ —	1.48%	\$ 422.0	\$ —	1.55%

FIRST QUARTER CONSOLIDATED RESULTS OF OPERATIONS (continued)

Net Interest Income (continued)

ANALYSIS OF NET INTEREST INCOME CHANGES DUE TO VOLUME AND RATE⁽⁷⁾

(In Millions)	THREE MONTHS ENDED MARCH 31, 2020/2019		
	CHANGE DUE TO		
	AVERAGE BALANCE	RATE	NET DECREASE
Earning Assets (FTE)	\$ 0.8	\$ (134.1)	\$ (133.3)
Interest-Related Funds	2.7	(122.4)	(119.7)
Decrease in Net Interest Income (FTE)	\$ (1.9)	\$ (11.7)	\$ (13.6)

⁽¹⁾ Federal Reserve and Other Central Bank Deposits and Other includes collateral deposits with certain securities depositories and clearing houses, which are classified in Other Assets on the consolidated balance sheets.

⁽²⁾ Interest-Bearing Due from and Deposits with Banks includes the interest-bearing component of Cash and Due from Banks and Interest-Bearing Deposits with Banks as presented on the consolidated balance sheets.

⁽³⁾ Other securities include certain community development investments and Federal Home Loan Bank and Federal Reserve stock, which are classified in Other Assets on the consolidated balance sheets.

⁽⁴⁾ Average balances include nonaccrual loans. Lease financing receivable balances are reduced by deferred income.

⁽⁵⁾ Cash and Due from Banks and Other Central Bank Deposits includes the noninterest-bearing component of Federal Reserve and Other Central Bank Deposits as presented on the consolidated balance sheets.

⁽⁶⁾ Rate calculations are based on actual balances rather than the rounded amounts presented in the Average Consolidated Balance Sheets with Analysis of Net Interest Income.

⁽⁷⁾ Changes not due solely to average balance changes or rate changes are allocated proportionately to average balance and rate based on their relative absolute magnitudes.

Notes: Net Interest Income (FTE Adjusted), a non-GAAP financial measure, includes adjustments to a fully taxable equivalent basis for loans and securities. Such adjustments are based on a blended federal and state tax rate of 24.9% and 24.9% for the three months ended March 31, 2020 and 2019, respectively. Total taxable equivalent interest adjustments amounted to \$8.1 million and \$7.8 million for the three months ended March 31, 2020 and 2019, respectively. A reconciliation of net interest income and net interest margin on a GAAP basis to net interest income and net interest margin on an FTE basis (each of which is a non-GAAP financial measure) is provided on page 28. Net interest margin is calculated by dividing annualized net interest income by average interest-earning assets.

Interest revenue on cash collateral positions is reported above within interest-bearing deposits with banks and within loans and leases. Interest expense on cash collateral positions is reported above within non-U.S. offices interest-bearing deposits. Related cash collateral received from and deposited with derivative counterparties is recorded net of the associated derivative contract within Other Assets and Other Liabilities, respectively.

Net interest income on a FTE basis decreased from the prior-year quarter primarily due to a lower net interest margin. Average earning assets were relatively flat primarily reflecting lower levels of short-term interest-bearing deposits with banks, partially offset by higher loans. Funding of the balance sheet reflected higher interest-bearing deposits and client demand and other noninterest-bearing deposits. The current quarter increase in customer deposits primarily occurred at the end of the quarter as we saw our deposit balances move in response to the current economic and market conditions.

The net interest margin on an FTE basis decreased from the prior-year quarter, primarily due to lower short-term interest rates, partially offset by a balance sheet mix shift. We expect that the recent declines in market interest rates will continue to pressure our net interest income and net interest margin.

Federal Reserve and other central bank deposits and other averaged \$19.8 billion and decreased \$337.0 million, or 2%, from \$20.2 billion in the prior-year quarter. Average securities were \$52.0 billion and increased \$73.9 million from \$51.9 billion in the prior-year quarter and include certain community development investments, Federal Home Loan Bank stock, and Federal Reserve stock of \$766.3 million, \$246.5 million and \$54.7 million, respectively, which are recorded in Other Assets on the consolidated balance sheets.

Loans and leases averaged \$32.3 billion and increased \$1.1 billion, or 4%, from \$31.2 billion in the prior-year quarter, primarily reflecting higher levels of commercial and institutional, private client, and commercial real estate, partially offset by lower levels of residential real estate. Commercial and institutional loans averaged \$9.5 billion and increased \$393.6 million, or 4%, from \$9.1 billion for the prior-year quarter. Private client loans averaged \$11.0 billion and increased \$114.3 million, or 1%, from \$10.9 billion in the prior-year quarter. Commercial real estate loans averaged \$3.1 billion and increased \$105.0 million, or 4%, from \$3.0 billion for the prior-year quarter. Residential real estate loans averaged \$6.1 billion and decreased \$611.8 million, or 9%, from \$6.7 billion for the prior-year quarter.

Northern Trust utilizes a diverse mix of funding sources. Total interest-bearing deposits averaged \$75.8 billion in the current quarter, increasing \$2.3 billion, or 3%, from \$73.5 billion in the prior-year quarter. Other interest-bearing funds averaged \$13.8 billion in the current quarter, decreasing \$135.7 million from \$13.9 billion in the prior-year quarter. The balances within short-term borrowing classifications vary based on funding requirements and strategies, interest rate levels, changes in the volume of lower-cost deposit sources, and the availability of collateral to secure these borrowings. Average net noninterest-related funds decreased \$2.2 billion, or 9%, to \$21.1 billion in the current quarter from \$23.3 billion in the prior-year quarter, primarily resulting from higher levels of other assets.

FIRST QUARTER CONSOLIDATED RESULTS OF OPERATIONS (continued)

Provision for Credit Losses

The Corporation adopted Accounting Standards Update (ASU) No. 2016-13, “Financial Instruments—Credit Losses: Measurement of Credit Losses on Financial Instruments” (ASU 2016-13) on January 1, 2020, which significantly changes the way impairment of financial instruments is recognized by requiring immediate recognition of estimated credit losses expected to occur over the remaining life of financial instruments. Upon adoption of ASU 2016-13, the Corporation recorded a \$13.7 million increase in the allowance for credit losses with a corresponding cumulative effect adjustment to decrease retained earnings \$10.1 million, net of income taxes. For more information on the adoption of ASU 2016-13, please refer to Note 2 — Recent Accounting Pronouncements to the consolidated financial statements provided in Item 1. Consolidated Financial Statements (unaudited).

There was a \$61.0 million provision for credit losses in the current quarter, as compared to no provision in the prior-year quarter. The provision in the current quarter was primarily due to an increase in the reserve evaluated on a collective basis driven by current and projected economic conditions resulting from the ongoing COVID-19 pandemic and related market and economic impacts, with the largest increase in the commercial and institutional and commercial real estate portfolios. To the extent that our future forecasts show deterioration greater than that currently expected, our future provisions for credit losses could further increase. The provision in the prior-year quarter was primarily driven by an increase in the specific reserve related to outstanding loans and standby letters of credit in the commercial and institutional portfolio, offset by a net recovery in the period.

Net charge-offs in the current quarter were \$0.7 million, resulting from charge-offs of \$1.8 million and recoveries of \$1.1 million. The prior-year quarter included \$1.2 million of net recoveries, reflecting \$1.0 million of charge-offs and \$2.2 million of recoveries. Nonaccrual assets of \$105.5 million decreased \$18.6 million, or 15%, from \$124.1 million at the end of the prior-year quarter.

Residential real estate, commercial and institutional, and commercial real estate loans accounted for 65%, 32%, and 3%, respectively, of total nonaccrual loans and leases at March 31, 2020. Residential real estate, commercial and institutional, and commercial real estate loans accounted for 89%, 7%, and 4%, respectively, of total nonaccrual loans and leases at March 31, 2019. For additional discussion of the provision and allowance for credit losses, refer to the “Asset Quality” section beginning on page 18.

Noninterest Expense

The components of noninterest expense are provided in the following table.

TABLE 13: NONINTEREST EXPENSE

(\$ In Millions)	THREE MONTHS ENDED MARCH 31,			CHANGE	
	2020	2019			
Compensation	\$ 499.8	\$ 482.0	\$ 17.8		4%
Employee Benefits	97.9	85.7	12.2		14
Outside Services	192.8	188.4	4.4		2
Equipment and Software	162.2	148.3	13.9		9
Occupancy	51.1	51.6	(0.5)		(1)
Other Operating Expense	61.8	72.7	(10.9)		(15)
Total Noninterest Expense	\$ 1,065.6	\$ 1,028.7	\$ 36.9		4%

Compensation expense, the largest component of noninterest expense, increased compared to the prior-year quarter, primarily reflecting higher salary expense, driven by staff growth and base pay adjustments, and a one-time supplemental payment to certain employees in response to the COVID-19 pandemic, partially offset by prior-year-quarter severance-related charges.

Employee benefits expense increased compared to the prior-year quarter, primarily due to higher retirement plan expenses and payroll taxes.

Outside services expense increased compared to the prior-year quarter, primarily reflecting increased third-party advisory fees and technical services costs.

Equipment and software expense increased compared to the prior-year quarter, primarily reflecting higher depreciation and amortization and software support costs.

Other operating expense decreased compared to the prior-year quarter, primarily due to lower staff-related expenses, partially offset by increased contributions to Northern Trust’s charitable foundation. The lower staff-related expense was primarily related

FIRST QUARTER CONSOLIDATED RESULTS OF OPERATIONS (continued)

Noninterest Expense (continued)

to a market value decline in the supplemental compensation plans and resulted in a related decline in miscellaneous income reported in noninterest income.

The components of other operating expense are provided in the following table.

TABLE 14: OTHER OPERATING EXPENSE

(\$ In Millions)	THREE MONTHS ENDED MARCH 31,			
	2020	2019	CHANGE	
Business Promotion	\$ 18.8	\$ 17.7	1.1	6 %
Staff Related	(3.5)	8.6	(12.1)	N/M
FDIC Insurance Premiums	2.5	2.9	(0.4)	(15)
Other Intangibles Amortization	4.1	4.2	(0.1)	(2)
Other Expenses	39.9	39.3	0.6	1
Total Other Operating Expense	\$ 61.8	\$ 72.7	(10.9)	(15)%

Provision for Income Taxes

Income tax expense for the three months ended March 31, 2020 was \$100.5 million, representing an effective tax rate of 21.8%, compared to \$105.1 million in the prior-year quarter, representing an effective tax rate of 23.2%.

The provision for income taxes decreased primarily due to a change in the earnings mix in tax jurisdictions in which the Corporation operates, an increase in the proportion of earnings derived from tax-exempt income, and additional benefits related to share-based compensation arrangements, partially offset by prior-year-quarter income tax benefits recorded as a result of the Corporation's international organizational restructuring.

REPORTING SEGMENTS

Northern Trust is organized around its two client-focused reporting segments: C&IS and Wealth Management. Asset management and related services are provided to C&IS and Wealth Management clients primarily by the Asset Management business. The revenue and expenses of Asset Management and certain other support functions are allocated fully to C&IS and Wealth Management.

Reporting segment financial information, presented on an internal management-reporting basis, is determined by accounting systems used to allocate revenue and expense to each segment, and incorporates processes for allocating assets, liabilities, equity and the applicable interest income and expense utilizing a funds transfer pricing (FTP) methodology. Under the methodology, assets and liabilities receive a funding charge or credit that considers interest rate risk, liquidity risk, and other product characteristics on an instrument level.

Revenues, expenses and average assets are allocated to C&IS and Wealth Management, with the exception of non-recurring activities such as certain costs associated with acquisitions, divestitures, litigation, restructuring, and tax adjustments not directly attributable to a specific reporting segment.

Reporting segment results are subject to reclassification when organizational changes are made. The results are also subject to refinements in revenue and expense allocation methodologies, which are typically reflected on a prospective basis.

REPORTING SEGMENTS (continued)

The following table reflects the earnings contributions and average assets of Northern Trust's reporting segments for the three-month periods ended March 31, 2020 and 2019.

TABLE 15: RESULTS OF REPORTING SEGMENTS

THREE MONTHS ENDED MARCH 31, (\$ In Millions)	CORPORATE & INSTITUTIONAL SERVICES		WEALTH MANAGEMENT		TREASURY AND OTHER		TOTAL CONSOLIDATED	
	2020	2019	2020	2019	2020	2019	2020	2019
Noninterest Income								
Trust, Investment and Other Servicing Fees	\$ 574.4	\$ 535.2	\$ 429.2	\$ 393.7	\$ —	\$ —	\$ 1,003.6	\$ 928.9
Foreign Exchange Trading Income	85.1	59.7	3.8	6.5	—	—	88.9	66.2
Other Noninterest Income	41.8	43.4	42.4	25.5	2.9	(5.1)	87.1	63.8
Total Noninterest Income	701.3	638.3	475.4	425.7	2.9	(5.1)	1,179.6	1,058.9
Net Interest Income ⁽¹⁾	211.3	234.8	204.9	195.0	—	—	416.2	429.8
Revenue ⁽¹⁾	912.6	873.1	680.3	620.7	2.9	(5.1)	1,595.8	1,488.7
Provision for Credit Losses	25.7	(1.1)	35.3	1.1	—	—	61.0	—
Noninterest Expense	659.3	648.0	394.4	379.9	11.9	0.8	1,065.6	1,028.7
Income before Income Taxes ⁽¹⁾	227.6	226.2	250.6	239.7	(9.0)	(5.9)	469.2	460.0
Provision for Income Taxes ⁽¹⁾	49.9	53.6	60.9	60.8	(2.2)	(1.5)	108.6	112.9
Net Income	\$ 177.7	\$ 172.6	\$ 189.7	\$ 178.9	\$ (6.8)	\$ (4.4)	\$ 360.6	\$ 347.1
Percentage of Consolidated Net Income	49%	50%	53%	51%	(2)%	(1)%	100%	100%
Average Assets	\$ 92,715.3	\$ 90,351.7	\$ 31,455.2	\$ 29,065.0	\$ —	\$ —	\$ 124,170.5	\$ 119,416.7

⁽¹⁾ Non-GAAP financial measures stated on a fully taxable equivalent basis (FTE). Total consolidated includes FTE adjustments of \$8.1 million for 2020 and \$7.8 million for 2019. A reconciliation of total consolidated revenue, net interest income and net interest margin on a GAAP basis to revenue, net interest income and net interest margin on an FTE basis (each of which is a non-GAAP financial measure) is provided on page 28.

Corporate & Institutional Services

C&IS net income increased \$5.1 million, or 3%, to \$177.7 million in the current quarter compared to \$172.6 million in the prior-quarter. Noninterest income increased \$63.0 million, or 10%, to \$701.3 million in the current quarter from \$638.3 million in the prior-year quarter, primarily reflecting higher trust, investment and other servicing fees and foreign exchange trading income, partially offset by other noninterest income.

The following table provides a summary of C&IS trust, investment and other servicing fees.

TABLE 16: C&IS TRUST, INVESTMENT AND OTHER SERVICING FEES

(\$ In Millions)	THREE MONTHS ENDED MARCH 31,			CHANGE	
	2020	2019			
Custody and Fund Administration	\$ 394.9	\$ 375.1	\$ 19.8		5%
Investment Management	120.8	104.3	16.5		16
Securities Lending	23.4	22.7	0.7		3
Other	35.3	33.1	2.2		7
Total C&IS Trust, Investment and Other Servicing Fees	\$ 574.4	\$ 535.2	\$ 39.2		7%

Custody and fund administration fees, the largest component of C&IS fees, are driven primarily by values of client AUC/A, transaction volumes and number of accounts. The asset values used to calculate these fees vary depending on the individual fee arrangements negotiated with each client. Custody fees related to asset values are client specific and are priced based on month-end market values, quarter-end market values, or the average of month-end market values for the quarter. The fund administration fees that are asset-value-related are priced using month-end, quarter-end, or average daily balances. Investment management fees are based generally on market values of client assets under management throughout the period. Typically, the asset values used to calculate fee revenue are based on one-month and one-quarter in arrears.

Custody and fund administration fees increased from the prior-year quarter, primarily due to favorable lagged markets and new business, partially offset by unfavorable currency translation. Investment management fees increased from the prior-year quarter, primarily due to favorable lagged markets and new business.

REPORTING SEGMENTS (continued)

Corporate & Institutional Services (continued)

Foreign exchange trading income increased \$25.4 million, or 43%, to \$85.1 million in the current quarter from \$59.7 million in the prior-year quarter, primarily due to higher client volumes and increased market volatility.

Net interest income stated on an FTE basis decreased \$23.5 million, or 10%, to \$211.3 million in the current quarter from \$234.8 million in the prior-year quarter, primarily reflecting a lower net interest margin driven by declining short-term interest rates. Average earning assets decreased to \$81.7 billion in the current quarter from \$82.9 billion in the prior-year quarter. The earning assets in C&IS consisted primarily of intercompany assets and of loans. Funding sources were primarily comprised of non-U.S. custody-related interest-bearing deposits.

On January 1, 2020, the Corporation adopted ASU 2016-13. For more information on the adoption, please refer to Note 2 — Recent Accounting Pronouncements to the consolidated financial statements provided in Item 1. Consolidated Financial Statements (unaudited). The C&IS provision for credit losses was a provision of \$25.7 million in the current quarter, compared with a credit provision of \$1.1 million in the prior-year quarter. The current-quarter provision reflected an increase in the reserve evaluated on a collective basis driven by current and projected economic conditions resulting from the ongoing COVID-19 pandemic and related market and economic impacts on the commercial and institutional portfolio. The prior-year quarter credit provision reflected a net reduction in the inherent allowance driven by a reduction in standby letters of credit, partially offset by increases in the specific reserve related to outstanding loans and standby letters of credit.

Total C&IS noninterest expense, which includes the direct expense of the reporting segment, indirect expense allocations for product and operating support and indirect expense allocations for certain corporate support services, increased \$11.3 million, or 2%, to \$659.3 million in the current quarter from \$648.0 million in the prior-year quarter, primarily reflecting higher compensation, outside services, and employee benefits, partially offset by lower expense allocations.

Wealth Management

Wealth Management net income increased \$10.8 million, or 6%, to \$189.7 million in the current quarter from \$178.9 million in the prior-year quarter. Noninterest income increased \$49.7 million, or 12%, to \$475.4 million from \$425.7 million in the prior-year quarter, primarily reflecting higher trust, investment and other servicing fees and other noninterest income. Trust, investment and other servicing fees in Wealth Management increased \$35.5 million, or 9%, to \$429.2 million in the current quarter from \$393.7 million in the prior-year quarter.

The following table provides a summary of Wealth Management trust, investment and other servicing fees.

TABLE 17: WEALTH MANAGEMENT TRUST, INVESTMENT AND OTHER SERVICING FEES

(\$ In Millions)	THREE MONTHS ENDED MARCH 31,						
	2020		2019		CHANGE		
Central	\$	159.4	\$	150.7	\$	8.7	6%
East		111.5		100.9		10.6	11
West		87.0		79.5		7.5	9
Global Family Office		71.3		62.6		8.7	14
Total Wealth Management Trust, Investment and Other Servicing Fees	\$	429.2	\$	393.7	\$	35.5	9%

Wealth Management fee income is calculated primarily based on market values and is impacted by both one-month and one-quarter lagged asset values. Wealth Management fees increased compared to the prior-year quarter, primarily due to favorable lagged markets and new business.

Other noninterest income increased \$16.9 million, or 66%, to \$42.4 million in the current quarter from \$25.5 million in the prior-year quarter, primarily resulting from an increase in securities commissions and trading income.

Net interest income stated on an FTE basis increased \$9.9 million, or 5%, to \$204.9 million in the current quarter from \$195.0 million in the prior-year quarter, primarily reflecting higher deposit and loan balances in the current quarter and higher net interest allocation from Treasury and Other, partially offset by lower interest rates. Average earning assets increased \$1.1 billion to \$28.9 billion in the current quarter from \$27.8 billion in the prior-year quarter. Earning assets and funding sources were primarily comprised of loans and domestic interest-bearing deposits, respectively.

REPORTING SEGMENTS (continued)

Wealth Management (continued)

On January 1, 2020, the Corporation adopted ASU 2016-13. For more information on the adoption, please refer to Note 2 — Recent Accounting Pronouncements to the consolidated financial statements provided in Item 1. Consolidated Financial Statements (unaudited). The Wealth Management provision for credit losses was \$35.3 million in the current quarter, compared with a provision of \$1.1 million in the prior-year quarter. The current-quarter provision reflected an increase in the reserve evaluated on a collective basis driven by current and projected economic conditions resulting from the ongoing COVID-19 pandemic and related market and economic impacts, primarily impacting the commercial and institutional and commercial real estate portfolios. The prior-year quarter provision reflected a net increase in the inherent allowance, which was driven by lower credit quality.

Total noninterest expense, which includes the direct expense of the reporting segment, indirect expense allocations for product and operating support and indirect expense allocations for certain corporate support services, increased \$14.5 million, or 4%, to \$394.4 million in the current quarter from \$379.9 million in the prior-year quarter, primarily reflecting higher expense allocations, employee benefits, and compensation expense.

Treasury and Other

Treasury and Other noninterest income increased from an expense of \$5.1 million in the prior-year quarter to income of \$2.9 million in the current quarter, due to lower expenses for existing swap agreements related to Visa Inc. Class B common shares.

Noninterest expense increased \$11.1 million to \$11.9 million in the current quarter from \$0.8 million in the prior-year quarter, primarily due to higher compensation expense related to a one-time supplemental payment to employees in response to the COVID-19 pandemic.

CONSOLIDATED BALANCE SHEETS

The following tables summarize selected consolidated balance sheet information.

TABLE 18: SELECT CONSOLIDATED BALANCE SHEET INFORMATION

(\$ In Billions)	MARCH 31, 2020	DECEMBER 31, 2019	CHANGE	
Assets				
Federal Reserve and Other Central Bank Deposits and Other ⁽¹⁾	\$ 44.6	\$ 33.8	\$ 10.8	32%
Interest-Bearing Due from and Deposits with Banks ⁽²⁾	8.3	7.0	1.3	18
Federal Funds Sold and Securities Purchased under Agreements to Resell	1.0	0.7	0.3	40
Total Securities ⁽³⁾	53.6	52.3	1.3	3
Loans and Leases	37.8	31.4	6.4	20
Total Earning Assets	145.3	125.2	20.1	16
Total Assets	161.7	136.8	24.9	18
Liabilities and Stockholders' Equity				
Total Interest-Bearing Deposits	97.9	82.8	15.1	18
Demand and Other Noninterest-Bearing Deposits	33.6	26.3	7.3	28
Short-Term Borrowings	10.4	7.8	2.6	33
Total Stockholders' Equity	10.9	11.1	(0.2)	(2)

⁽¹⁾ Federal Reserve and Other Central Bank Deposits and Other includes collateral deposits with certain securities depositories and clearing houses for the purpose of presenting earning assets; such deposits are presented in Other Assets on the consolidated balance sheets.

⁽²⁾ Interest-Bearing Due from and Deposits with Banks includes the interest-bearing component of Cash and Due from Banks and Interest-Bearing Deposits with Banks as presented on the consolidated balance sheets.

⁽³⁾ Securities includes certain community development investments and Federal Home Loan Bank and Federal Reserve stock, which are classified in Other Assets on the consolidated balance sheets.

CONSOLIDATED BALANCE SHEETS (continued)

TABLE 19: SELECT AVERAGE CONSOLIDATED BALANCE SHEET INFORMATION

(\$ In Billions)	MARCH 31, 2020	MARCH 31, 2019	CHANGE	
Assets				
Federal Reserve and Other Central Bank Deposits and Other ⁽¹⁾	\$ 19.8	\$ 20.2	(0.4)	(2)%
Interest-Bearing Due from and Deposits with Banks ⁽²⁾	5.8	6.4	(0.6)	(10)
Federal Funds Sold and Securities Purchased under Agreements to Resell	0.7	1.0	(0.3)	(32)
Total Securities ⁽³⁾	52.0	51.9	0.1	—
Loans and Leases	32.3	31.2	1.1	4
Total Earning Assets	110.6	110.7	(0.1)	—
Total Assets	124.2	119.4	4.8	4
Liabilities and Stockholders' Equity				
Total Interest-Bearing Deposits	75.8	73.5	2.3	3
Demand and Other Noninterest-Bearing Deposits	19.3	17.9	1.4	8
Short-Term Borrowings	9.7	10.5	(0.8)	(8)
Total Stockholders' Equity	10.8	10.4	0.4	3

⁽¹⁾ Federal Reserve and Other Central Bank Deposits and Other includes collateral deposits with certain securities depositories and clearing houses for the purpose of presenting earning assets; such deposits are presented in Other Assets on the consolidated balance sheets.

⁽²⁾ Interest-Bearing Due from and Deposits with Banks includes the interest-bearing component of Cash and Due from Banks and Interest-Bearing Deposits with Banks as presented on the consolidated balance sheets.

⁽³⁾ Securities includes certain community development investments and Federal Home Loan Bank and Federal Reserve stock, which are classified in Other Assets on the consolidated balance sheets.

Average balances are considered to be a better measure of balance sheet trends, as period-end balances can be impacted by the timing of deposit and withdrawal activity involving large client balances. The current quarter growth in both the period-end and average consolidated balance sheet was primarily driven by client response to the current economic conditions. Since the increase in deposit balances occurred during the second half of March, the higher period-end deposit balances did not fully impact average balances.

Stockholders' Equity. The increase in stockholders' equity was primarily attributable to earnings and accumulated other comprehensive income since the prior-year period, partially offset by the repurchase of common stock pursuant to the Corporation's share repurchase program and dividend declarations.

During the three months ended March 31, 2020, the Corporation declared cash dividends totaling \$148.6 million to common stockholders, and cash dividends totaling \$19.0 million to preferred stockholders, respectively. In addition, the Corporation used the proceeds from the issuance of the Series E Non-Cumulative Perpetual Preferred stock in the fourth quarter of 2019 to fund the redemption of all outstanding shares of the Corporation's Series C Non-Cumulative Perpetual Preferred Stock at a redemption price of \$400.0 million, which was \$11.5 million in excess of the net carrying value of the shares. The \$11.5 million excess is included in preferred stock dividends in the determination of net income available to common shareholders. During the three months ended March 31, 2020, the Corporation repurchased 3,240,738 shares of common stock, including 496,862 shares withheld related to share-based compensation, at a total cost of \$296.8 million (\$91.59 average price per share).

On March 16, 2020, the Corporation announced the temporary suspension of repurchases of common stock under its share repurchase program, consistent with broader efforts to mitigate the impact of the COVID-19 pandemic on individuals, businesses and the economy by maintaining strong capital levels and liquidity in the U.S. financial system. The Corporation retains the ability to resume purchases of its common stock under its share repurchase program as circumstances warrant.

ASSET QUALITY

Securities Portfolio

Northern Trust maintains a high quality held to maturity debt securities portfolio, with 51% of the portfolio at March 31, 2020, composed of U.S. Treasury and government-sponsored agency securities and other triple-A rated debt securities. The remaining held to maturity debt securities portfolio was comprised of 19% rated double-A, 19% rated below double-A, and 11% not rated by Moody's Investors Service or Standard and Poor's. Securities not explicitly rated were grouped where possible under the credit rating of the issuer of the security.

Net unrealized gains within the investment securities portfolio totaled \$313.7 million at March 31, 2020, compared to net unrealized gains of \$118.9 million as of December 31, 2019. Net unrealized gains as of March 31, 2020 were comprised of \$717.3 million and \$403.6 million of gross unrealized gains and losses, respectively. As of March 31, 2020, unrealized losses within available for sale securities of \$106.3 million and \$105.1 million related to government sponsored agency and other asset-backed securities, respectively, are primarily attributable to the impact of uncertain market conditions in the first quarter of 2020, changes in market interest rates and credit spreads since their purchase. Unrealized losses related to corporate debt securities with no credit losses reported of \$10.7 million are primarily attributable to changes in credit spreads since purchase.

As of March 31, 2020, 25% of the corporate debt portfolio was backed by guarantees provided by U.S. and non-U.S. governmental entities.

Northern Trust participates in the repurchase agreement market as a relatively low cost alternative for short-term funding. Securities purchased under agreements to resell and securities sold under agreements to repurchase are accounted for as collateralized financings and recorded at the amounts at which the securities were acquired or sold plus accrued interest. To minimize potential credit risk associated with these transactions, the fair value of the securities purchased or sold is monitored, limits are set on exposure with counterparties, and the financial condition of counterparties is regularly assessed. It is Northern Trust's policy to take possession, either directly or via third-party custodians, of securities purchased under agreements to resell. Securities sold under agreements to repurchase are held by the counterparty until their repurchase.

For additional information relating to the securities portfolio, refer to Note 4 — Securities to the consolidated financial statements provided in Item 1. Consolidated Financial Statements (unaudited).

ASSET QUALITY (continued)

Nonaccrual Loans and Leases and Other Real Estate Owned

During the first quarter of 2020, the Corporation implemented a change in the classification of certain loans and leases to enhance the consistency of its reporting across various regulatory regimes. As a result, the loan and lease balances as of December 31, 2019 below have been adjusted to conform to the presentation for periods ended after such date. The adjustments generally reflected reclassification of loans from the commercial real estate class to commercial and institutional, residential real estate, and private client classes. There was no impact on total loans and leases previously reported.

Nonaccrual assets consist of nonaccrual loans and leases and other real estate owned (OREO). OREO is comprised of commercial and residential properties acquired in partial or total satisfaction of loans.

The following table provides the amounts of nonaccrual loans and leases, by loan and lease segment and class, and of OREO that were outstanding at the dates shown, as well as the balance of loans that was delinquent 90 days or more and still accruing interest. Loans that are delinquent 90 days or more and still accruing interest can fluctuate widely based on the timing of cash collections, renegotiations and renewals.

TABLE 20: NONACCRUAL ASSETS

(\$ In Millions)	MARCH 31, 2020	DECEMBER 31, 2019
Nonaccrual Loans and Leases		
Commercial		
Commercial and Institutional	\$ 32.9	\$ 7.6
Commercial Real Estate	2.7	3.6
Non-U.S.	—	—
Total Commercial	35.6	11.2
Personal		
Residential Real Estate	\$ 67.3	\$ 71.4
Private Client	0.5	0.5
Non-U.S.	0.5	0.5
Total Personal	68.3	72.4
Total Nonaccrual Loans and Leases	103.9	83.6
Other Real Estate Owned	1.6	3.2
Total Nonaccrual Assets	\$ 105.5	\$ 86.8
90 Day Past Due Loans Still Accruing	\$ 7.1	\$ 7.4
Nonaccrual Loans and Leases to Total Loans and Leases	0.27%	0.27%
Coverage of Loan and Lease Allowance to Nonaccrual Loans and Leases	1.4x	1.3x

Nonaccrual assets of \$105.5 million as of March 31, 2020 increased primarily related to an increase in the commercial and institutional portfolio due to the addition of three new nonaccrual loans, partially offset by a decrease in the residential real estate portfolio due to payoffs. In addition to the negative impact on net interest income and the risk of credit losses, nonaccrual assets also increase operating costs due to the expense associated with collection efforts. Changes in the level of nonaccrual assets may be indicative of changes in the credit quality of one or more loan classes. Changes in credit quality impact the allowance for credit losses through the resultant adjustment of the allowance evaluated on an individual level and the quantitative and qualitative factors used in the determination of the allowance evaluated on a collective level within the allowance for credit losses.

Northern Trust's underwriting standards do not allow for the origination of loan types generally considered to be high risk in nature, such as option adjustable rate mortgage loans, subprime loans, loans with initial "teaser" rates and loans with excessively high loan-to-value ratios. Residential real estate loans consist of first lien mortgages and equity credit lines, which generally require a loan-to-collateral value of no more than 65% to 80% at inception. Appraisals of supporting collateral for residential real estate loans are obtained at loan origination and upon refinancing or default or when otherwise considered warranted. Residential real estate collateral appraisals are performed and reviewed by independent third parties.

The commercial real estate portfolio consists of commercial mortgages and construction, acquisition and development loans extended primarily to experienced investors well known to Northern Trust. Underwriting standards generally reflect conservative loan-to-value ratios and debt service coverage requirements. Recourse to owners through guarantees also is commonly required.

For additional information relating to the loans and leases portfolio, refer to Note 6 — Loans and Leases to the consolidated financial statements provided in Item 1. Consolidated Financial Statements (unaudited).

ASSET QUALITY (continued)

Allowance for Credit Losses

During the first quarter of 2020, the Corporation implemented a change in the classification of certain loans and leases to specific segments to enhance the consistency of its reporting across various regulatory regimes. The allowance for credit losses as of and prior to December 31, 2019 remains unadjusted, as the impact of the reclassification on the allowance was immaterial.

The Corporation adopted Accounting Standards Update (ASU) No. 2016-13, “Financial Instruments—Credit Losses: Measurement of Credit Losses on Financial Instruments” (ASU 2016-13) on January 1, 2020, which significantly changes the way impairment of financial instruments is recognized by requiring immediate recognition of estimated credit losses expected to occur over the remaining life of financial instruments. Upon adoption of ASU 2016-13, the Corporation recorded a \$13.7 million increase in the allowance for credit losses with a corresponding cumulative effect adjustment to decrease retained earnings \$10.1 million, net of income taxes. For more information on the adoption of ASU 2016-13, please refer to Note 2 — Recent Accounting Pronouncements to the consolidated financial statements provided in Item 1. Consolidated Financial Statements (unaudited).

The allowance for credit losses — which represents management’s estimate of lifetime expected credit losses related to various portfolios subject to credit risk, off-balance-sheet credit exposure, and specific borrower relationships — is determined by management through a disciplined credit review process. Northern Trust measures expected credit losses of financial assets with similar risk characteristics on a collective basis. A financial asset is measured individually if it does not share similar risk characteristics with other financial assets and the related allowance is determined through an individual evaluation.

Management’s estimates utilized in establishing an appropriate level of allowance for credit losses are not dependent on any single assumption. In determining an appropriate allowance level, management evaluates numerous variables, many of which are interrelated or dependent on other assumptions and estimates, and takes into consideration past events, current conditions and reasonable and supportable forecasts.

The results of the credit reserve estimation methodology are reviewed quarterly by Northern Trust’s Credit Loss Reserve Committee, which receives input from Credit Risk Management, Treasury, Corporate Finance, the Economic Research group, and each of Northern Trust’s business units.

ASSET QUALITY (continued)

Allowance for Credit Losses (continued)

The allowance for credit losses related to loans and leases, undrawn loan commitments and standby letters of credit, debt securities held to maturity, other financial assets, and debt securities available for sale was \$147.2 million, \$40.4 million, \$9.5 million, \$1.1 million, and \$0.2 million, respectively as of March 31, 2020. For additional information relating to the allowance for credit losses and the changes in the allowance for credit losses during the three months ended March 31, 2020 and December 31, 2019 due to charge-offs, recoveries and provisions for credit losses, refer to Note 7 — Allowance for Credit Losses to the consolidated financial statements provided in Item 1. Consolidated Financial Statements (unaudited).

The following table shows the allowance evaluated on an individual and collective level for loans and lease portfolio by segment and class.

TABLE 21: ALLOCATION OF THE ALLOWANCE FOR CREDIT LOSSES FOR LOANS AND LEASES

(\$ In Millions)	MARCH 31, 2020		DECEMBER 31, 2019	
	ALLOWANCE AMOUNT	PERCENT OF LOANS TO TOTAL LOANS	ALLOWANCE AMOUNT	PERCENT OF LOANS TO TOTAL LOANS
Evaluated on an Individual Level	\$ 8.7	—%	\$ 6.9	—%
Evaluated on a Collective Level				
Commercial				
Commercial and Institutional	76.9	33	35.3	29
Commercial Real Estate	35.9	8	33.0	10
Lease Financing, net	0.5	—	0.1	—
Non-U.S.	11.8	10	—	5
Other	0.1	1	0.2	1
Total Commercial	125.2	52	68.6	45
Personal				
Residential Real Estate	34.3	16	27.0	19
Private Client	18.8	31	20.5	35
Non-U.S.	0.6	1	—	1
Other	—	—	1.4	—
Total Personal	53.7	48	48.9	55
Total Allowance Evaluated on a Collective Level	\$ 178.9	100%	\$ 117.5	100%
Total Allowance for Credit Losses	\$ 187.6	100%	\$ 124.4	100%
Allowance Assigned to				
Loans and Leases	\$ 147.2		\$ 104.5	
Undrawn Commitments and Standby Letters of Credit	40.4		19.9	
Total Allowance for Credit Losses	\$ 187.6		\$ 124.4	
Allowance Assigned to Loans and Leases to Total Loans and Leases		0.39%		0.33%

STATEMENTS OF CASH FLOWS

Net cash used in operating activities of \$2.7 billion for the three months ended March 31, 2020 was primarily attributable to higher net collateral deposited with derivative counterparties, partially offset by net changes in other operating activities and period earnings. For the three months ended March 31, 2019, net cash provided by operating activities of \$293.7 million was primarily attributable to period earnings, lower net collateral deposited with derivative counterparties, and the impact of non-cash charges such as amortization of computer software, partially offset by net changes in other operating activities and an increase in accounts receivable.

Net cash used in investing activities of \$21.5 billion for the three months ended March 31, 2020 was primarily attributable to increased levels of Federal Reserve and other central bank deposits, higher levels of loans and leases, and client security settlement receivables. For the three months ended March 31, 2019, net cash provided by investing activities of \$11.6 billion was primarily attributable to decreased levels of Federal Reserve and other central bank deposits, net proceeds from sale of debt securities held to maturity, lower levels of loans and leases, and lower levels of federal funds sold and securities purchased under agreements to resell.

STATEMENTS OF CASH FLOWS (continued)

Net cash provided by financing activities of \$25.7 billion for the three months ended March 31, 2020 was primarily attributable to increased levels of total deposits and federal funds purchased, partially offset by decreased levels of short-term borrowings and securities sold under agreements to repurchase and the redemption by the Corporation of the Series C Non-Cumulative Perpetual Preferred Stock. The increase in total deposits was primarily attributable to higher levels of interest-bearing non-U.S. office client deposits, domestic noninterest-bearing deposits, and savings, money market and other interest-bearing deposits. For the three months ended March 31, 2019, net cash used in financing activities of \$11.4 billion was primarily attributable to decreased levels of total deposits, federal funds purchased, and the repurchase of common stock pursuant to the Corporation's share repurchase program. The decrease in total deposits was primarily attributable to lower levels of interest-bearing and noninterest bearing non-U.S. office client deposits.

CAPITAL RATIOS

The capital ratios of Northern Trust Corporation and its principal subsidiary, The Northern Trust Company, remained strong at March 31, 2020, exceeding the minimum requirements for classification as "well-capitalized" under applicable U.S. regulatory requirements.

During the first quarter of 2020, Northern Trust Corporation contributed \$500 million of capital to its wholly-owned subsidiary, The Northern Trust Company. Other drivers contributing to the change in capital ratios from the prior period include the redemption of all outstanding shares of the Corporation's Series C Non-Cumulative Perpetual Preferred Stock and the increase in total assets and risk-weighted assets. The table below provides capital ratios, as well as the required minimum capital ratios, for Northern Trust Corporation and The Northern Trust Company determined by Basel III phased-in requirements.

TABLE 22: REGULATORY CAPITAL RATIOS

Capital Ratios — Northern Trust Corporation	MARCH 31, 2020		DECEMBER 31, 2019		MARCH 31, 2019		WELL- CAPITALIZED RATIOS	MINIMUM CAPITAL RATIOS
	STANDARDIZED APPROACH	ADVANCED APPROACH	STANDARDIZED APPROACH	ADVANCED APPROACH	STANDARDIZED APPROACH	ADVANCED APPROACH		
Common Equity								
Tier 1 Capital	11.7%	12.9%	12.7%	13.2%	13.0%	13.5%	N/A	4.5%
Tier 1 Capital	12.8	14.1	14.5	15.0	14.3	14.8	6.0	6.0
Total Capital	14.5	15.7	16.3	16.8	16.3	16.6	10.0	8.0
Tier 1 Leverage	8.1	8.1	8.7	8.7	8.2	8.2	N/A	4.0
Supplementary Leverage	N/A	7.2	N/A	7.6	N/A	7.2	N/A	3.0
Capital Ratios — The Northern Trust Company	MARCH 31, 2020		DECEMBER 31, 2019		MARCH 31, 2019		WELL- CAPITALIZED RATIOS	MINIMUM CAPITAL RATIOS
	STANDARDIZED APPROACH	ADVANCED APPROACH	STANDARDIZED APPROACH	ADVANCED APPROACH	STANDARDIZED APPROACH	ADVANCED APPROACH		
Common Equity								
Tier 1 Capital	12.0%	13.5%	12.3%	13.0%	13.2%	13.9%	6.5%	4.5%
Tier 1 Capital	12.0	13.5	12.3	13.0	13.2	13.9	8.0	6.0
Total Capital	13.6	14.9	14.0	14.6	14.9	15.5	10.0	8.0
Tier 1 Leverage	7.6	7.6	7.3	7.3	7.4	7.4	5.0	4.0
Supplementary Leverage	N/A	6.8	N/A	6.4	N/A	6.6	3.0	3.0

CRITICAL ACCOUNTING ESTIMATES

For a description of Northern Trust's significant accounting policies, refer to Note 1 — Summary of Significant Accounting Policies included under Item 8. Financial Statements and Supplementary Data in the Annual Report on Form 10-K for the year ended December 31, 2019. The use of estimates and assumptions is required in the preparation of financial statements in conformity with GAAP and actual results could differ from those estimates. The SEC has issued guidance relating to the disclosure of critical accounting estimates. Critical accounting estimates are those that require management to make subjective or complex judgments about the effect of matters that are inherently uncertain and may change in subsequent periods. Changes that may be required in the underlying assumptions or estimates in these areas could have a material impact on Northern Trust's future financial condition and results of operations.

CRITICAL ACCOUNTING ESTIMATES (continued)

For Northern Trust, accounting estimates that are viewed as critical are those relating to the allowance for credit losses and pension plan accounting. Management has discussed the development and selection of each critical accounting estimate with the Audit Committee of the Board of Directors (Audit Committee). For a description of Northern Trust's estimate related to pension plan accounting, refer to the Critical Accounting Estimates section in the Annual Report on Form 10-K for the year ended December 31, 2019.

Allowance for Credit Losses

The Corporation adopted Accounting Standards Update (ASU) No. 2016-13, "Financial Instruments—Credit Losses: Measurement of Credit Losses on Financial Instruments" (ASU 2016-13) on January 1, 2020, which significantly changes the way impairment of financial instruments is recognized by requiring immediate recognition of estimated credit losses expected to occur over the remaining life of financial instruments. Upon adoption of ASU 2016-13, the Corporation recorded a \$13.7 million increase in the allowance for credit losses with a corresponding cumulative effect adjustment to decrease retained earnings \$10.1 million, net of income taxes. For more information on the adoption of ASU 2016-13, please refer to Note 2 — Recent Accounting Pronouncements to the consolidated financial statements provided in Item 1. Consolidated Financial Statements (unaudited).

The allowance for credit losses — which represents management's estimate of lifetime expected credit losses related to various portfolios subject to credit risk, off-balance-sheet credit exposure, and specific borrower relationships — is determined by management through a disciplined credit review process. Northern Trust measures expected credit losses of financial assets with similar risk characteristics on a collective basis. A financial asset is measured individually if it does not share similar risk characteristics with other financial assets and the related allowance is determined through an individual evaluation.

Management's estimates utilized in establishing an appropriate level of allowance for credit losses are not dependent on any single assumption. In determining an appropriate allowance level, management evaluates numerous variables, many of which are interrelated or dependent on other assumptions and estimates, and takes into consideration past events, current conditions and reasonable and supportable forecasts. Due to the inherent imprecision in accounting estimates, other estimates or assumptions could reasonably have been used in 2020 and changes in estimates are reasonably likely to occur from period to period.

The allowance for credit losses consists of the following components:

Evaluated on an Individual Level: The allowance is determined through an individual evaluation of financial assets considered impaired that is based on expected future cash flows, the value of collateral, and other factors that may impact the borrower's ability to pay. For impaired loans for which the amount of allowance, if any, is determined based on the value of the underlying real estate collateral, third-party appraisals are typically obtained and utilized by management. These appraisals are generally less than twelve months old and are subject to adjustments to reflect management's judgment as to the realizable value of the collateral.

Evaluated on a Collective Level: Expected credit losses are measured on a collective basis as long as the financial assets included in the respective pool share similar risk characteristics. If financial assets are deemed to not share similar risk characteristics, an individual assessment is warranted.

The allowance estimation methodology for the collective assessment is primarily based on internal loss data specific to the Northern Trust financial asset portfolio from a historical observation period that includes both expansionary and recessionary periods. The estimation methodology and the related qualitative adjustment framework segregate the loan and lease portfolio into segments based on loan and obligor-specific factors, including loan type, borrower type, collateral type, loan size, and borrower credit quality. For each segment, the probability of default and loss given default are derived for each remaining quarter of the loan's contractual life from models developed using historical data on macroeconomic factors and loans with similar factors. For quarters outside of the approved projection period, historical average loss rates for loans by segment are used. The exposure at default for every quarter is based on contractual balances as of each quarter-end, with adjustments made for potential draw-downs of revolving lines.

Northern Trust utilizes a quantitative probability of default / loss given default approach for the calculation of its credit allowance on a collective basis. For each of the different parameters, specific credit models for the individual loan segments were developed. For each segment, the probability of default and the loss given default are applied to the exposure at default for each projected quarter to determine the quantitative component of the allowance. The quantitative allowance is then reviewed within the qualitative adjustment framework, through which management applies judgment by assessing internal risk factors, potential limitations in the quantitative methodology, and environmental factors that are not fully contemplated in the forecast to compute an adjustment to the quantitative allowance for each segment of the loan portfolio.

CRITICAL ACCOUNTING ESTIMATES (continued)

Allowance for Credit Losses (continued)

ASU 2016-13 requires the use of projected macroeconomic factors. Northern Trust's current projection period is eight quarters, with a four-quarter straight-line reversion period to historical average loss rates. The Corporation uses multiple forecasts which are approved by Northern Trust's Macroeconomic Scenario Design Committee (MSDC). The baseline forecast aligns with the Corporation's latest thinking on macroeconomic projections for the next eight quarters. The forecasts are weighted at each evaluation period and are management's best estimate of future economic projections at that time.

The allowance estimate is sensitive to changes in portfolio composition and quality, and macroeconomic forecasts. Increases in the amount of borrowing and material downgrades to the quality of the lending portfolio will increase the reserve, all else equal. Similarly, deteriorating projections for macroeconomic conditions will increase the reserve. Macroeconomic factors that are particularly correlated to Northern Trust's loan and lease portfolio are equity market values, market volatility, corporate profits, house and commercial real estate price indices, unemployment, and disposable income. The investment security and other financial assets exposure portfolios are less sensitive to macroeconomic factors in terms of overall reserve impact due to factors such as high credit quality, short duration, and low historical losses.

The results of the credit reserve estimation methodology are reviewed quarterly by Northern Trust's Credit Loss Reserve Committee, which receives input from Credit Risk Management, Treasury, Corporate Finance, the Economic Research group, and each of Northern Trust's business units. The Credit Loss Reserve Committee determines the probability weights applied to each forecast approved by MSDC, and also reviews and approves qualitative adjustments to the collective allowance in line with Northern Trust's qualitative adjustment framework. In determining the appropriate adjustment, management applies judgment by assessing internal risk factors, potential limitations in the quantitative methodology and environmental factors that are not contemplated in the quantitative methodology, including potential changes to the portfolio or economic events from the time of the last model execution to the end of the quarter.

The quarterly analysis of the individual and collective allowance components and the control process maintained by Credit Risk Management and the lending staff are the principal methods relied upon by management for the timely identification of, and adjustment for, changes in estimated credit loss levels. In addition to Northern Trust's own experience, management also considers regulatory guidance. Control processes and analyses employed to determine an appropriate level of allowance for credit losses are reviewed on at least an annual basis and modified as considered appropriate.

The provision for credit losses, which is charged to income, is the amount necessary to adjust the allowance for credit losses to the level deemed to be appropriate through the above process. Actual losses may vary from current estimates and the amount of the provision for credit losses may be either greater than or less than actual net charge-offs. Management believes that the allowance for credit losses adequately addresses these uncertainties and has been established at an appropriate level.

RECENT ACCOUNTING PRONOUNCEMENTS AND DEVELOPMENTS

In January 2020, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2020-01, "Investments—Equity Securities (Topic 321), Investments—Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815): Clarifying the Interactions between Topic 321, Topic 323, and Topic 815" (ASU 2020-01). ASU 2020-01 addresses two accounting issues: (1) application of the measurement alternative under Topic 321 in correlation with the transition into and out of the equity method under Topic 323 and (2) the measurement of certain forward contracts and purchased options to acquire equity securities. ASU 2020-01 clarifies that an entity applying the measurement alternative under Topic 321 that must transition to the equity method under Topic 323 because of an observable transaction will remeasure its investment immediately before transition, whereas an entity applying the equity method under Topic 323 that must transition to Topic 321 because of an observable transaction will remeasure its investment immediately after transition. ASU 2020-01 also clarifies that certain forward contracts or purchased call options to acquire equity securities generally will be measured using the fair value principles of Topic 321 before settlement or exercise. ASU 2020-01 is effective for interim and annual periods beginning after December 15, 2020, although early adoption is permitted. ASU 2020-01 is not expected to have a significant impact on Northern Trust's consolidated financial condition or results of operations.

In March 2020, the FASB issued ASU No. 2020-04, "Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting" (ASU 2020-04). The global transition toward alternative reference rates and away from referencing the London Interbank Offered Rate (LIBOR) and other interbank offered rates (Reference Rate Reform) is expected to have a significant impact on the volume of contract modifications, hedge accounting, and other transactions that reference LIBOR or another reference rate expected to be discontinued because of Reference Rate Reform. ASU 2020-04 provides temporary

RECENT ACCOUNTING PRONOUNCEMENTS AND DEVELOPMENTS (continued)

optional expedients and exceptions for applying GAAP to contract modifications, hedging relationships, and other transactions affected by Reference Rate Reform if certain criteria are met. The main provisions of ASU 2020-04 provide the following optional expedients: (1) simplification of the accounting evaluations under current GAAP for contract modifications, including loan, debt, lease and other contracts with potential embedded derivatives, if qualifying criteria are met (2) preservation of hedging relationships without dedesignation upon certain changes to the critical terms of an existing hedging relationship due to Reference Rate Reform and other optional hedge accounting relief provisions and (3) a one-time election to sell or transfer, or both sell and transfer, debt securities classified as held to maturity that reference a rate affected by Reference Rate Reform and are classified as held to maturity before January 1, 2020.

ASU 2020-04 can be adopted beginning as of March 12, 2020 through December 31, 2022 and may be applied as of the beginning of the interim period that includes March 12, 2020 or any date thereafter. The optional expedients in ASU 2020-04 for contract modifications and hedging relationships are applied prospectively, while the one-time election to sell or transfer, or both sell and transfer debt securities classified as held to maturity may be made at any time after March 12, 2020. The optional expedients and exceptions provided by ASU 2020-04 do not apply to contract modifications made and hedging relationships entered into or evaluated after December 31, 2022, except for hedging relationships existing as of December 31, 2022 that an entity has elected certain optional expedients for and that are retained through the end of the hedging relationship. Northern Trust has not adopted ASU 2020-04 as of March 31, 2020. ASU 2020-04 is not expected to have a significant impact on Northern Trust's consolidated financial condition or results of operations.

MARKET RISK MANAGEMENT

There are two types of market risk, interest rate risk and trading risk. Interest rate risk is the potential for movements in interest rates to cause changes in net interest income and the market value of equity. Trading risk is the potential for movements in market variables such as foreign exchange and interest rates to cause changes in the value of trading positions.

Northern Trust uses two primary measurement techniques to manage interest rate risk: Net Interest Income (NII) sensitivity and Market Value of Equity (MVE) sensitivity. NII sensitivity provides management with a short-term view of the impact of interest rate changes on NII. MVE sensitivity provides management with a long-term view of interest rate changes on MVE based on the period-end balance sheet.

As part of its risk management activities, Northern Trust also measures daily the risk of loss associated with all non-U.S. currency positions using a Value-at-Risk (VaR) model and applying the historical simulation methodology. The following information about Northern Trust's management of market risk should be read in conjunction with the Annual Report on Form 10-K for the year ended December 31, 2019.

NII Sensitivity — The modeling of NII sensitivity incorporates on-balance-sheet positions, as well as derivative financial instruments (principally interest rate swaps) that are used to manage interest rate risk. Northern Trust uses market implied forward interest rates as the base case and measures the sensitivity (i.e., change) of a static balance sheet to changes in interest rates. Stress testing of interest rates is performed to include such scenarios as immediate parallel shocks to rates, nonparallel (i.e., twist) changes to yield curves that result in their becoming steeper or flatter, and changes to the relationship among the yield curves (i.e., basis risk).

The NII sensitivity analysis incorporates certain critical assumptions such as interest rates and client behaviors under changing rate environments. These assumptions are based on a combination of historical analysis and future expected pricing behavior. The simulation cannot precisely estimate NII sensitivity given uncertainty in the assumptions. The following key assumptions are incorporated into the simulation:

- the balance sheet size and mix remains constant over the simulation horizon with maturing assets and liabilities replaced with instruments with similar terms as those that are maturing, with the exception of certain nonmaturity deposits that are considered short-term in nature and therefore receive a more conservative interest-bearing treatment;
- prepayments on mortgage loans and securities collateralized by mortgages are projected under each rate scenario using a third-party mortgage analytics system that incorporates market prepayment assumptions;
- cash flows for structured securities are estimated using a third-party vendor in conjunction with the prepayments provided by the third-party mortgage analytics vendor;
- nonmaturity deposit pricing is projected based on Northern Trust's actual historical patterns and management judgment, depending upon the availability of historical data and current pricing strategies/or judgment; and
- new business rates are based on current spreads to market indices.

MARKET RISK MANAGEMENT (continued)

The following table shows the estimated NII impact over the next twelve months of 100 and 200 basis point upward and 100 basis point downward movements in interest rates relative to forward rates. Each rate movement is assumed to occur gradually over a one-year period.

TABLE 23: NET INTEREST INCOME SENSITIVITY AS OF MARCH 31, 2020

(\$ In Millions)	INCREASE (DECREASE) ESTIMATED IMPACT ON NEXT TWELVE MONTHS OF NET INTEREST INCOME
Increase in Interest Rates Above Market Implied Forward Rates	
100 Basis Points	\$ 103
200 Basis Points	266
Decrease in Interest Rates Below Market Implied Forward Rates	
100 Basis Points	8

The NII sensitivity analysis does not incorporate certain management actions that may be used to mitigate adverse effects of actual interest rate movement. For that reason and others, the estimated impacts do not reflect the likely actual results but serve as estimates of interest rate risk. NII sensitivity is not comparable to actual results disclosed elsewhere or directly predictive of future values of other measures provided.

MVE Sensitivity — MVE is defined as the present value of assets minus the present value of liabilities, net of the value of financial derivatives that are used to manage the interest rate risk of balance sheet items. The potential effect of interest rate changes on MVE is derived from the impact of such changes on projected future cash flows and the present value of these cash flows and is then compared to the established limit. Northern Trust uses current market rates (and the future rates implied by these market rates) as the base case and measures MVE sensitivity under various rate scenarios. Stress testing of interest rates is performed to include such scenarios as immediate parallel shocks to rates, nonparallel (i.e., twist) changes to yield curves that result in their becoming steeper or flatter, and changes to the relationship among the yield curves (i.e., basis risk).

The MVE sensitivity analysis incorporates certain critical assumptions such as interest rates and client behaviors under changing rate environments. These assumptions are based on a combination of historical analysis and future expected pricing behavior. The simulation cannot precisely estimate MVE sensitivity given uncertainty in the assumptions. Many of the assumptions that apply to NII sensitivity also apply to MVE sensitivity simulations, with the following separate key assumptions incorporated into the MVE simulation:

- the present value of nonmaturity deposits are estimated using dynamic decay methodologies or estimated remaining lives, which are based on a combination of Northern Trust's actual historical runoff patterns and management judgment — some balances are assumed to be core and have longer lives while other balances are assumed to be temporary and have comparatively shorter lives;
- the present values of most noninterest-related balances (such as receivables, equipment, and payables) are the same as their book values; and
- Monte Carlo simulation is used to generate forward interest rate paths.

The following table shows the estimated impact on MVE of 100 and 200 basis point shocks up and a 100 basis point shock down from current market implied forward rates.

TABLE 24: MARKET VALUE OF EQUITY SENSITIVITY AS OF MARCH 31, 2020

(\$ In Millions)	INCREASE (DECREASE) ESTIMATED IMPACT ON MARKET VALUE OF EQUITY
Increase in Interest Rates Above Market Implied Forward Rates	
100 Basis Points	\$ (285)
200 Basis Points	(852)
Decrease in Interest Rates Below Market Implied Forward Rates	
100 Basis Points	328

The MVE simulations do not incorporate certain management actions that may be used to mitigate adverse effects of actual interest rate movements. For that reason and others, the estimated impacts do not reflect the likely actual results but serve as estimates of

MARKET RISK MANAGEMENT (continued)

interest rate risk. MVE sensitivity is not comparable to actual results disclosed elsewhere or directly predictive of future values of other measures provided.

Foreign Currency Value-At-Risk (VaR) — Northern Trust measures daily the risk of loss associated with all non-U.S. currency positions using a VaR model and applying the historical simulation methodology. This statistical model provides estimates, based on a variety of high confidence levels, of the potential loss in value that might be incurred if an adverse shift in non-U.S. currency exchange rates were to occur over a small number of days. The model incorporates foreign currency and interest rate volatilities and correlations in price movements among the currencies. VaR is computed for each trading desk and for the global portfolio.

Northern Trust monitors several variations of the global foreign exchange (GFX) VaR measures to meet specific regulatory and internal management needs. Variations include different methodologies (historical simulation, Monte Carlo simulation and Taylor approximation), horizons of one day and ten days, confidence levels of 95% and 99%, subcomponent VaRs using only foreign exchange (FX) drivers and only interest rate (IR) drivers, and look-back periods of one year, two years, and four years. Those alternative measures provide management an array of corroborating metrics and alternative perspectives on Northern Trust's market risks.

During the three months ended March 31, 2020, Northern Trust experienced no days with an actual trading loss in excess of the daily value-at-risk estimate.

The table below presents the levels of total regulatory VaR and its subcomponents for GFX in the periods indicated below, based on the historical simulation methodology, a 99% confidence level, a one-day horizon and equally-weighted volatility. The total VaR for GFX is typically less than the sum of its two subcomponents due to diversification benefits derived from the two subcomponents.

TABLE 25: GLOBAL FOREIGN CURRENCY VALUE-AT-RISK

(\$ In Millions)	TOTAL VaR (FX AND IR DRIVERS)		FX VaR (FX DRIVERS ONLY)		IR VaR (IR DRIVERS ONLY)	
	MARCH 31, 2020	DECEMBER 31, 2019	MARCH 31, 2020	DECEMBER 31, 2019	MARCH 31, 2020	DECEMBER 31, 2019
THREE MONTHS ENDED						
High	\$ 0.3	\$ 0.2	\$ 0.4	\$ 0.2	\$ 0.1	\$ 0.1
Low	—	—	—	—	—	—
Average	0.1	0.1	0.1	0.1	0.1	0.1
Quarter-End	0.2	0.1	0.1	0.1	0.1	0.1

RECONCILIATION TO FULLY TAXABLE EQUIVALENT

The following table presents a reconciliation of interest income, net interest income, net interest margin, and total revenue prepared in accordance with GAAP to such measures on an FTE basis, which are non-GAAP financial measures. Net interest margin is calculated by dividing annualized net interest income by average interest-earning assets. Management believes this presentation provides a clearer indication of these financial measures for comparative purposes. When adjusted to an FTE basis, yields on taxable, nontaxable and partially taxable assets are comparable; however, the adjustment to an FTE basis has no impact on net income.

TABLE 26: RECONCILIATION TO FULLY TAXABLE EQUIVALENT

(\$ In Millions)	2020 FIRST	QUARTERS			
		2019 FOURTH	THIRD	SECOND	FIRST
Net Interest Income					
Interest Income - GAAP	\$ 529.2	\$ 576.1	\$ 620.8	\$ 640.2	\$ 662.8
Add: FTE Adjustment	8.1	9.7	7.6	7.7	7.8
Interest Income (FTE) - Non-GAAP	\$ 537.3	\$ 585.8	\$ 628.4	\$ 647.9	\$ 670.6
Net Interest Income - GAAP	\$ 408.1	\$ 420.8	\$ 417.7	\$ 417.4	\$ 422.0
Add: FTE Adjustment	8.1	9.7	7.6	7.7	7.8
Net Interest Income (FTE) - Non-GAAP	\$ 416.2	\$ 430.5	\$ 425.3	\$ 425.1	\$ 429.8
Net Interest Margin - GAAP	1.48%	1.56%	1.58%	1.58%	1.55%
Net Interest Margin (FTE) - Non-GAAP	1.51%	1.59%	1.61%	1.61%	1.58%
Total Revenue					
Total Revenue - GAAP	\$ 1,587.7	\$ 1,547.7	\$ 1,537.9	\$ 1,506.6	\$ 1,480.9
Add: FTE Adjustment	8.1	9.7	7.6	7.7	7.8
Total Revenue (FTE) - Non-GAAP	\$ 1,595.8	\$ 1,557.4	\$ 1,545.5	\$ 1,514.3	\$ 1,488.7

FORWARD-LOOKING STATEMENTS

This report may include statements which constitute “forward-looking statements” within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are identified typically by words or phrases such as “believe,” “expect,” “anticipate,” “intend,” “estimate,” “project,” “likely,” “plan,” “goal,” “target,” “strategy,” and similar expressions or future or conditional verbs such as “may,” “will,” “should,” “would,” and “could.” Forward-looking statements include statements, other than those related to historical facts, that relate to Northern Trust’s financial results and outlook; capital adequacy; dividend policy and share repurchase program; accounting estimates and assumptions; credit quality including allowance levels; future pension plan contributions; effective tax rate; anticipated expense levels; contingent liabilities; acquisitions; strategies; market and industry trends; and expectations regarding the impact of accounting pronouncements and legislation. These statements are based on Northern Trust’s current beliefs and expectations of future events or future results, and involve risks and uncertainties that are difficult to predict and subject to change. These statements are also based on assumptions about many important factors, including:

- financial market disruptions or economic recession or depression in the United States or other countries across the globe resulting from any of a number of factors, including, for example, the ongoing COVID-19 (coronavirus) pandemic and governmental and societal responses thereto;
- volatility or changes in financial markets, including debt and equity markets, that impact the value, liquidity, or credit ratings of financial assets in general, or financial assets held in particular investment funds or client portfolios, including those funds, portfolios, and other financial assets with respect to which Northern Trust has taken, or may in the future take, actions to provide asset value stability or additional liquidity;
- the impact of equity markets on fee revenue;
- the downgrade of U.S. government-issued and other securities;
- changes in foreign exchange trading client volumes and volatility in foreign currency exchange rates, changes in the valuation of the U.S. dollar relative to other currencies in which Northern Trust records revenue or accrues expenses, and Northern Trust’s success in assessing and mitigating the risks arising from all such changes and volatility;
- a decline in the value of securities held in Northern Trust’s investment portfolio, particularly asset-backed securities, the liquidity and pricing of which may be negatively impacted by periods of economic turmoil and financial market disruptions;
- Northern Trust’s ability to address operating risks, including those related to cyber-security, data security, human errors or omissions, pricing or valuation of securities, fraud, systems performance or defects, systems interruptions, and breakdowns in processes or internal controls;
- Northern Trust’s success in responding to and investing in changes and advancements in technology;
- a significant downgrade of any of Northern Trust’s debt ratings;
- the health and soundness of the financial institutions and other counterparties with which Northern Trust conducts business;
- uncertainties inherent in the complex and subjective judgments required to assess credit risk and establish appropriate allowances therefor;
- changes in the method pursuant to which the London Interbank Offered Rate (LIBOR) or other interest rate benchmarks are determined;
- the pace and extent of continued globalization of investment activity and growth in worldwide financial assets;
- changes in interest rates or in the monetary or other policies of various regulatory authorities or central banks;
- changes in the legal, regulatory and enforcement framework and oversight applicable to financial institutions, including Northern Trust;
- increased costs of compliance and other risks associated with changes in regulation, the current regulatory environment, and areas of increased regulatory emphasis and oversight in the United States and other countries, such as anti-money laundering, anti-bribery, and data privacy;
- failure to satisfy regulatory standards or to obtain regulatory approvals when required, including for the use and distribution of capital;
- changes in tax laws, accounting requirements or interpretations and other legislation in the United States or other countries that could affect Northern Trust or its clients;
- geopolitical risks, risks related to global climate change and the risks of extraordinary events such as natural disasters, pandemics, terrorist events and war, and the responses of the United States and other countries to those events;
- the departure of the United Kingdom from the European Union, commonly referred to as “Brexit,” and any negative effects thereof on global economic conditions, global financial markets, and our business and results of operations;
- changes in the nature and activities of Northern Trust’s competition;
- Northern Trust’s success in maintaining existing business and continuing to generate new business in existing and targeted markets and its ability to deploy deposits in a profitable manner consistent with its liquidity requirements;
- Northern Trust’s ability to address the complex needs of a global client base and manage compliance with legal, tax, regulatory and other requirements;
- Northern Trust’s ability to maintain a product mix that achieves acceptable margins;

FORWARD-LOOKING STATEMENTS (continued)

- Northern Trust's ability to continue to generate investment results that satisfy clients and to develop an array of investment products;
- Northern Trust's success in recruiting and retaining the necessary personnel to support business growth and expansion and maintain sufficient expertise to support increasingly complex products and services;
- Northern Trust's success in implementing its expense management initiatives;
- uncertainties inherent in Northern Trust's assumptions concerning its pension plan, including discount rates and expected contributions, returns and payouts;
- Northern Trust's success in continuing to enhance its risk management practices and controls and managing risks inherent in its businesses, including credit risk, operational risk, market and liquidity risk, fiduciary risk, compliance risk and strategic risk;
- risks and uncertainties inherent in the litigation and regulatory process, including the possibility that losses may be in excess of Northern Trust's recorded liability and estimated range of possible loss for litigation exposures;
- risks associated with being a holding company, including Northern Trust's dependence on dividends from its principal subsidiary;
- the risk of damage to Northern Trust's reputation which may undermine the confidence of clients, counterparties, rating agencies, and stockholders; and
- other factors identified elsewhere in the Corporation's Annual Report on Form 10-K for the year ended December 31, 2019, including those factors described in Item 1A, "Risk Factors," and other filings with the SEC, all of which are available on Northern Trust's website.

Actual results may differ materially from those expressed or implied by forward-looking statements. The information contained herein is current only as of the date of that information. All forward-looking statements included in this document are based upon information presently available, and Northern Trust assumes no obligation to update its forward-looking statements.

Item 1. Consolidated Financial Statements (unaudited)
CONSOLIDATED BALANCE SHEETS (UNAUDITED)
NORTHERN TRUST CORPORATION

(In Millions Except Share Information)	MARCH 31, 2020	DECEMBER 31, 2019
	(Unaudited)	
ASSETS		
Cash and Due from Banks	\$ 5,833.2	\$ 4,459.2
Federal Reserve and Other Central Bank Deposits	44,661.5	33,886.0
Interest-Bearing Deposits with Banks	5,358.9	4,877.1
Federal Funds Sold and Securities Purchased under Agreements to Resell	998.2	712.8
Debt Securities		
Available for Sale (Amortized cost of \$39,025.3 and \$38,722.2)	39,441.7	38,876.3
Held to Maturity (Fair value of \$12,533.0 and \$12,249.3)	12,635.7	12,284.5
Trading Account	1.2	0.3
Total Debt Securities	52,078.6	51,161.1
Loans and Leases		
Commercial	19,736.8	14,001.3
Personal	18,100.9	17,408.3
Total Loans and Leases (Net of unearned income of \$13.9 and \$14.1)	37,837.7	31,409.6
Allowance for Credit Losses	(157.8)	(104.5)
Buildings and Equipment	490.2	483.3
Client Security Settlement Receivables	2,116.9	845.7
Goodwill	689.3	696.8
Other Assets	11,802.5	8,401.3
Total Assets	\$ 161,709.2	\$ 136,828.4
LIABILITIES		
Deposits		
Demand and Other Noninterest-Bearing	\$ 20,098.0	\$ 14,114.7
Savings, Money Market and Other Interest-Bearing	27,241.0	21,441.5
Savings Certificates and Other Time	918.7	986.7
Non U.S. Offices — Noninterest-Bearing	13,454.4	12,177.4
— Interest-Bearing	69,779.1	60,400.3
Total Deposits	131,491.2	109,120.6
Federal Funds Purchased	4,370.6	552.9
Securities Sold Under Agreements to Repurchase	34.1	489.7
Other Borrowings	5,955.9	6,744.8
Senior Notes	2,668.5	2,573.0
Long-Term Debt	1,196.0	1,148.1
Floating Rate Capital Debt	277.7	277.7
Other Liabilities	4,835.5	4,830.6
Total Liabilities	150,829.5	125,737.4
STOCKHOLDERS' EQUITY		
Preferred Stock, No Par Value; Authorized 10,000,000 shares:		
Series C, outstanding shares of 0 and 16,000	—	388.5
Series D, outstanding shares of 5,000	493.5	493.5
Series E, outstanding shares of 16,000	391.4	391.4
Common Stock, \$1.66 2/3 Par Value; Authorized 560,000,000 shares;		
Outstanding shares of 208,052,036 and 209,709,046	408.6	408.6
Additional Paid-In Capital	938.3	1,013.1
Retained Earnings	11,828.1	11,656.7
Accumulated Other Comprehensive Income (Loss)	45.0	(194.7)
Treasury Stock (37,119,488 and 35,462,478 shares, at cost)	(3,225.2)	(3,066.1)
Total Stockholders' Equity	10,879.7	11,091.0
Total Liabilities and Stockholders' Equity	\$ 161,709.2	\$ 136,828.4

See accompanying notes to the consolidated financial statements.

**CONSOLIDATED STATEMENTS OF INCOME
(UNAUDITED)**

NORTHERN TRUST CORPORATION

THREE MONTHS ENDED MARCH 31,

(In Millions Except Share Information)

2020 2019

Noninterest Income		
Trust, Investment and Other Servicing Fees	\$ 1,003.6	\$ 928.9
Foreign Exchange Trading Income	88.9	66.2
Treasury Management Fees	11.0	11.7
Security Commissions and Trading Income	41.7	23.3
Other Operating Income	34.4	29.0
Investment Security Gains (Losses), net (Note)	—	(0.2)
Total Noninterest Income	1,179.6	1,058.9
Net Interest Income		
Interest Income	529.2	662.8
Interest Expense	121.1	240.8
Net Interest Income	408.1	422.0
Provision for Credit Losses	61.0	—
Net Interest Income after Provision for Credit Losses	347.1	422.0
Noninterest Expense		
Compensation	499.8	482.0
Employee Benefits	97.9	85.7
Outside Services	192.8	188.4
Equipment and Software	162.2	148.3
Occupancy	51.1	51.6
Other Operating Expense	61.8	72.7
Total Noninterest Expense	1,065.6	1,028.7
Income before Income Taxes	461.1	452.2
Provision for Income Taxes	100.5	105.1
Net Income	\$ 360.6	\$ 347.1
Preferred Stock Dividends	30.5	17.3
Net Income Applicable to Common Stock	\$ 330.1	\$ 329.8
Per Common Share		
Net Income – Basic	\$ 1.56	\$ 1.49
– Diluted	1.55	1.48
Average Number of Common Shares Outstanding		
– Basic	208,881,131	218,236,802
– Diluted	209,816,822	219,270,215
Note: Changes in Other-Than-Temporary-Impairment (OTTI) Losses prior to the adoption of ASU 2016-13	\$ —	\$ —
Other Security Gains (Losses), net	—	(0.2)
Investment Security Gains (Losses), net	\$ —	\$ (0.2)

**CONSOLIDATED STATEMENTS OF
COMPREHENSIVE INCOME (UNAUDITED)**

**NORTHERN TRUST
CORPORATION**

THREE MONTHS ENDED MARCH 31,

(In Millions)

2020 2019

Net Income	\$ 360.6	\$ 347.1
Other Comprehensive Income (Loss) (Net of Tax and Reclassifications)		
Net Unrealized Gains (Losses) on Debt Securities Available for Sale	199.7	85.6
Net Unrealized Gains (Losses) on Cash Flow Hedges	7.3	(4.3)
Net Foreign Currency Adjustments	25.7	14.8
Net Pension and Other Postretirement Benefit Adjustments	7.0	12.3
Other Comprehensive Income (Loss)	239.7	108.4
Comprehensive Income	\$ 600.3	\$ 455.5

See accompanying notes to the consolidated financial statements.

**CONSOLIDATED STATEMENTS OF CHANGES IN
STOCKHOLDERS' EQUITY
(UNAUDITED)**

NORTHERN TRUST CORPORATION

THREE MONTHS ENDED MARCH 31, 2020

(In Millions Except Per Share Information)	PREFERRED STOCK	COMMON STOCK	ADDITIONAL PAID-IN CAPITAL	RETAINED EARNINGS	ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)	TREASURY STOCK	TOTAL
Balance at December 31, 2019	\$ 1,273.4	\$ 408.6	\$ 1,013.1	\$ 11,656.7	\$ (194.7)	\$ (3,066.1)	\$ 11,091.0
Cumulative Effect Adjustment related to the adoption of Accounting Standards Update 2016-13	—	—	—	(10.1)	—	—	(10.1)
Balance at January 1, 2020	\$ 1,273.4	\$ 408.6	\$ 1,013.1	\$ 11,646.6	\$ (194.7)	\$ (3,066.1)	\$ 11,080.9
Net Income	—	—	—	360.6	—	—	360.6
Other Comprehensive Income (Loss) (Net of Tax and Reclassifications)	—	—	—	—	239.7	—	239.7
Dividends Declared:							
Common Stock, \$0.70 per share	—	—	—	(148.6)	—	—	(148.6)
Preferred Stock	—	—	—	(19.0)	—	—	(19.0)
Redemption of Preferred Stock, Series C	(388.5)	—	—	(11.5)	—	—	(400.0)
Stock Options and Awards	—	—	—	—	—	137.7	137.7
Stock Purchased	—	—	—	—	—	(296.8)	(296.8)
Treasury Stock Transactions — Stock Options and Awards	—	—	(129.0)	—	—	—	(129.0)
Stock Options and Awards — Amortization	—	—	54.2	—	—	—	54.2
Balance at March 31, 2020	\$ 884.9	\$ 408.6	\$ 938.3	\$ 11,828.1	\$ 45.0	\$ (3,225.2)	\$ 10,879.7

See accompanying notes to the consolidated financial statements.

THREE MONTHS ENDED MARCH 31, 2019

(In Millions Except Per Share Information)	PREFERRED STOCK	COMMON STOCK	ADDITIONAL PAID-IN CAPITAL	RETAINED EARNINGS	ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)	TREASURY STOCK	TOTAL
Balance at January 1, 2019	\$ 882.0	\$ 408.6	\$ 1,068.5	\$ 10,776.8	\$ (453.7)	\$ (2,173.9)	\$ 10,508.3
Net Income	—	—	—	347.1	—	—	347.1
Other Comprehensive Income (Loss) (Net of Tax and Reclassifications)	—	—	—	—	108.4	—	108.4
Dividends Declared:							
Common Stock, \$0.60 per share	—	—	—	(133.7)	—	—	(133.7)
Preferred Stock	—	—	—	(17.3)	—	—	(17.3)
Stock Options and Awards	—	—	—	—	—	126.0	126.0
Stock Purchased	—	—	—	—	—	(257.4)	(257.4)
Treasury Stock Transactions — Stock Options and Awards	—	—	(120.5)	—	—	—	(120.5)
Stock Options and Awards — Amortization	—	—	55.3	—	—	—	55.3
Balance at March 31, 2019	\$ 882.0	\$ 408.6	\$ 1,003.3	\$ 10,972.9	\$ (345.3)	\$ (2,305.3)	\$ 10,616.2

See accompanying notes to the consolidated financial statements.

**CONSOLIDATED STATEMENTS OF CASH FLOWS
(UNAUDITED)**

NORTHERN TRUST CORPORATION

(In Millions)	THREE MONTHS ENDED MARCH 31,	
	2020	2019
CASH FLOWS FROM OPERATING ACTIVITIES		
Net Income	\$ 360.6	\$ 347.1
Adjustments to Reconcile Net Income to Net Cash Provided by Operating Activities		
Investment Security Losses, net	—	0.2
Amortization and Accretion of Securities and Unearned Income, net	22.4	20.0
Provision for Credit Losses	61.0	—
Depreciation on Buildings and Equipment	28.1	24.9
Amortization of Computer Software	91.6	84.8
Amortization of Intangibles	4.1	4.2
Pension Plan Contributions	(10.6)	(3.0)
Change in Receivables	(122.7)	(105.3)
Change in Interest Payable	(5.7)	(3.6)
Change in Collateral With Derivative Counterparties, net	(3,570.2)	292.7
Other Operating Activities, net	456.1	(368.3)
Net Cash (Used in) Provided by Operating Activities	(2,685.3)	293.7
CASH FLOWS FROM INVESTING ACTIVITIES		
Net Change in Federal Funds Sold and Securities Purchased under Agreements to Resell	(362.2)	620.5
Change in Interest-Bearing Deposits with Banks	(757.6)	400.6
Net Change in Federal Reserve and Other Central Bank Deposits	(11,204.7)	6,738.8
Purchases of Debt Securities – Held to Maturity	(7,076.0)	(3,724.4)
Proceeds from Maturity and Redemption of Debt Securities – Held to Maturity	6,287.3	5,948.6
Purchases of Debt Securities – Available for Sale	(2,857.6)	(1,834.1)
Proceeds from Sale, Maturity and Redemption of Debt Securities – Available for Sale	2,430.7	1,714.3
Change in Loans and Leases	(6,432.9)	1,875.1
Purchases of Buildings and Equipment	(37.6)	(9.1)
Purchases and Development of Computer Software	(94.8)	(81.9)
Change in Client Security Settlement Receivables	(1,241.9)	(419.7)
Other Investing Activities, net	(153.0)	378.9
Net Cash (Used in) Provided by Investing Activities	(21,500.3)	11,607.6
CASH FLOWS FROM FINANCING ACTIVITIES		
Change in Deposits	23,956.5	(8,838.2)
Change in Federal Funds Purchased	3,817.7	(1,942.4)
Change in Securities Sold under Agreements to Repurchase	(455.6)	(128.5)
Change in Short-Term Other Borrowings	(778.0)	(158.7)
Redemption of Preferred Stock - Series C	(400.0)	—
Treasury Stock Purchased	(296.8)	(257.4)
Net Proceeds from Stock Options	8.8	5.5
Cash Dividends Paid on Common Stock	(147.1)	(120.8)
Cash Dividends Paid on Preferred Stock	(5.8)	(5.9)
Other Financing Activities, net	8.3	—
Net Cash Provided by (Used in) Financing Activities	25,708.0	(11,446.4)
Effect of Foreign Currency Exchange Rates on Cash	(148.4)	37.6
Change in Cash and Due from Banks	1,374.0	492.5
Cash and Due from Banks at Beginning of Year	4,459.2	4,581.6
Cash and Due from Banks at End of Year	\$ 5,833.2	\$ 5,074.1
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION		
Interest Paid	\$ 126.7	\$ 244.2
Income Taxes Paid	72.6	27.2
Transfers from Loans to OREO	(0.2)	—

See accompanying notes to the consolidated financial statements.

Notes to Consolidated Financial Statements (unaudited)

Note 1 – Basis of Presentation

The consolidated financial statements include the accounts of Northern Trust Corporation (Corporation) and its wholly-owned subsidiary, The Northern Trust Company (Bank), and various other wholly-owned subsidiaries of the Corporation and Bank. Throughout the notes to the consolidated financial statements, the term “Northern Trust” refers to the Corporation and its subsidiaries. Intercompany balances and transactions have been eliminated in consolidation. The consolidated financial statements, as of and for the periods ended March 31, 2020 and 2019, have not been audited by the Corporation’s independent registered public accounting firm. In the opinion of management, all accounting entries and adjustments, including normal recurring accruals, necessary for a fair presentation of the financial position and the results of operations for the interim periods have been made. The accounting and financial reporting policies of Northern Trust conform to U.S. generally accepted accounting principles (GAAP) and reporting practices prescribed for the banking industry. The consolidated statements of income include results of acquired subsidiaries from the dates of acquisition. Certain prior-period balances have been reclassified to conform with the current year’s presentation. For a description of Northern Trust’s significant accounting policies, refer to Note 1 — Summary of Significant Accounting Policies included under Item 8. Financial Statements and Supplementary Data in the Annual Report on Form 10-K for the year ended December 31, 2019.

Note 2 – Recent Accounting Pronouncements

On January 1, 2020, Northern Trust adopted Accounting Standards Update (ASU) No. 2016-13, “Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments” (ASU 2016-13). ASU 2016-13 significantly changes the way impairment of financial instruments is recognized by requiring immediate recognition of estimated credit losses expected to occur over the remaining life of financial instruments. The main provisions of ASU 2016-13 include (1) replacing the “incurred loss” approach under current GAAP with an “expected loss” model for instruments measured at amortized cost, (2) requiring entities to record an allowance for available for sale debt securities rather than reduce the carrying amount of the investments, as is required by the other-than-temporary-impairment model under legacy GAAP, and (3) a simplified accounting model for purchased credit-impaired debt securities and loans.

Upon adoption of ASU 2016-13, Northern Trust recorded a \$13.7 million increase in the allowance for credit losses with a corresponding cumulative effect adjustment to decrease retained earnings \$10.1 million, net of income taxes, on January 1, 2020. Northern Trust did not restate comparative periods for the effects of applying ASU 2016-13. There was no significant impact to Northern Trust’s consolidated results of operations. Please refer to Note 7 — Allowance for Credit Losses for further information.

On January 1, 2020, Northern Trust adopted ASU No. 2017-04, “Intangibles—Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment” (ASU 2017-04). ASU 2017-04 amends the subsequent measurement of goodwill whereby Step 2 from the goodwill impairment test is eliminated. As a result, the goodwill impairment test is performed by comparing the fair value of a reporting unit to its carrying value and an impairment charge should be recognized for the amount by which the carrying amount exceeds the reporting unit’s fair value, not to exceed the total amount of goodwill allocated to that reporting unit. Upon adoption of ASU 2017-04, there was no significant impact to Northern Trust’s consolidated financial condition or results of operations.

On January 1, 2020, Northern Trust adopted ASU No. 2018-13, “Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement” (ASU 2018-13). The primary objective of ASU 2018-13 is to improve the effectiveness of disclosures in the notes to financial statements. Upon adoption of ASU 2018-13, there was no significant impact to Northern Trust’s consolidated financial condition or results of operations.

On January 1, 2020, Northern Trust adopted ASU No. 2018-15, “Intangibles—Goodwill and Other—Internal-Use Software (Subtopic 350-40): Customer’s Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract (a consensus of the FASB Emerging Issues Task Force)” (ASU 2018-15). ASU 2018-15 aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal use software license). Upon adoption of ASU 2018-15, there was no significant impact to Northern Trust’s consolidated financial condition or results of operations.

On January 1, 2020, Northern Trust adopted ASU 2018-17, “Consolidation (Topic 810): Targeted Improvements to Related Party Guidance for Variable Interest Entities” (ASU 2018-17). ASU 2018-17 requires that indirect interests held through related parties in common control arrangements should be considered on a proportional basis (rather than as the equivalent of a direct interest in

Notes to Consolidated Financial Statements (unaudited) (continued)

its entirety) for determining whether fees paid to decision makers and service providers are variable interests. Upon adoption of ASU 2018-17, there was no significant impact to Northern Trust's consolidated financial condition or results of operations.

Note 3 – Fair Value Measurements

Fair Value Hierarchy. The following describes the hierarchy of valuation inputs (Levels 1, 2, and 3) used to measure fair value and the primary valuation methodologies used by Northern Trust for financial instruments measured at fair value on a recurring basis. Observable inputs reflect market data obtained from sources independent of the reporting entity; unobservable inputs reflect the entity's own assumptions about how market participants would value an asset or liability based on the best information available. GAAP requires an entity measuring fair value to maximize the use of observable inputs and minimize the use of unobservable inputs and establishes a fair value hierarchy of inputs. Financial instruments are categorized within the hierarchy based on the lowest level input that is significant to their valuation. No transfers into or out of Level 3 occurred during the three months ended March 31, 2020 or the twelve months ended December 31, 2019.

Level 1 — Quoted, active market prices for identical assets or liabilities.

Northern Trust's Level 1 assets are comprised of available for sale investments in U.S. treasury securities.

Level 2 — Observable inputs other than Level 1 prices, such as quoted active market prices for similar assets or liabilities, quoted prices for identical or similar assets in inactive markets, and model-derived valuations in which all significant inputs are observable in active markets.

Northern Trust's Level 2 assets include available for sale and trading account debt securities, the fair values of which are determined predominantly by external pricing vendors. Prices received from vendors are compared to other vendor and third-party prices. If a security price obtained from a pricing vendor is determined to exceed pre-determined tolerance levels that are assigned based on an asset type's characteristics, the exception is researched and, if the price is not able to be validated, an alternate pricing vendor is utilized, consistent with Northern Trust's pricing source hierarchy. As of March 31, 2020, Northern Trust's available for sale debt securities portfolio included 1,771 Level 2 debt securities with an aggregate market value of \$34.9 billion. All 1,771 debt securities were valued by external pricing vendors. As of December 31, 2019, Northern Trust's available for sale debt securities portfolio included 1,704 Level 2 debt securities with an aggregate market value of \$34.3 billion. All 1,704 debt securities were valued by external pricing vendors. Trading account debt securities, which totaled \$1.2 million and \$0.3 million as of March 31, 2020 and December 31, 2019, respectively, were all valued using external pricing vendors.

Level 2 assets and liabilities also include derivative contracts which are valued internally using widely accepted income-based models that incorporate inputs readily observable in actively quoted markets and reflect the contractual terms of the contracts. Observable inputs include foreign exchange rates and interest rates for foreign exchange contracts; credit spreads, default probabilities, and recovery rates for credit default swap contracts; interest rates for interest rate swap contracts and forward contracts; and interest rates and volatility inputs for interest rate option contracts. Northern Trust evaluates the impact of counterparty credit risk and its own credit risk on the valuation of its derivative instruments. Factors considered include the likelihood of default by Northern Trust and its counterparties, the remaining maturities of the instruments, net exposures after giving effect to master netting arrangements or similar agreements, available collateral, and other credit enhancements in determining the appropriate fair value of derivative instruments. The resulting valuation adjustments have not been considered material.

Level 3 — Valuation techniques in which one or more significant inputs are unobservable in the marketplace.

Northern Trust's Level 3 liabilities consist of swaps that Northern Trust entered into with the purchaser of 1.1 million and 1.0 million shares of Visa Inc. Class B common stock (Visa Class B common shares) previously held by Northern Trust and sold in June 2016 and 2015, respectively. Pursuant to the swaps, Northern Trust retains the risks associated with the ultimate conversion of the Visa Class B common shares into shares of Visa Inc. Class A common stock (Visa Class A common shares), such that the counterparty will be compensated for any dilutive adjustments to the conversion ratio and Northern Trust will be compensated for any anti-dilutive adjustments to the ratio. The swaps also require periodic payments from Northern Trust to the counterparty calculated by reference to the market price of Visa Class A common shares and a fixed rate of interest. The fair value of the swaps is determined using a discounted cash flow methodology. The significant unobservable inputs used in the fair value measurement are Northern Trust's own assumptions about estimated changes in the conversion rate of the Visa Class B common shares into Visa Class A common shares, the date on which such conversion is expected to occur and the estimated growth rate of the Visa Class A common share price. See "Visa Class B Common Shares" under Note 20 — Contingent Liabilities for further information.

Notes to Consolidated Financial Statements (unaudited) (continued)

Northern Trust believes its valuation methods for its assets and liabilities carried at fair value are appropriate; however, the use of different methodologies or assumptions, particularly as applied to Level 3 assets and liabilities, could have a material effect on the computation of their estimated fair values.

The following table presents the fair values of Northern Trust's Level 3 liabilities as of March 31, 2020 and December 31, 2019, as well as the valuation techniques, significant unobservable inputs, and quantitative information used to develop significant unobservable inputs for such liabilities as of such dates.

TABLE 27: LEVEL 3 SIGNIFICANT UNOBSERVABLE INPUTS

MARCH 31, 2020					
FINANCIAL INSTRUMENT	FAIR VALUE	VALUATION TECHNIQUE	UNOBSERVABLE INPUTS	INPUT VALUES	WEIGHTED-AVERAGE INPUT VALUES ⁽¹⁾
Swaps Related to Sale of Certain Visa Class B Common Shares	\$26.5 million	Discounted Cash Flow	Conversion Rate	1.62x	1.62x
			Visa Class A Appreciation	9.93%	9.93%
			Expected Duration	12 - 33 months	20 months

⁽¹⁾ Weighted average of expected duration based on scenario probability.

DECEMBER 31, 2019					
FINANCIAL INSTRUMENT	FAIR VALUE	VALUATION TECHNIQUE	UNOBSERVABLE INPUTS	INPUT VALUES	WEIGHTED-AVERAGE INPUT VALUES ⁽¹⁾
Swaps Related to Sale of Certain Visa Class B Common Shares	\$33.4 million	Discounted Cash Flow	Conversion Rate	1.62x	1.62x
			Visa Class A Appreciation	8.54%	8.54%
			Expected Duration	12 - 36 months	22 months

⁽¹⁾ Weighted average of expected duration based on scenario probability.

Notes to Consolidated Financial Statements (unaudited) (continued)

The following table presents assets and liabilities measured at fair value on a recurring basis as of March 31, 2020 and December 31, 2019, segregated by fair value hierarchy level.

TABLE 28: RECURRING BASIS HIERARCHY LEVELING

(In Millions)	MARCH 31, 2020					ASSETS/ LIABILITIES AT FAIR VALUE
	LEVEL 1	LEVEL 2	LEVEL 3	NETTING		
Debt Securities						
Available for Sale						
U.S. Government	\$ 4,584.1	\$ —	\$ —	\$ —	\$ —	4,584.1
Obligations of States and Political Subdivisions	—	1,776.3	—	—	—	1,776.3
Government Sponsored Agency	—	23,870.0	—	—	—	23,870.0
Non-U.S. Government	—	3.4	—	—	—	3.4
Corporate Debt	—	2,436.0	—	—	—	2,436.0
Covered Bonds	—	553.4	—	—	—	553.4
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	—	2,105.5	—	—	—	2,105.5
Other Asset-Backed	—	3,182.1	—	—	—	3,182.1
Commercial Mortgage-Backed	—	922.6	—	—	—	922.6
Other	—	8.3	—	—	—	8.3
Total Available for Sale	4,584.1	34,857.6	—	—	—	39,441.7
Trading Account	—	1.2	—	—	—	1.2
Total Available for Sale and Trading Debt Securities	4,584.1	34,858.8	—	—	—	39,442.9
Other Assets						
Derivative Assets						
Foreign Exchange Contracts	—	5,935.4	—	(2,062.6)		3,872.8
Interest Rate Contracts	—	341.5	—	(3.2)		338.3
Total Derivative Assets	—	6,276.9	—	(2,065.8)		4,211.1
Other Liabilities						
Derivative Liabilities						
Foreign Exchange Contracts	—	5,763.4	—	(4,763.3)		1,000.1
Interest Rate Contracts	—	160.1	—	(126.9)		33.2
Other Financial Derivatives ⁽¹⁾	—	—	26.5	—		26.5
Total Derivative Liabilities	\$ —	\$ 5,923.5	\$ 26.5	\$ (4,890.2)		\$ 1,059.8

Note: Northern Trust has elected to net derivative assets and liabilities when legally enforceable master netting arrangements or similar agreements exist between Northern Trust and the counterparty. As of March 31, 2020, derivative assets and liabilities shown above also include reductions of \$197.6 million and \$3,022.0 million, respectively, as a result of cash collateral received from and deposited with derivative counterparties.

⁽¹⁾ This line consists of swaps related to the sale of certain Visa Class B common shares.

Notes to Consolidated Financial Statements (unaudited) (continued)

DECEMBER 31, 2019

(In Millions)	LEVEL 1	LEVEL 2	LEVEL 3	NETTING	ASSETS/ LIABILITIES AT FAIR VALUE
Debt Securities					
Available for Sale					
U.S. Government	\$ 4,549.1	\$ —	\$ —	\$ —	4,549.1
Obligations of States and Political Subdivisions	—	1,615.3	—	—	1,615.3
Government Sponsored Agency	—	23,271.2	—	—	23,271.2
Non-U.S. Government	—	3.3	—	—	3.3
Corporate Debt	—	2,402.7	—	—	2,402.7
Covered Bonds	—	769.9	—	—	769.9
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	—	2,127.6	—	—	2,127.6
Other Asset-Backed	—	3,330.5	—	—	3,330.5
Commercial Mortgage-Backed	—	797.7	—	—	797.7
Other	—	9.0	—	—	9.0
Total Available for Sale	4,549.1	34,327.2	—	—	38,876.3
Trading Account	—	0.3	—	—	0.3
Total Available for Sale and Trading Debt Securities	4,549.1	34,327.5	—	—	38,876.6
Other Assets					
Derivative Assets					
Foreign Exchange Contracts	—	3,234.8	—	(2,334.1)	900.7
Interest Rate Contracts	—	152.9	—	(3.9)	149.0
Total Derivative Assets	—	3,387.7	—	(2,338.0)	1,049.7
Other Liabilities					
Derivative Liabilities					
Foreign Exchange Contracts	—	3,182.2	—	(1,548.6)	1,633.6
Interest Rate Contracts	—	97.4	—	(57.3)	40.1
Other Financial Derivatives ⁽¹⁾	—	—	33.4	(12.5)	20.9
Total Derivative Liabilities	\$ —	\$ 3,279.6	\$ 33.4	\$ (1,618.4)	\$ 1,694.6

Note: Northern Trust has elected to net derivative assets and liabilities when legally enforceable master netting arrangements or similar agreements exist between Northern Trust and the counterparty. As of December 31, 2019, derivative assets and liabilities shown above also include reductions of \$1,136.8 million and \$417.2 million, respectively, as a result of cash collateral received from and deposited with derivative counterparties.

⁽¹⁾ This line consists of swaps related to the sale of certain Visa Class B common shares.

The following table presents the changes in Level 3 liabilities for the three months ended March 31, 2020 and 2019.

TABLE 29: CHANGES IN LEVEL 3 LIABILITIES

(In Millions)	SWAPS RELATED TO SALE OF CERTAIN VISA CLASS B COMMON SHARES	
THREE MONTHS ENDED MARCH 31,	2020	2019
Fair Value at January 1	\$ 33.4	\$ 32.8
Total (Gains) Losses:		
Included in Earnings ⁽¹⁾	(2.9)	5.1
Purchases, Issues, Sales, and Settlements		
Settlements	(4.0)	(2.9)
Fair Value at March 31	\$ 26.5	\$ 35.0

⁽¹⁾ (Gains) losses are recorded in Other Operating Income on the consolidated statements of income.

Carrying values of assets and liabilities that are not measured at fair value on a recurring basis may be adjusted to fair value in periods subsequent to their initial recognition, for example, to record an impairment of an asset. GAAP requires entities to separately disclose these subsequent fair value measurements and to classify them under the fair value hierarchy.

Notes to Consolidated Financial Statements (unaudited) (continued)

Assets measured at fair value on a nonrecurring basis at March 31, 2020 and December 31, 2019, all of which were categorized as Level 3 under the fair value hierarchy, were comprised of nonaccrual loans whose values were based on real estate and other available collateral, and of other real estate owned (OREO) properties.

Fair values of real estate loan collateral were estimated using a market approach typically supported by third-party valuations and property-specific fees and taxes. The fair values of real estate loan collateral were subject to adjustments to reflect management's judgment as to realizable value and consisted of discount factors ranging from 15.0% to 20.0% with a weighted average based on fair values of 15.4% and 15.3% as of March 31, 2020 and December 31, 2019, respectively. Other loan collateral, which typically consists of accounts receivable, inventory and equipment, is valued using a market approach adjusted for asset-specific characteristics and in limited instances third-party valuations are used. OREO assets are carried at the lower of cost or fair value less estimated costs to sell, with fair value typically based on third-party appraisals.

Collateral-based nonaccrual loans that have been adjusted to fair value totaled \$12.9 million and \$8.0 million at March 31, 2020 and December 31, 2019, respectively.

The following table presents the fair values of Northern Trust's Level 3 assets that were measured at fair value on a nonrecurring basis as of March 31, 2020 and December 31, 2019, as well as the valuation technique, significant unobservable inputs and quantitative information used to develop the significant unobservable inputs for such assets as of such dates.

TABLE 30: LEVEL 3 NONRECURRING BASIS SIGNIFICANT UNOBSERVABLE INPUTS

MARCH 31, 2020					
FINANCIAL INSTRUMENT	FAIR VALUE ⁽¹⁾	VALUATION TECHNIQUE	UNOBSERVABLE INPUTS	INPUT VALUES	WEIGHTED-AVERAGE INPUT VALUES
Loans	\$12.9 million	Market Approach	Discount factor applied to real estate collateral-based loans to reflect realizable value	15.0% - 20.0%	15.4%

⁽¹⁾ Includes real estate collateral-based loans and other collateral-based loans.

DECEMBER 31, 2019					
FINANCIAL INSTRUMENT	FAIR VALUE ⁽¹⁾	VALUATION TECHNIQUE	UNOBSERVABLE INPUTS	INPUT VALUES	WEIGHTED-AVERAGE INPUT VALUES
Loans	\$8.0 million	Market Approach	Discount factor applied to real estate collateral-based loans to reflect realizable value	15.0% - 20.0%	15.3%

⁽¹⁾ Includes real estate collateral-based loans and other collateral-based loans.

Notes to Consolidated Financial Statements (unaudited) (continued)

The following table summarizes the fair values of all financial instruments.

TABLE 31: FAIR VALUE OF FINANCIAL INSTRUMENTS

(In Millions)	MARCH 31, 2020				
	BOOK VALUE	TOTAL FAIR VALUE	LEVEL 1	LEVEL 2	LEVEL 3
ASSETS					
Cash and Due from Banks	\$ 5,833.2	\$ 5,833.2	\$ 5,833.2	\$ —	\$ —
Federal Reserve and Other Central Bank Deposits	44,661.5	44,661.5	—	44,661.5	—
Interest-Bearing Deposits with Banks	5,358.9	5,358.9	—	5,358.9	—
Federal Funds Sold and Securities Purchased under Agreements to Resell	998.2	998.2	—	998.2	—
Debt Securities					
Available for Sale ⁽¹⁾	39,441.7	39,441.7	4,584.1	34,857.6	—
Held to Maturity	12,635.7	12,533.0	105.0	12,428.0	—
Trading Account	1.2	1.2	—	1.2	—
Loans (excluding Leases)					
Held for Investment	37,626.2	38,076.3	—	—	38,076.3
Client Security Settlement Receivables	2,116.9	2,116.9	—	2,116.9	—
Other Assets					
Federal Reserve and Federal Home Loan Bank Stock	301.2	301.2	—	301.2	—
Community Development Investments	746.2	746.2	—	746.2	—
Employee Benefit and Deferred Compensation	204.7	218.9	147.1	71.8	—
LIABILITIES					
Deposits					
Demand, Noninterest-Bearing, Savings, Money Market and Other Interest-Bearing	\$ 60,793.4	\$ 60,793.4	\$ 60,793.4	\$ —	\$ —
Savings Certificates and Other Time	918.7	927.9	—	927.9	—
Non U.S. Offices Interest-Bearing	69,779.1	69,779.1	—	69,779.1	—
Federal Funds Purchased	4,370.6	4,370.6	—	4,370.6	—
Securities Sold Under Agreements to Repurchase	34.1	34.1	—	34.1	—
Other Borrowings	5,955.9	5,949.8	—	5,949.8	—
Senior Notes	2,668.5	2,583.6	—	2,583.6	—
Long-Term Debt					
Subordinated Debt	1,196.0	1,122.6	—	1,122.6	—
Floating Rate Capital Debt	277.7	255.5	—	255.5	—
Other Liabilities					
Standby Letters of Credit	27.2	27.2	—	—	27.2
Loan Commitments	49.0	49.0	—	—	49.0
Derivative Instruments					
Asset/Liability Management					
Foreign Exchange Contracts					
Assets	\$ 149.3	\$ 149.3	\$ —	\$ 149.3	\$ —
Liabilities	17.3	17.3	—	17.3	—
Interest Rate Contracts					
Assets	12.9	12.9	—	12.9	—
Liabilities	18.3	18.3	—	18.3	—
Other Financial Derivatives					
Liabilities ⁽²⁾	26.5	26.5	—	—	26.5
Client-Related and Trading					
Foreign Exchange Contracts					
Assets	5,786.1	5,786.1	—	5,786.1	—
Liabilities	5,746.1	5,746.1	—	5,746.1	—
Interest Rate Contracts					
Assets	328.6	328.6	—	328.6	—
Liabilities	141.8	141.8	—	141.8	—

⁽¹⁾ Refer to the table located on page 38 for the disaggregation of available for sale debt securities.

⁽²⁾ This line consists of swaps related to the sale of certain Visa Class B common shares.

Notes to Consolidated Financial Statements (unaudited) (continued)

DECEMBER 31, 2019

(In Millions)	FAIR VALUE				
	BOOK VALUE	TOTAL FAIR VALUE	LEVEL 1	LEVEL 2	LEVEL 3
ASSETS					
Cash and Due from Banks	\$ 4,459.2	\$ 4,459.2	\$ 4,459.2	\$ —	\$ —
Federal Reserve and Other Central Bank Deposits	33,886.0	33,886.0	—	33,886.0	—
Interest-Bearing Deposits with Banks	4,877.1	4,877.1	—	4,877.1	—
Federal Funds Sold and Securities Purchased under Agreements to Resell	712.8	712.8	—	712.8	—
Debt Securities					
Available for Sale ⁽¹⁾	38,876.3	38,876.3	4,549.1	34,327.2	—
Held to Maturity	12,284.5	12,249.3	138.8	12,110.5	—
Trading Account	0.3	0.3	—	0.3	—
Loans (excluding Leases)					
Held for Investment	31,239.5	31,517.8	—	—	31,517.8
Client Security Settlement Receivables	845.7	845.7	—	845.7	—
Other Assets					
Federal Reserve and Federal Home Loan Bank Stock	301.2	301.2	—	301.2	—
Community Development Investments	749.3	749.3	—	749.3	—
Employee Benefit and Deferred Compensation	199.5	207.6	131.0	76.6	—
LIABILITIES					
Deposits					
Demand, Noninterest-Bearing, Savings, Money Market and Other Interest-Bearing	\$ 47,733.6	\$ 47,733.6	\$ 47,733.6	\$ —	\$ —
Savings Certificates and Other Time	986.7	994.2	—	994.2	—
Non U.S. Offices Interest-Bearing	60,400.3	60,400.3	—	60,400.3	—
Federal Funds Purchased	552.9	552.9	—	552.9	—
Securities Sold Under Agreements to Repurchase	489.7	489.7	—	489.7	—
Other Borrowings	6,744.8	6,745.9	—	6,745.9	—
Senior Notes	2,573.0	2,593.0	—	2,593.0	—
Long-Term Debt					
Subordinated Debt	1,148.1	1,169.5	—	1,169.5	—
Floating Rate Capital Debt	277.7	262.1	—	262.1	—
Other Liabilities					
Standby Letters of Credit	25.5	25.5	—	—	25.5
Loan Commitments	32.3	32.3	—	—	32.3
Derivative Instruments					
Asset/Liability Management					
Foreign Exchange Contracts					
Assets	\$ 83.1	\$ 83.1	\$ —	\$ 83.1	\$ —
Liabilities	24.1	24.1	—	24.1	—
Interest Rate Contracts					
Assets	20.5	20.5	—	20.5	—
Liabilities	21.1	21.1	—	21.1	—
Other Financial Derivatives					
Liabilities ⁽²⁾	33.4	33.4	—	—	33.4
Client-Related and Trading					
Foreign Exchange Contracts					
Assets	3,151.7	3,151.7	—	3,151.7	—
Liabilities	3,158.1	3,158.1	—	3,158.1	—
Interest Rate Contracts					
Assets	132.4	132.4	—	132.4	—
Liabilities	76.3	76.3	—	76.3	—

⁽¹⁾ Refer to the table located on page 39 for the disaggregation of available for sale debt securities.

⁽²⁾ This line consists of swaps related to the sale of certain Visa Class B common shares.

Notes to Consolidated Financial Statements (unaudited) (continued)

Note 4 – Securities

Debt Securities Available for Sale. The following tables provide the amortized cost and fair values at March 31, 2020 and December 31, 2019, and remaining maturities of debt securities available for sale at March 31, 2020.

TABLE 32: RECONCILIATION OF AMORTIZED COST TO FAIR VALUE OF DEBT SECURITIES AVAILABLE FOR SALE

(In Millions)	MARCH 31, 2020				FAIR VALUE
	AMORTIZED COST	GROSS UNREALIZED GAINS	GROSS UNREALIZED LOSSES		
U.S. Government	\$ 4,481.7	\$ 102.4	\$ —	\$	4,584.1
Obligations of States and Political Subdivisions	1,725.2	54.3	3.2		1,776.3
Government Sponsored Agency	23,611.0	365.3	106.3		23,870.0
Non-U.S. Government	3.3	0.1	—		3.4
Corporate Debt	2,408.6	38.7	11.3		2,436.0
Covered Bonds	550.5	4.2	1.3		553.4
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	2,047.5	58.6	0.6		2,105.5
Other Asset-Backed	3,284.9	2.3	105.1		3,182.1
Commercial Mortgage-Backed	904.3	31.1	12.8		922.6
Other	8.3	—	—		8.3
Total	\$ 39,025.3	\$ 657.0	\$ 240.6	\$	39,441.7

(In Millions)	DECEMBER 31, 2019				FAIR VALUE
	AMORTIZED COST	GROSS UNREALIZED GAINS	GROSS UNREALIZED LOSSES		
U.S. Government	\$ 4,527.5	\$ 26.7	\$ 5.1	\$	4,549.1
Obligations of States and Political Subdivisions	1,604.0	24.6	13.3		1,615.3
Government Sponsored Agency	23,247.5	101.8	78.1		23,271.2
Non-U.S. Government	3.3	—	—		3.3
Corporate Debt	2,378.9	27.8	4.0		2,402.7
Covered Bonds	766.3	4.4	0.8		769.9
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	2,091.3	37.4	1.1		2,127.6
Other Asset-Backed	3,324.5	11.3	5.3		3,330.5
Commercial Mortgage-Backed	769.9	28.7	0.9		797.7
Other	9.0	—	—		9.0
Total	\$ 38,722.2	\$ 262.7	\$ 108.6	\$	38,876.3

Notes to Consolidated Financial Statements (unaudited) (continued)

TABLE 33: REMAINING MATURITY OF DEBT SECURITIES AVAILABLE FOR SALE

MARCH 31, 2020 (In Millions)	ONE YEAR OR LESS		ONE TO FIVE YEARS		FIVE TO TEN YEARS		OVER TEN YEARS		TOTAL	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value	Amortized Cost	Fair Value	Amortized Cost	Fair Value	Amortized Cost	Fair Value
U.S. Government	\$ 2,204.6	\$ 2,221.5	\$ 1,724.7	\$ 1,768.4	\$ 552.4	\$ 594.2	\$ —	\$ —	\$ 4,481.7	\$ 4,584.1
Obligations of States and Political Subdivisions	35.9	35.9	87.5	91.3	1,601.8	1,649.1	—	—	1,725.2	1,776.3
Government Sponsored Agency	5,825.0	5,895.7	10,097.6	10,225.5	5,524.0	5,565.7	2,164.4	2,183.1	23,611.0	23,870.0
Non-U.S. Government	3.3	3.4	—	—	—	—	—	—	3.3	3.4
Corporate Debt	366.4	365.8	2,036.4	2,064.4	5.8	5.8	—	—	2,408.6	2,436.0
Covered Bonds	108.3	108.6	442.2	444.8	—	—	—	—	550.5	553.4
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	327.6	327.8	1,669.9	1,727.8	50.0	49.9	—	—	2,047.5	2,105.5
Other Asset-Backed	643.0	641.2	2,164.5	2,096.3	464.4	432.5	13.0	12.1	3,284.9	3,182.1
Commercial Mortgage-Backed	26.1	25.9	255.7	258.0	600.8	617.5	21.7	21.2	904.3	922.6
Other	8.3	8.3	—	—	—	—	—	—	8.3	8.3
Total	\$ 9,548.5	\$ 9,634.1	\$ 18,478.5	\$ 18,676.5	\$ 8,799.2	\$ 8,914.7	\$ 2,199.1	\$ 2,216.4	\$ 39,025.3	\$ 39,441.7

Note: Mortgage-backed and asset-backed securities are included in the above table taking into account anticipated future prepayments.

Debt Securities Available for Sale with Unrealized Losses. The following table provides information regarding debt securities available for sale with no credit losses reported that had been in a continuous unrealized loss position for less than twelve months and for twelve months or longer as of March 31, 2020 and December 31, 2019.

TABLE 34: DEBT SECURITIES AVAILABLE FOR SALE IN UNREALIZED LOSS POSITION WITH NO CREDIT LOSSES REPORTED

AS OF MARCH 31, 2020 (In Millions)	LESS THAN 12 MONTHS		12 MONTHS OR LONGER		TOTAL	
	FAIR VALUE	UNREALIZED LOSSES	FAIR VALUE	UNREALIZED LOSSES	FAIR VALUE	UNREALIZED LOSSES
Obligations of States and Political Subdivisions	\$ 230.6	\$ 3.2	\$ —	\$ —	\$ 230.6	\$ 3.2
Government Sponsored Agency	2,803.1	24.4	7,033.0	81.9	9,836.1	106.3
Corporate Debt	669.2	8.8	134.0	1.9	803.2	10.7
Covered Bonds	306.5	1.3	—	—	306.5	1.3
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	99.9	0.1	158.8	0.5	258.7	0.6
Other Asset-Backed	1,616.7	45.0	1,049.7	60.1	2,666.4	105.1
Commercial Mortgage-Backed	296.3	12.7	34.1	0.1	330.4	12.8
Total	\$ 6,022.3	\$ 95.5	\$ 8,409.6	\$ 144.5	\$ 14,431.9	\$ 240.0

Note: One corporate debt available for sale security with a fair value of \$24.6 million and unrealized losses of \$0.6 million has been excluded from the table above as it has a credit loss reported as of March 31, 2020.

AS OF DECEMBER 31, 2019 (In Millions)	LESS THAN 12 MONTHS		12 MONTHS OR LONGER		TOTAL	
	FAIR VALUE	UNREALIZED LOSSES	FAIR VALUE	UNREALIZED LOSSES	FAIR VALUE	UNREALIZED LOSSES
U.S. Government	\$ 252.2	\$ 2.8	\$ 899.7	\$ 2.3	\$ 1,151.9	\$ 5.1
Obligations of States and Political Subdivisions	902.4	13.3	—	—	902.4	13.3
Government Sponsored Agency	5,405.0	35.6	7,818.4	42.5	13,223.4	78.1
Corporate Debt	279.3	1.1	492.7	2.9	772.0	4.0
Covered Bonds	138.7	0.7	25.0	0.1	163.7	0.8
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	217.5	1.0	155.2	0.1	372.7	1.1
Other Asset-Backed	592.4	1.8	1,164.9	3.5	1,757.3	5.3
Commercial Mortgage-Backed	62.8	0.7	59.3	0.2	122.1	0.9
Total	\$ 7,850.3	\$ 57.0	\$ 10,615.2	\$ 51.6	\$ 18,465.5	\$ 108.6

As of March 31, 2020, 790 debt securities available for sale with a combined fair value of \$14.4 billion were in an unrealized loss position, with their unrealized losses totaling \$240.0 million. Unrealized losses of \$106.3 million and \$105.1 million related to government sponsored agency and other asset-backed securities, respectively, are primarily attributable to the impact of uncertain market conditions in the first quarter of 2020, changes in market interest rates and credit spreads since their purchase. Unrealized losses related to corporate debt securities with no credit losses reported of \$10.7 million are primarily attributable to changes in credit spreads since purchase. As of March 31, 2020, 25% of the corporate debt portfolio was backed by guarantees provided by

Notes to Consolidated Financial Statements (unaudited) (continued)

U.S. and non-U.S. governmental entities. The remaining unrealized losses on Northern Trust's debt securities available for sale portfolio as of March 31, 2020, are attributable to changes in overall market interest rates, credit spreads or reduced market liquidity.

As of March 31, 2020, Northern Trust did not intend to sell any debt securities available for sale in an unrealized loss position and it was more likely than not that Northern Trust would not be required to sell any such investment before the recovery of its amortized cost basis, which may be maturity.

Debt securities available for sale impairment reviews are conducted quarterly to identify and evaluate securities that have indications of possible credit losses. A determination as to whether a security's decline in market value is related to credit impairment takes into consideration numerous factors and the relative significance of any single factor can vary by security. Factors Northern Trust considers in determining whether impairment is credit related include, but are not limited to, the severity of the impairment; the cause of the impairment and the financial condition and near-term prospects of the issuer; activity in the market of the issuer, which may indicate adverse credit conditions; Northern Trust's intent regarding the sale of the security as of the balance sheet date; and the likelihood that Northern Trust will not be required to sell the security for a period of time sufficient to allow for the recovery of the security's amortized cost basis. For each security meeting the requirements of Northern Trust's internal screening process, an extensive review is conducted to determine if a credit loss has occurred.

There was \$0.2 million of credit losses recognized for corporate debt securities available for sale as of March 31, 2020. The process for identifying credit losses for corporate debt available for sale securities is based on the best estimate of cash flows to be collected from the security, discounted using the security's effective interest rate. If the present value of the expected cash flows is found to be less than the current amortized cost of the security, an allowance for credit losses is generally recorded equal to the difference between the two amounts, limited to the amount the amortized cost basis exceeds the fair value of the security.

For a description of Northern Trust's accounting policies applied prior to the adoption of ASU 2016-13, refer to Note 1 — Summary of Significant Accounting Policies and Note 4 — Securities included under Item 8. Financial Statements and Supplementary Data in the Annual Report on Form 10-K for the year ended December 31, 2019.

Notes to Consolidated Financial Statements (unaudited) (continued)

Debt Securities Held to Maturity. The following tables provide the amortized cost and fair values at March 31, 2020 and December 31, 2019, and remaining maturities of debt securities held to maturity at March 31, 2020.

TABLE 35: RECONCILIATION OF AMORTIZED COST TO FAIR VALUE OF DEBT SECURITIES HELD TO MATURITY

(In Millions)	MARCH 31, 2020				FAIR VALUE
	AMORTIZED COST	GROSS UNREALIZED GAINS	GROSS UNREALIZED LOSSES		
U.S Government	\$ 104.9	\$ 0.1	\$ —	\$	105.0
Obligations of States and Political Subdivisions	6.9	0.2	—		7.1
Government Sponsored Agency	3.9	0.3	—		4.2
Non-U.S. Government	3,696.0	7.5	0.3		3,703.2
Corporate Debt	520.9	1.1	8.4		513.6
Covered Bonds	3,116.9	15.5	14.2		3,118.2
Certificates of Deposit	1,041.9	—	—		1,041.9
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	3,060.0	35.6	3.3		3,092.3
Other Asset-Backed	783.3	—	8.1		775.2
Other	301.0	—	128.7		172.3
Total	\$ 12,635.7	\$ 60.3	\$ 163.0	\$	12,533.0

(In Millions)	DECEMBER 31, 2019				FAIR VALUE
	AMORTIZED COST	GROSS UNREALIZED GAINS	GROSS UNREALIZED LOSSES		
U.S. Government	\$ 138.8	\$ —	\$ —	\$	138.8
Obligations of States and Political Subdivisions	10.1	0.2	—		10.3
Government Sponsored Agency	4.1	0.2	—		4.3
Non-U.S. Government	4,076.0	5.3	2.5		4,078.8
Corporate Debt	405.1	1.4	0.3		406.2
Covered Bonds	3,006.7	16.1	2.4		3,020.4
Certificates of Deposit	262.9	—	—		262.9
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	3,285.4	21.7	2.1		3,305.0
Other Asset-Backed	804.3	0.7	0.3		804.7
Other	291.1	0.1	73.3		217.9
Total	\$ 12,284.5	\$ 45.7	\$ 80.9	\$	12,249.3

Notes to Consolidated Financial Statements (unaudited) (continued)

TABLE 36: REMAINING MATURITY OF DEBT SECURITIES HELD TO MATURITY

MARCH 31, 2020 (In Millions)	ONE YEAR OR LESS		ONE TO FIVE YEARS		FIVE TO TEN YEARS		OVER TEN YEARS		TOTAL	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value	Amortized Cost	Fair Value	Amortized Cost	Fair Value	Amortized Cost	Fair Value
U.S. Government	\$ 104.9	\$ 105.0	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 104.9	\$ 105.0
Obligations of States and Political Subdivisions	6.0	6.1	0.9	1.0	—	—	—	—	6.9	7.1
Government Sponsored Agency	0.6	0.7	1.7	1.8	1.0	1.1	0.6	0.6	3.9	4.2
Non-U.S. Government	3,481.7	3,483.9	214.3	219.3	—	—	—	—	3,696.0	3,703.2
Corporate Debt	96.0	94.2	424.9	419.4	—	—	—	—	520.9	513.6
Covered Bonds	753.0	755.2	2,363.9	2,363.0	—	—	—	—	3,116.9	3,118.2
Certificates of Deposit	1,041.9	1,041.9	—	—	—	—	—	—	1,041.9	1,041.9
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	418.5	419.4	2,600.9	2,632.6	40.6	40.3	—	—	3,060.0	3,092.3
Other Asset-Backed	252.3	251.5	449.2	442.7	81.8	81.0	—	—	783.3	775.2
Other	8.5	8.0	141.2	111.6	46.0	28.5	105.3	24.2	301.0	172.3
Total	\$ 6,163.4	\$ 6,165.9	\$ 6,197.0	\$ 6,191.4	\$ 169.4	\$ 150.9	\$ 105.9	\$ 24.8	\$ 12,635.7	\$ 12,533.0

Note: Mortgage-backed and asset-backed securities are included in the above table taking into account anticipated future prepayments.

Debt securities held to maturity consist of securities that management intends to, and Northern Trust has the ability to, hold until maturity. During the three months ended March 31, 2020 and 2019, no securities were transferred from available for sale to held to maturity, respectively.

Credit Quality Indicators. The following table provides the amortized cost of debt securities held to maturity by credit rating.

TABLE 37: AMORTIZED COST OF DEBT SECURITIES HELD TO MATURITY BY CREDIT RATING

(In Millions)	AS OF MARCH 31, 2020					
	AAA	AA	A	BBB	NOT RATED	TOTAL
U.S. Government	\$ 104.9	\$ —	\$ —	\$ —	\$ —	\$ 104.9
Obligations of States and Political Subdivisions	—	0.5	5.1	1.3	—	6.9
Government Sponsored Agency	3.9	—	—	—	—	3.9
Non-U.S. Government	348.1	1,219.2	2,128.7	—	—	3,696.0
Corporate Debt	3.4	256.5	261.0	—	—	520.9
Covered Bonds	3,116.9	—	—	—	—	3,116.9
Certificates of Deposit	—	—	—	—	1,041.9	1,041.9
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	2,146.4	882.6	—	—	31.0	3,060.0
Other Asset-Backed	783.3	—	—	—	—	783.3
Other	—	—	—	—	301.0	301.0
Total	\$ 6,506.9	\$ 2,358.8	\$ 2,394.8	\$ 1.3	\$ 1,373.9	\$ 12,635.7

Credit quality indicators are metrics that provide information regarding the relative credit risk of debt securities. Northern Trust maintains a high quality debt securities portfolio, with 51% of the held to maturity portfolio at March 31, 2020, composed of U.S. Treasury and government sponsored agency securities and other triple-A rated securities. The remaining held to maturity debt securities portfolio was comprised of 19% rated double-A, 19% rated below double-A, and 11% not rated by Moody's Investors Service or Standard and Poor's. Securities not explicitly rated were grouped where possible under the credit rating of the issuer of the security.

Notes to Consolidated Financial Statements (unaudited) (continued)

Investment Security Gains and Losses. Proceeds of \$280.0 million and \$127.5 million from the sale of debt securities during the three months ended March 31, 2020 and 2019, respectively, resulted in the following gains and losses shown below.

TABLE 38: INVESTMENT SECURITY GAINS AND LOSSES

(In Millions)	THREE MONTHS ENDED MARCH 31,	
	2020	2019
Gross Realized Debt Securities Gains	\$ 0.7	\$ 1.3
Gross Realized Debt Securities Losses	(0.7)	(1.5)
Net Investment Security (Losses) Gains	\$ —	\$ (0.2)

Note 5 – Securities Sold Under Agreements to Repurchase

Securities sold under agreements to repurchase are accounted for as collateralized financings and recorded at the amounts at which the securities were sold plus accrued interest. To minimize any potential credit risk associated with these transactions, the fair value of the securities sold is monitored, limits are set on exposure with counterparties, and the financial condition of counterparties is regularly assessed. Securities sold under agreements to repurchase are held by the counterparty until the repurchase.

The following table provides information regarding repurchase agreements that are accounted for as secured borrowings as of March 31, 2020 and December 31, 2019.

TABLE 39: REPURCHASE AGREEMENTS ACCOUNTED FOR AS SECURED BORROWINGS

(In Millions)	MARCH 31, 2020	DECEMBER 31, 2019
	REMAINING CONTRACTUAL MATURITY OF THE AGREEMENTS	
	OVERNIGHT AND CONTINUOUS	
U.S. Treasury and Agency Securities	\$ 34.1	\$ 489.7
Total Borrowings	34.1	489.7
Gross Amount of Recognized Liabilities for Repurchase Agreements in Note 22	34.1	489.7
Amounts related to agreements not included in Note 22	—	—

Notes to Consolidated Financial Statements (unaudited) (continued)

Note 6 – Loans and Leases

Amounts outstanding for loans and leases, by segment and class, are shown in the following table. During the first quarter of 2020, the Corporation implemented a change in the classification of certain loans and leases to specific segments to enhance the consistency of its reporting across various regulatory regimes. As a result, the loan and lease balances as of December 31, 2019 below have been adjusted to conform to the presentation for periods ended after such date. The adjustments generally reflected reclassification of loans from the commercial real estate class to commercial and institutional, residential real estate, and private client classes. There was no impact on total loans and leases previously reported.

TABLE 40: LOANS AND LEASES

(In Millions)	MARCH 31, 2020	DECEMBER 31, 2019
Commercial		
Commercial and Institutional	\$ 12,327.3	\$ 9,091.1
Commercial Real Estate	3,085.2	3,104.3
Non-U.S.	3,923.0	1,576.3
Lease Financing, net	64.8	65.6
Other	336.5	164.0
Total Commercial	19,736.8	14,001.3
Personal		
Private Client	11,609.9	11,071.4
Residential Real Estate	6,074.3	6,095.0
Non-U.S.	346.9	174.8
Other	69.8	67.1
Total Personal	18,100.9	17,408.3
Total Loans and Leases	\$ 37,837.7	\$ 31,409.6

Residential real estate loans consist of traditional first lien mortgages and equity credit lines that generally require a loan-to-collateral value of no more than 65% to 80% at inception. Northern Trust's equity credit line products generally have draw periods of up to 10 years and a balloon payment of any outstanding balance is due at maturity. Payments are interest-only with variable interest rates. Northern Trust does not offer equity credit lines that include an option to convert the outstanding balance to an amortizing payment loan. As of March 31, 2020 and December 31, 2019, equity credit lines totaled \$429.6 million and \$448.5 million, respectively, and equity credit lines for which first liens were held by Northern Trust represented 96% and 97% of the total equity credit lines as of March 31, 2020 and December 31, 2019, respectively.

Included within the non-U.S., commercial-other and personal-other classes are short-duration advances primarily related to the processing of custodied client investments, totaling \$3.8 billion at March 31, 2020 and \$1.1 billion at December 31, 2019, respectively. Demand deposit overdrafts reclassified as loan balances totaled \$26.7 million and \$90.4 million at March 31, 2020 and December 31, 2019, respectively.

As of March 31, 2020 and December 31, 2019, there were \$52.8 million and \$53.6 million of leases, respectively, classified as held for sale related to the decision to sell substantially all of the lease portfolio. As of March 31, 2020 and December 31, 2019, there were no loans classified as held for sale.

Credit Quality Indicators. Credit quality indicators are statistics, measurements or other metrics that provide information regarding the relative credit risk of loans and leases. Northern Trust utilizes a variety of credit quality indicators to assess the credit risk of loans and leases at the segment, class, and individual credit exposure levels.

Notes to Consolidated Financial Statements (unaudited) (continued)

As part of its credit process, Northern Trust utilizes an internal borrower risk rating system to support identification, approval, and monitoring of credit risk. Borrower risk ratings are used in credit underwriting and management reporting. Risk ratings are used for ranking the credit risk of borrowers and the probability of their default. Each borrower is rated using one of a number of ratings models, which consider both quantitative and qualitative factors. The ratings models vary among classes of loans and leases in order to capture the unique risk characteristics inherent within each particular type of credit exposure. Provided below are the more significant performance indicator attributes considered within Northern Trust's borrower rating models, by loan and lease class.

- Commercial and Institutional: leverage, profit margin, liquidity, asset size and capital levels;
- Commercial Real Estate: debt service coverage, loan-to-value ratio, leasing status and guarantor support;
- Lease Financing and Commercial-Other: leverage, profit margin, liquidity, asset size and capital levels;
- Non-U.S.: leverage, profit margin, liquidity, return on assets and capital levels;
- Residential Real Estate: payment history, credit bureau scores and loan-to-value ratio;
- Private Client: cash-flow-to-debt and net worth ratios, leverage and liquidity; and
- Personal-Other: cash-flow-to-debt and net worth ratios.

While the criteria vary by model, the objective is for the borrower ratings to be consistent in both the measurement and ranking of risk. Each model is calibrated to a master rating scale to support this consistency. Ratings for borrowers not in default range from "1" for the strongest credits to "7" for the weakest non-defaulted credits. Ratings of "8" or "9" are used for defaulted borrowers. Borrower risk ratings are monitored and are revised when events or circumstances indicate a change is required. Risk ratings are generally validated at least annually.

Loan and lease segment and class balances as of March 31, 2020 and December 31, 2019 are provided in the following table, segregated by borrower ratings into "1 to 3," "4 to 5" and "6 to 9" (watch list and nonaccrual status) categories by year of origination at amortized cost basis.

Notes to Consolidated Financial Statements (unaudited) (continued)

TABLE 41: CREDIT QUALITY INDICATOR AT AMORTIZED COST BASIS BY ORIGINATION YEAR

March 31, 2020 (In Millions)	TERM LOANS AND LEASES						REVOLVING LOANS	REVOLVING LOANS CONVERTED TO TERM LOANS	TOTAL
	2020	2019	2018	2017	2016	PRIOR			
Commercial									
Commercial and Institutional									
Risk Rating:									
1 to 3 Category	\$ 151.0	\$ 787.4	\$ 340.4	\$ 287.4	\$ 533.0	\$ 509.2	\$ 5,880.6	\$ 4.9	\$ 8,493.9
4 to 5 Category	137.7	668.7	370.5	449.0	120.2	203.8	1,676.4	51.1	3,677.4
6 to 9 Category	23.9	11.8	9.0	9.4	19.4	6.1	74.0	2.4	156.0
Total Commercial and Institutional	312.6	1,467.9	719.9	745.8	672.6	719.1	7,631.0	58.4	12,327.3
Commercial Real Estate									
Risk Rating:									
1 to 3 Category	121.0	285.9	100.5	61.2	100.5	170.7	106.6	6.1	952.5
4 to 5 Category	166.3	749.8	343.9	154.3	168.0	454.2	66.0	20.1	2,122.6
6 to 9 Category	2.2	—	—	4.4	3.0	0.5	—	—	10.1
Total Commercial Real Estate	289.5	1,035.7	444.4	219.9	271.5	625.4	172.6	26.2	3,085.2
Non-U.S.									
Risk Rating:									
1 to 3 Category	2,488.3	12.2	10.0	5.6	—	13.5	169.1	—	2,698.7
4 to 5 Category	905.6	5.9	1.9	6.7	—	70.9	38.6	1.8	1,031.4
6 to 9 Category	1.4	23.1	—	—	—	—	168.4	—	192.9
Total Non-U.S.	3,395.3	41.2	11.9	12.3	—	84.4	376.1	1.8	3,923.0
Lease Financing, net									
Risk Rating:									
1 to 3 Category	—	—	—	—	—	52.8	—	—	52.8
4 to 5 Category	—	—	—	—	—	12.0	—	—	12.0
6 to 9 Category	—	—	—	—	—	—	—	—	—
Total Lease Financing, net	—	—	—	—	—	64.8	—	—	64.8
Other									
Risk Rating:									
1 to 3 Category	117.4	—	—	—	—	—	—	—	117.4
4 to 5 Category	219.1	—	—	—	—	—	—	—	219.1
6 to 9 Category	—	—	—	—	—	—	—	—	—
Total Other	336.5	—	—	—	—	—	—	—	336.5
Total Commercial	4,333.9	2,544.8	1,176.2	978.0	944.1	1,493.7	8,179.7	86.4	19,736.8
Personal									
Private Client									
Risk Rating:									
1 to 3 Category	131.1	486.6	75.1	126.9	38.9	150.2	4,965.0	20.9	5,994.7
4 to 5 Category	50.4	531.2	259.6	171.5	97.5	103.7	4,076.9	243.2	5,534.0
6 to 9 Category	—	0.6	23.2	—	0.1	—	47.0	10.3	81.2
Total Private Client	181.5	1,018.4	357.9	298.4	136.5	253.9	9,088.9	274.4	11,609.9
Residential Real Estate									
Risk Rating:									
1 to 3 Category	222.8	801.7	112.6	156.3	244.7	942.8	228.8	1.3	2,711.0
4 to 5 Category	122.4	441.7	229.0	248.9	417.5	1,397.2	330.8	4.0	3,191.5
6 to 9 Category	0.3	11.3	10.4	0.6	3.0	124.2	22.0	—	171.8
Total Residential Real Estate	345.5	1,254.7	352.0	405.8	665.2	2,464.2	581.6	5.3	6,074.3
Non-U.S.									
Risk Rating:									
1 to 3 Category	2.2	41.5	—	—	—	2.0	58.4	—	104.1
4 to 5 Category	—	19.1	14.0	0.6	0.5	9.6	193.0	5.1	241.9
6 to 9 Category	—	—	—	—	—	0.6	0.3	—	0.9
Total Non-U.S.	2.2	60.6	14.0	0.6	0.5	12.2	251.7	5.1	346.9
Other									
Risk Rating:									
1 to 3 Category	36.5	—	—	—	—	—	—	—	36.5
4 to 5 Category	33.3	—	—	—	—	—	—	—	33.3
6 to 9 Category	—	—	—	—	—	—	—	—	—
Total Other	69.8	—	—	—	—	—	—	—	69.8
Total Personal	599.0	2,333.7	723.9	704.8	802.2	2,730.3	9,922.2	284.8	18,100.9
Total Loans and Leases	\$ 4,932.9	\$ 4,878.5	\$ 1,900.1	\$ 1,682.8	\$ 1,746.3	\$ 4,224.0	\$ 18,101.9	\$ 371.2	\$37,837.7

Notes to Consolidated Financial Statements (unaudited) (continued)

Loans and leases in the “1 to 3” category are expected to exhibit minimal to modest probabilities of default and are characterized by borrowers having the strongest financial qualities, including above average financial flexibility, cash flows and capital levels. Borrowers assigned these ratings are anticipated to experience very little to moderate financial pressure in adverse down-cycle scenarios. As a result of these characteristics, borrowers within this category exhibit a minimal to modest likelihood of loss.

Loans and leases in the “4 to 5” category are expected to exhibit moderate to acceptable probabilities of default and are characterized by borrowers with less financial flexibility than those in the “1 to 3” category. Cash flows and capital levels are generally sufficient to allow for borrowers to meet current requirements, but have fewer financial resources to manage through economic downturns. As a result of these characteristics, borrowers within this category exhibit a moderate likelihood of loss.

Loans and leases in the watch list category have elevated credit risk profiles that are monitored through internal watch lists, and consist of credits with borrower ratings of “6 to 9.” These credits, which include all nonaccrual credits, are expected to exhibit minimally acceptable probabilities of default, elevated risk of default, or are currently in default. Borrowers associated with these risk profiles that are not currently in default have limited financial flexibility. Cash flows and capital levels range from acceptable to potentially insufficient to meet current requirements, particularly in adverse down cycle scenarios. As a result of these characteristics, borrowers in this category exhibit an elevated to probable likelihood of loss.

For credit quality indicator information that was required under the former provisions of Accounting Standards Code (ASC) Topic 310, please refer to Note 6 — Loans and Leases of the Notes to Consolidated Financial Statements in the Annual Report on Form 10-K for the year ended December 31, 2019.

Notes to Consolidated Financial Statements (unaudited) (continued)

Past Due Status. Past due status is based on the length of time from the contractual due date a principal or interest payment has been past due. For disclosure purposes, loans and leases that are 29 days past due or less are reported as current.

The following table provides balances and delinquency status of accrual and nonaccrual loans and leases by segment and class, as well as the other real estate owned and nonaccrual asset balances, as of March 31, 2020 and December 31, 2019.

TABLE 42: DELINQUENCY STATUS

(In Millions)	ACCRUAL					NONACCRUAL	TOTAL LOANS AND LEASES	NONACCRUAL WITH NO ALLOWANCE
	CURRENT	30 – 59 DAYS PAST DUE	60 – 89 DAYS PAST DUE	90 DAYS OR MORE PAST DUE	TOTAL ACCRUAL			
March 31, 2020								
Commercial								
Commercial and Institutional	\$ 12,216.7	\$ 71.3	\$ 5.4	\$ 1.0	\$ 12,294.4	\$ 32.9	\$ 12,327.3	\$ 17.9
Commercial Real Estate	3,069.3	8.5	—	4.7	3,082.5	2.7	3,085.2	2.7
Non-U.S.	3,923.0	—	—	—	3,923.0	—	3,923.0	—
Lease Financing, net	64.8	—	—	—	64.8	—	64.8	—
Other	336.5	—	—	—	336.5	—	336.5	—
Total Commercial	19,610.3	79.8	5.4	5.7	19,701.2	35.6	19,736.8	20.6
Personal								
Private Client	11,522.5	77.3	8.4	1.2	11,609.4	0.5	11,609.9	0.5
Residential Real Estate	5,974.1	31.9	0.8	0.2	6,007.0	67.3	6,074.3	63.7
Non-U.S.	341.3	5.1	—	—	346.4	0.5	346.9	0.5
Other	69.8	—	—	—	69.8	—	69.8	—
Total Personal	17,907.7	114.3	9.2	1.4	18,032.6	68.3	18,100.9	64.7
Total Loans and Leases	\$ 37,518.0	\$ 194.1	\$ 14.6	\$ 7.1	\$ 37,733.8	\$ 103.9	\$ 37,837.7	\$ 85.3
Other Real Estate Owned						\$ 1.6		
Total Nonaccrual Assets						\$ 105.5		
(In Millions)	ACCRUAL					NONACCRUAL	TOTAL LOANS AND LEASES	NONACCRUAL WITH NO ALLOWANCE
	CURRENT	30 – 59 DAYS PAST DUE	60 – 89 DAYS PAST DUE	90 DAYS OR MORE PAST DUE	TOTAL ACCRUAL			
December 31, 2019								
Commercial								
Commercial and Institutional	\$ 9,068.3	\$ 4.1	\$ 9.9	\$ 1.2	\$ 9,083.5	\$ 7.6	\$ 9,091.1	\$ 0.8
Commercial Real Estate	3,089.6	2.3	4.1	4.7	3,100.7	3.6	3,104.3	2.4
Non-U.S.	1,576.3	—	—	—	1,576.3	—	1,576.3	—
Lease Financing, net	65.6	—	—	—	65.6	—	65.6	—
Other	164.0	—	—	—	164.0	—	164.0	—
Total Commercial	13,963.8	6.4	14.0	5.9	13,990.1	11.2	14,001.3	3.2
Personal								
Private Client	11,027.9	33.2	9.5	0.3	11,070.9	0.5	11,071.4	0.5
Residential Real Estate	5,997.7	19.8	4.9	1.2	6,023.6	71.4	6,095.0	66.4
Non-U.S.	174.1	0.2	—	—	174.3	0.5	174.8	0.5
Other	67.1	—	—	—	67.1	—	67.1	—
Total Personal	17,266.8	53.2	14.4	1.5	17,335.9	72.4	17,408.3	67.4
Total Loans and Leases	\$ 31,230.6	\$ 59.6	\$ 28.4	\$ 7.4	\$ 31,326.0	\$ 83.6	\$ 31,409.6	\$ 70.6
Other Real Estate Owned						\$ 3.2		
Total Nonaccrual Assets						\$ 86.8		

Recognition of Income. Interest income on loans and leases is recorded on an accrual basis unless, in the opinion of management, there is a question as to the ability of the debtor to meet the terms of the loan agreement, or interest or principal is more than 90 days contractually past due and the loan is not well-secured and in the process of collection. Loans meeting such criteria are classified as nonaccrual and interest income is recorded on a cash basis. At the time a loan is determined to be nonaccrual, interest

Notes to Consolidated Financial Statements (unaudited) (continued)

accrued but not collected is reversed against interest income in the current period. Interest collected on nonaccrual loans is applied to principal unless, in the opinion of management, collectability of principal is not in doubt. Management's assessment of the indicators of loan and lease collectability, and its policies relative to the recognition of interest income, including the suspension and subsequent resumption of income recognition, do not meaningfully vary between loan and lease classes. Nonaccrual loans are returned to accrual status when factors indicating doubtful collectability no longer exist. Factors considered in returning a loan to accrual status are consistent across all classes of loans and leases and, in accordance with regulatory guidance, relate primarily to expected payment performance. Loans are eligible to be returned to accrual status when: (i) no principal or interest that is due is unpaid and repayment of the remaining contractual principal and interest is expected or (ii) the loan has otherwise become well-secured (possessing realizable value sufficient to discharge the debt, including accrued interest, in full) and is in the process of collection (through action reasonably expected to result in debt repayment or restoration to a current status in the near future). A loan that has not been brought fully current may be restored to accrual status provided there has been a sustained period of repayment performance (generally a minimum of six payment periods) by the borrower in accordance with the contractual terms, and Northern Trust is reasonably assured of repayment within a reasonable period of time. Additionally, a loan that has been formally restructured so as to be reasonably assured of repayment and performance according to its modified terms may be returned to accrual status, provided there was a well-documented credit evaluation of the borrower's financial condition and prospects of repayment under the revised terms and there has been a sustained period of repayment performance (generally a minimum of six payment periods) under the revised terms.

Nonaccrual Loans and Troubled Debt Restructurings (TDRs). A loan that has been modified as a concession by Northern Trust or a bankruptcy court resulting from the debtor's financial difficulties is referred to as a troubled debt restructuring (TDR). All TDRs are reported as TDRs starting in the calendar year of their restructuring. In subsequent years, a TDR may cease being reported as a TDR if the loan was modified at a market rate and has performed according to the modified terms for at least six payment periods. A loan that has been modified at a below market rate will return to accrual status if it satisfies the six-payment-period performance requirement.

The expected credit loss is measured based upon the present value of expected future cash flows, discounted at the effective interest rate based on the original contractual rate. If a loan's contractual interest rate varies based on subsequent changes in an independent factor, such as an index or rate, the loan's effective interest rate is calculated based on the factor as it changes over the life of the loan. Northern Trust elected not to project changes in the factor for purposes of estimating expected future cash flows. Further, Northern Trust elected not to adjust the effective interest rate for prepayments. If the loan is collateral dependent, the expected loss is measured based on the fair value of the collateral at the reporting date.

If the loan valuation is less than the recorded value of the loan, either an allowance is established, or a charge-off is recorded, for the difference. Smaller balance (individually less than \$1 million) homogeneous loans are collectively evaluated. Northern Trust's accounting policies for material nonaccrual loans is consistent across all classes of loans and leases.

All loans and leases with TDR modifications are evaluated for additional expected credit losses. The nature and extent of further deterioration in credit quality, including a subsequent default, is considered in the determination of an appropriate level of allowance for credit losses.

Included within nonaccrual loans were \$73.4 million and \$54.9 million of nonaccrual TDRs, and \$22.6 million and \$27.7 million of accrual TDRs as of March 31, 2020 and December 31, 2019, respectively.

There were \$11.7 million and \$8.2 million of aggregate undrawn loan commitments and standby letters of credit at March 31, 2020 and December 31, 2019, respectively, issued to borrowers with TDR modifications of loans.

Notes to Consolidated Financial Statements (unaudited) (continued)

The following table provides, by segment and class, the number of TDR modifications of loans and leases during the three-month periods ended March 31, 2020 and 2019, and the recorded investments and unpaid principal balances as of March 31, 2020 and 2019.

TABLE 43: TROUBLED DEBT RESTRUCTURINGS

(\$ In Millions)	THREE MONTHS ENDED MARCH 31, 2020		
	NUMBER OF LOANS AND LEASES	RECORDED INVESTMENT	UNPAID PRINCIPAL BALANCE
Commercial			
Commercial and Institutional	2	\$ 24.3	\$ 24.5
Total Commercial	2	24.3	24.5
Personal			
Residential Real Estate	6	1.0	1.2
Total Personal	6	1.0	1.2
Total Loans and Leases	8	\$ 25.3	\$ 25.7

Note: Period-end balances reflect all paydowns and charge-offs during the period.

(\$ In Millions)	THREE MONTHS ENDED MARCH 31, 2019		
	NUMBER OF LOANS AND LEASES	RECORDED INVESTMENT	UNPAID PRINCIPAL BALANCE
Commercial			
Commercial and Institutional	1	\$ 7.6	\$ 8.8
Total Commercial	1	7.6	8.8
Personal			
Residential Real Estate	13	9.8	9.9
Total Personal	13	9.8	9.9
Total Loans and Leases	14	\$ 17.4	\$ 18.7

Note: Period-end balances reflect all paydowns and charge-offs during the period.

TDR modifications involve extensions of term, deferrals of principal, interest rate concessions, and other modifications. Other modifications typically reflect other nonstandard terms which Northern Trust would not offer in non-troubled situations.

During the three months ended March 31, 2020, the TDR modifications of loans within residential real estate were extensions of term, other modifications, interest rate concessions, and deferred principal. During the three months ended March 31, 2020, the TDR modifications within commercial and institutional were other modifications. During the three months ended March 31, 2019, the TDR modifications of loans within residential real estate were extensions of term, other modifications, and deferred principal. During the three months ended March 31, 2019, the TDR modification within commercial and institutional was an other modification.

There were no residential real estate loan TDR modifications during the twelve months ended December 31, 2019, which subsequently had a payment default during the three months ended March 31, 2020. There were no residential real estate loan TDR modifications during the twelve months ended December 31, 2018, which subsequently had a payment default during the three months ended March 31, 2019.

Northern Trust may obtain physical possession of real estate via foreclosure on an in-substance repossession. As of March 31, 2020, Northern Trust held foreclosed real estate properties with a carrying value of \$1.6 million as a result of obtaining physical possession. In addition, as of March 31, 2020, Northern Trust had loans with a carrying value of \$20.8 million for which formal foreclosure proceedings were in process.

Collateral Dependent Financial Assets. A financial asset is collateral-dependent when the borrower is experiencing financial difficulty and repayment is expected to be provided substantially through the sale or operation of the collateral. Most of Northern Trust's collateral dependent credit exposure relates to its residential real estate portfolio for which the collateral is usually the underlying real estate property. For collateral dependent financial assets, it is Northern Trust's policy to reserve or charge-off the difference between the amortized cost basis of the loan and the value of the collateral. The collateral dependent financial asset balance as of March 31, 2020 was immaterial to Northern Trust's financial statements.

Notes to Consolidated Financial Statements (unaudited) (continued)

Note 7 – Allowance for Credit Losses

During the first quarter of 2020, the Corporation implemented a change in the classification of certain loans and leases to specific segments to enhance the consistency of its reporting across various regulatory regimes. The allowance for credit losses as of and prior to December 31, 2019 remains unadjusted, as the impact of the reclassification on the allowance was immaterial.

An opening balance sheet adjustment related to the adoption of ASU 2016-13 resulted in an increase to the allowance for credit losses of \$13.7 million, with a corresponding adjustment to decrease retained earnings by \$10.1 million, net of tax.

Allowance and Provision for Credit Losses. The allowance for credit losses — which represents management’s estimate of lifetime expected credit losses related to various portfolios subject to credit risk, off-balance-sheet credit exposure, and specific borrower relationships — is determined by management through a disciplined credit review process. Northern Trust measures expected credit losses of financial assets with similar risk characteristics on a collective basis. A financial asset is measured individually if it does not share similar risk characteristics with other financial assets and the related allowance is determined through an individual evaluation.

Management’s estimates utilized in establishing an appropriate level of allowance for credit losses are not dependent on any single assumption. In determining an appropriate allowance level, management evaluates numerous variables, many of which are interrelated or dependent on other assumptions and estimates, and takes into consideration past events, current conditions and reasonable and supportable forecasts.

The following table provides information regarding changes in the total allowance for credit losses during the three months ended March 31, 2020 and 2019.

TABLE 44: CHANGES IN THE ALLOWANCE FOR CREDIT LOSSES

(In Millions)	THREE MONTHS ENDED MARCH 31,					TOTAL
	2020					
	LOANS AND LEASES	UNDRAWN LOAN COMMITMENTS AND STANDBY LETTERS OF CREDIT	DEBT SECURITIES HELD TO MATURITY	OTHER FINANCIAL ASSETS		
Balance at End of Prior Period	\$ 104.5	\$ 19.9	\$ —	\$ —	\$	124.4
Cumulative Effect Adjustment	(2.2)	8.9	6.6	0.4		13.7
Balance at Beginning of Period	102.3	28.8	6.6	0.4		138.1
Charge-Offs	(1.8)	—	—	—		(1.8)
Recoveries	1.1	—	—	—		1.1
Net (Charge-Offs) Recoveries	(0.7)	—	—	—		(0.7)
Provision for Credit Losses ⁽¹⁾	45.6	11.6	2.9	0.7		60.8
Balance at End of Period	\$ 147.2	\$ 40.4	\$ 9.5	\$ 1.1	\$	198.2

⁽¹⁾ The table excludes \$0.2 million of credit losses recognized for corporate debt securities available for sale as of March 31, 2020. See further detail in Note 4 — Securities.

(In Millions)	THREE MONTHS ENDED MARCH 31,					TOTAL
	2019					
	LOANS AND LEASES	UNDRAWN LOAN COMMITMENTS AND STANDBY LETTERS OF CREDIT	DEBT SECURITIES HELD TO MATURITY	OTHER FINANCIAL ASSETS		
Balance at Beginning of Period	\$ 112.6	\$ 25.6	\$ —	\$ —	\$	138.2
Charge-Offs	(1.0)	—	—	—		(1.0)
Recoveries	2.2	—	—	—		2.2
Net (Charge-Offs) Recoveries	1.2	—	—	—		1.2
Provision for Credit Losses	0.7	(0.7)	—	—		—
Balance at End of Period	\$ 114.5	\$ 24.9	\$ —	\$ —	\$	139.4

Notes to Consolidated Financial Statements (unaudited) (continued)

For credit exposure and the associated allowance related to fee receivables, please refer to Note 14 — Revenue from Contracts with Clients. For information related to the allowance for available for sale debt securities, please refer to Note 4 — Securities. For all other financial assets recognized at amortized cost, which include Cash and Due from Banks, Other Central Bank Deposits, Interest Bearing Deposits with Banks, Federal Funds Sold, and Other Assets, please refer to the Allowance for Other Financial Assets section within this footnote.

The provision for credit losses is the charge to current period earnings that is determined by management, through a disciplined credit review process, to be the amount needed to maintain the allowance for credit losses at an appropriate level to absorb lifetime expected credit losses related to financial assets in scope. Actual losses may vary from current estimates and the amount of the provision for credit losses may be either greater than or less than actual net charge-offs.

There was a \$61.0 million provision for credit losses in the current quarter, as compared to no provision in the prior-year quarter. The provision for credit losses, excluding available for sale securities, was a provision of \$60.8 million. There were net charge-offs of \$0.7 million during the three months ended March 31, 2020, as compared to net recoveries of \$1.2 million for the three months ended March 31, 2019. The provision in the current quarter was primarily due to an increase in the reserve evaluated on a collective basis driven by current and projected economic conditions resulting from the ongoing COVID-19 pandemic and related market and economic impacts, with the largest increase in the commercial and institutional and commercial real estate portfolios.

Forecasting and Reversion. Estimating expected lifetime credit losses requires the consideration of the effect of future economic conditions. Northern Trust employs multiple scenarios over a reasonable and supportable period (currently two years) to project future conditions. Management determines the probability weights assigned to each scenario at each quarter-end. Key variables determined to be relevant for projecting credit losses on the portfolios in scope include macroeconomic factors, such as corporate profits, unemployment, and real estate price indices, as well as financial market factors such as equity prices, volatility, and credit spreads. For periods beyond the reasonable and supportable period, Northern Trust reverts to its own historical loss experiences on a straight-line basis over four quarters.

Contractual Term. Northern Trust estimates expected credit losses over the contractual term of the financial assets adjusted for prepayments, unless prepayments are not relevant to specific portfolios or sub-portfolios. Extension and renewal options are typically not considered since it is not Northern Trust's practice to enter into arrangements where the borrower has the unconditional option to renew, or a conditional extension option whereby the conditions are beyond Northern Trust's control.

Accrued Interest. Accrued interest balances are reported within Other Assets on the consolidated balance sheets. Northern Trust elected not to measure an allowance for credit losses for accrued interest receivables related to its loan and securities portfolio as its policy is to write-off uncollectible accrued interest receivable balances in a timely manner. Accrued interest is written off by reversing interest income during the quarter the financial asset is moved from an accrual to a nonaccrual status.

The following table provides the amount of accrued interest excluded from the amortized cost basis of the following portfolios.

TABLE 45: ACCRUED INTEREST

(In Millions)	MARCH 31, 2020	DECEMBER 31, 2019
Loans and Leases	\$ 82.7	\$ 84.5
Debt Securities		
Held to Maturity	\$ 74.3	\$ 82.3
Available for Sale	110.5	119.0
Other Financial Assets	\$ 7.8	\$ 14.7

The following table provides amounts of accrued interest reversed through interest income by segment for the loan and lease portfolio.

TABLE 46: ACCRUED INTEREST REVERSED THROUGH INCOME

(In Millions)	THREE MONTHS ENDED MARCH 31,	
	2020	
Commercial	\$	0.5
Personal		0.8
Total Loans and Leases	\$	1.3

Notes to Consolidated Financial Statements (unaudited) (continued)

Interest income that would have been recorded for nonaccrual loans and leases in accordance with their original terms was \$1.9 million for the three months ended March 31, 2019.

There was no accrued interest reversed through interest income related to any other financial assets as of three months ended March 31, 2020 and 2019.

Allowance for the Loan and Lease Portfolio. The following table provides information regarding changes in the total allowance for credit losses, including undrawn loan commitments and standby letters of credit, by segment during the three months ended March 31, 2020 and 2019.

TABLE 47: CHANGES IN THE ALLOWANCE FOR CREDIT LOSSES RELATED TO LOANS AND LEASES

(In Millions)	THREE MONTHS ENDED MARCH 31,					
	2020					
	LOANS AND LEASES			UNDRAWN LOAN COMMITMENTS AND STANDBY LETTERS OF CREDIT		
	COMMERCIAL	PERSONAL	TOTAL	COMMERCIAL	PERSONAL	TOTAL
Balance at End of Prior Period	\$ 58.1	\$ 46.4	\$ 104.5	\$ 15.8	\$ 4.1	\$ 19.9
Cumulative Effect Adjustment	(5.9)	3.7	(2.2)	11.9	(3.0)	8.9
Balance at Beginning of Period	52.2	50.1	102.3	27.7	1.1	28.8
Charge-Offs	(0.1)	(1.7)	(1.8)	—	—	—
Recoveries	0.7	0.4	1.1	—	—	—
Net (Charge-Offs) Recoveries	0.6	(1.3)	(0.7)	—	—	—
Provision for Credit Losses	41.9	3.7	45.6	11.1	0.5	11.6
Balance at End of Period	\$ 94.7	\$ 52.5	\$ 147.2	\$ 38.8	\$ 1.6	\$ 40.4

(In Millions)	THREE MONTHS ENDED MARCH 31,					
	2019					
	LOANS AND LEASES			UNDRAWN LOAN COMMITMENTS AND STANDBY LETTERS OF CREDIT		
	COMMERCIAL	PERSONAL	TOTAL	COMMERCIAL	PERSONAL	TOTAL
Balance at Beginning of Period	\$ 57.6	\$ 55.0	\$ 112.6	\$ 21.1	\$ 4.5	\$ 25.6
Charge-Offs	(0.1)	(0.9)	(1.0)	—	—	—
Recoveries	0.4	1.8	2.2	—	—	—
Net (Charge-Offs) Recoveries	0.3	0.9	1.2	—	—	—
Provision for Credit Losses	0.2	0.5	0.7	(0.6)	(0.1)	(0.7)
Balance at End of Period	\$ 58.1	\$ 56.4	\$ 114.5	\$ 20.5	\$ 4.4	\$ 24.9

The portion of the allowance attributable to loans and leases increased from \$102.3 million at January 1, 2020 to \$147.2 million at March 31, 2020. The portion of the allowance attributable to undrawn loan commitments and standby letters of credit increased from \$28.8 million at January 1, 2020 to \$40.4 million at March 31, 2020. The increase to the allowance for both loans and leases and undrawn loan commitments and standby letters of credit was primarily due to an increase in the reserve evaluated on a collective basis driven by current and projected economic conditions resulting from the ongoing COVID-19 pandemic and related market and economic impacts, with the largest increase in the commercial and institutional and commercial real estate portfolios.

Allowance Related to Credit Exposure Evaluated on a Collective Level. Expected credit losses are measured on a collective basis as long as the financial assets included in the respective pool share similar risk characteristics. If financial assets are deemed to not share similar risk characteristics, an individual assessment is warranted.

The allowance estimation methodology for the collective assessment of Northern Trust's loan and lease portfolio and undrawn loan commitments and standby letters of credit is mostly based on internally developed loss data specific to the Northern Trust loan and lease portfolio. The estimation methodology and the related qualitative adjustment framework segregate the loan and lease portfolio into homogenous segments based on similar risk characteristics or risk monitoring methods.

Northern Trust utilizes a quantitative probability of default / loss given default approach for the calculation of its credit allowance on a collective basis. For each of the different parameters, specific credit models for the individual loan segments were developed. For each segment, the probability of default and the loss given default are applied to the exposure at default for each projected quarter to determine the quantitative component of the allowance. The quantitative allowance is then reviewed within the qualitative

Notes to Consolidated Financial Statements (unaudited) (continued)

adjustment framework, through which management applies judgment by assessing internal risk factors, potential limitations in the quantitative methodology, and environmental factors that are not fully contemplated in the forecast to compute an adjustment to the quantitative allowance for each segment of the loan portfolio.

Allowance Related to Credit Exposure Evaluated on an Individual Level. The allowance is determined through an individual evaluation of loans, leases, and lending-related commitments considered impaired that is based on expected future cash flows, the value of collateral, and other factors that may impact the borrower's ability to pay. For impaired loans for which the amount of allowance, if any, is determined based on the value of the underlying real estate collateral, third-party appraisals are typically obtained and utilized by management. These appraisals are generally less than twelve months old and are subject to adjustments to reflect management's judgment as to the realizable value of the collateral.

The following table provides information regarding the recorded investments in loans and leases and the allowance for credit losses for loans and leases and undrawn loan commitments and standby letters of credit by segment as of March 31, 2020 and December 31, 2019.

TABLE 48: RECORDED INVESTMENTS IN LOANS AND LEASES

(In Millions)	MARCH 31, 2020			DECEMBER 31, 2019		
	COMMERCIAL	PERSONAL	TOTAL	COMMERCIAL	PERSONAL	TOTAL
Loans and Leases						
Evaluated on an Individual Level	\$ 35.6	\$ 68.3	\$ 103.9	\$ 10.4	\$ 81.8	\$ 92.2
Evaluated on a Collective Level	19,701.2	18,032.6	37,733.8	13,990.9	17,326.5	31,317.4
Total Loans and Leases	19,736.8	18,100.9	37,837.7	14,001.3	17,408.3	31,409.6
Allowance for Credit Losses on Credit Exposures						
Evaluated on an Individual Level	5.3	0.4	5.7	3.4	1.6	5.0
Evaluated on a Collective Level	89.4	52.1	141.5	54.7	44.8	99.5
Allowance Assigned to Loans and Leases	94.7	52.5	147.2	58.1	46.4	104.5
Allowance for Undrawn Loan Commitments and Standby Letters of Credit						
Evaluated on an Individual Level	3.0	—	3.0	1.9	—	1.9
Evaluated on a Collective Level	35.8	1.6	37.4	13.9	4.1	18.0
Allowance Assigned to Undrawn Loan Commitments and Standby Letters of Credit	38.8	1.6	40.4	15.8	4.1	19.9
Total Allowance Assigned to Loans and Leases and Undrawn Loan Commitments and Standby Letters of Credit	\$ 133.5	\$ 54.1	\$ 187.6	\$ 73.9	\$ 50.5	\$ 124.4

Northern Trust analyzes its exposure to credit losses from both on-balance-sheet and off-balance-sheet activity using a consistent methodology for the quantitative framework as well as the qualitative framework. For purposes of estimating the allowance for credit losses for undrawn loan commitments and standby letters of credit, the exposure at default includes an estimated drawdown of unused credit based on credit utilization factors, resulting in a proportionate amount of expected credit losses.

The portion of the allowance assigned to loans and leases is reported as a contra asset, directly following Loans and Leases on the consolidated balance sheets. The portion of the allowance assigned to undrawn loan commitments and standby letters of credit is reported in Other Liabilities on the consolidated balance sheets.

Notes to Consolidated Financial Statements (unaudited) (continued)

Allowance for Debt Securities Held to Maturity Securities Portfolio. The following table provides information regarding changes in the total allowance for credit losses for debt securities held to maturity during the three months ended March 31, 2020.

TABLE 49: CHANGES IN THE ALLOWANCE FOR CREDIT LOSSES RELATED TO DEBT SECURITIES HELD TO MATURITY

(In Millions)	THREE MONTHS ENDED MARCH 31,							TOTAL
	2020							
	CORPORATE DEBT	NON-U.S. GOVERNMENT	SUB-SOVEREIGN, SUPERNATIONAL, AND NON-U.S. AGENCY BONDS	CERTIFICATE OF DEPOSITS	COVERED BONDS	OTHER		
Balance at End of Prior Period	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Cumulative Effect Adjustment	0.8	0.3	0.9	—	—	4.6	6.6	
Balance at Beginning of Period	0.8	0.3	0.9	—	—	4.6	6.6	
Charge-Offs	—	—	—	—	—	—	—	
Recoveries	—	—	—	—	—	—	—	
Net (Charge-Offs) Recoveries	—	—	—	—	—	—	—	
Provision for Credit Losses	1.9	0.1	0.4	0.2	0.1	0.2	2.9	
Balance at End of Period	\$ 2.7	\$ 0.4	\$ 1.3	\$ 0.2	\$ 0.1	\$ 4.8	\$ 9.5	

Prior to the adoption of ASU 2016-13, Northern Trust recognized \$4.4 million of cumulative Other-Than-Temporary-Impairment (OTTI) losses on the debt securities classified as other as of December 31, 2019. For debt securities with previous OTTI losses recorded, Northern Trust applied ASU 2016-13 on a prospective basis whereby the amortized cost basis of the impaired security remains unchanged immediately before and after adopting ASU 2016-13. The allowance recorded at January 1, 2020 for debt securities held to maturity equals the difference between the calculated expected loss and the amount of OTTI loss previously recorded and represents the cumulative effect adjustment required upon the adoption of ASU 2016-13.

The portion of the allowance attributable to debt securities held to maturity was \$9.5 million at March 31, 2020 as compared to \$6.6 million as of January 1, 2020. The increase to the allowance was primarily due to an increase in the reserve evaluated on a collective basis driven by current and projected economic conditions resulting from the ongoing COVID-19 pandemic and related market and economic impacts.

The allowance for credit losses for Northern Trust's debt securities held to maturity portfolio is evaluated as follows:

- Debt securities held to maturity classified as U.S. government, government sponsored agency, and certain securities classified as obligations of states and political subdivisions are considered to be guarantees of the U.S. government or an agency of the U.S. government and therefore an allowance for credit losses is not estimated for such investments as the expected probability of non-payment of the amortized cost basis is zero.
- Debt securities held to maturity classified as other asset-backed represent pools of underlying receivables from which the cash flows are used to pay the bonds that vary in seniority. Utilizing a qualitative estimation approach, the allowance for other asset-backed securities is assessed by evaluating underlying pool performance based on delinquency rates and available credit support.
- Debt securities held to maturity classified as other relates to investments purchased by Northern Trust to fulfill its obligations under the Community Reinvestment Act (CRA). Northern Trust fulfills its obligations under the CRA by making qualified investments for purposes of supporting institutions and programs that benefit low-to-moderate income communities within Northern Trust's market area. The allowance for CRA investments is assessed using a qualitative estimation approach primarily based on internal historical performance experience and default history of the underlying CRA portfolios to determine a quantitative component of the allowance.

The allowance estimation methodology for all other debt securities held to maturity is developed using a combination of external and internal data. The estimation methodology groups securities with shared characteristics for which the probability of default and the loss given default are applied to the total exposure at default to determine a quantitative component of the allowance.

The allowance assigned to the debt securities held to maturity portfolio is reported as a contra asset in Allowance for Credit Losses on the consolidated balance sheets.

Allowance for Other Financial Assets. The allowance for Other Financial Assets consists of the allowance for Cash and Due from Banks, Other Central Bank Deposits, Interest Bearing Deposits with Banks, Federal Funds Sold, and Other Assets. The Other Assets category includes other miscellaneous credit exposures reported in Other Assets on the consolidated balance sheets. The allowance estimation methodology for Other Financial Assets primarily utilizes a similar approach as used for the Debt Securities

Notes to Consolidated Financial Statements (unaudited) (continued)

Held to Maturity portfolio. It consists of a combination of externally and internally developed loss data, adjusted for the appropriate contractual term. Northern Trust's portfolio is composed mostly of institutions within the "1 to 3" internal borrower rating category and are expected to exhibit minimal to modest likelihood of loss. The allowance for credit losses related to Other Financial Assets was \$1.1 million for the three months ended March 31, 2020. The allowance is reported as a contra asset in Allowance for Credit Losses on the consolidated balance sheets.

Note 8 – Pledged Assets

Certain of Northern Trust's subsidiaries, as required or permitted by law, pledge assets to secure public and trust deposits, repurchase agreements and borrowings, as well as for other purposes, including support for securities settlement, primarily related to client activities, and for derivative contracts.

The following table presents Northern Trust's pledged assets.

TABLE 50: TYPE OF PLEDGED ASSETS

(In Billions)	MARCH 31, 2020	DECEMBER 31, 2019
Securities		
Obligations of States and Political Subdivisions	\$ 1.3	\$ 1.0
Government Sponsored Agency and Other Securities	31.0	33.4
Loans	7.4	7.7
Total Pledged Assets	\$ 39.7	\$ 42.1

Collateral required for these purposes totaled \$7.5 billion and \$8.5 billion at March 31, 2020 and December 31, 2019, respectively. The following table presents the available for sale debt securities pledged as collateral that are included in pledged assets.

TABLE 51: FAIR VALUE OF AVAILABLE FOR SALE DEBT SECURITIES INCLUDED IN PLEDGED ASSETS

(In Millions)	SECURITIES SOLD UNDER AGREEMENTS TO REPURCHASE		DERIVATIVE CONTRACTS	
	MARCH 31, 2020	DECEMBER 31, 2019	MARCH 31, 2020	DECEMBER 31, 2019
Debt Securities				
Available for Sale	\$ 30.4	\$ 487.1	\$ 58.3	\$ 14.4

The secured parties to these transactions have the right to repledge or sell the securities as it relates to \$31.4 million and \$487.2 million of the pledged collateral as of March 31, 2020 and December 31, 2019, respectively.

Northern Trust accepts financial assets as collateral that it is and is not permitted to repledge or sell. The collateral is generally obtained under certain repurchase agreements and derivative contracts. The following table presents the fair value of securities accepted as collateral. There was no repledged or sold collateral at March 31, 2020 or December 31, 2019.

TABLE 52: ACCEPTED COLLATERAL

(In Millions)	MARCH 31, 2020	DECEMBER 31, 2019
Collateral that may be repledged or sold		
Repurchase agreements	\$ 998.2	\$ 707.8
Derivative contracts	34.6	16.8
Collateral that may not be repledged or sold		
Repurchase agreements	—	—

Deposits maintained to meet Federal Reserve Bank reserve requirements averaged \$1.7 billion for the three months ended March 31, 2020 and \$1.5 billion for the three months ended March 31, 2019.

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Note 9 – Goodwill and Other Intangibles

Goodwill. Changes by reporting segment in the carrying amount of goodwill for the three months ended March 31, 2020, including the effect of foreign exchange rates on non-U.S.-dollar denominated balances, were as follows:

TABLE 53: GOODWILL BY REPORTING SEGMENT

(In Millions)	CORPORATE AND INSTITUTIONAL SERVICES	WEALTH MANAGEMENT	TOTAL
Balance at December 31, 2019	\$ 625.7	\$ 71.1	\$ 696.8
Foreign Exchange Rates	(7.4)	(0.1)	(7.5)
Balance at March 31, 2020	\$ 618.3	\$ 71.0	\$ 689.3

Other Intangible Assets Subject to Amortization. The gross carrying amount and accumulated amortization of other intangible assets subject to amortization as of March 31, 2020 and December 31, 2019 were as follows:

TABLE 54: OTHER INTANGIBLE ASSETS

(In Millions)	MARCH 31, 2020	DECEMBER 31, 2019
Gross Carrying Amount	\$ 204.3	\$ 207.2
Less: Accumulated Amortization	89.7	86.6
Net Book Value	\$ 114.6	\$ 120.6

Other intangible assets consist primarily of the value of acquired client relationships and are included within Other Assets on the consolidated balance sheets. Amortization expense related to other intangible assets totaled \$4.1 million for the three months ended March 31, 2020, and \$4.2 million for the three months ended March 31, 2019. Amortization for the remainder of 2020 and for the years 2021, 2022, 2023, and 2024 is estimated to be \$12.3 million, \$14.1 million, \$9.6 million, \$9.3 million, and \$9.2 million, respectively.

Note 10 – Reporting Segments

Northern Trust is organized around its two client-focused reporting segments: C&IS and Wealth Management. Asset management and related services are provided to C&IS and Wealth Management clients primarily by the Asset Management business. The revenue and expenses of Asset Management and certain other support functions are allocated fully to C&IS and Wealth Management.

Reporting segment financial information, presented on an internal management-reporting basis, is determined by accounting systems used to allocate revenue and expense to each segment, and incorporates processes for allocating assets, liabilities, equity and the applicable interest income and expense utilizing a funds transfer pricing (FTP) methodology. Under the methodology, assets and liabilities receive a funding charge or credit that considers interest rate risk, liquidity risk, and other product characteristics on an instrument level.

Revenues, expenses and average assets are allocated to C&IS and Wealth Management, with the exception of non-recurring activities such as certain costs associated with acquisitions, divestitures, litigation, restructuring, and tax adjustments not directly attributable to a specific reporting segment.

Reporting segment results are subject to reclassification when organizational changes are made. The results are also subject to refinements in revenue and expense allocation methodologies, which are typically reflected on a prospective basis.

Notes to Consolidated Financial Statements (unaudited) (continued)

The following table reflects the earnings contributions and average assets of Northern Trust's reporting segments for the three-month periods ended March 31, 2020 and 2019.

TABLE 55: RESULTS OF REPORTING SEGMENTS

THREE MONTHS ENDED MARCH 31, (\$ In Millions)	CORPORATE & INSTITUTIONAL SERVICES		WEALTH MANAGEMENT		TREASURY AND OTHER		TOTAL CONSOLIDATED	
	2020	2019	2020	2019	2020	2019	2020	2019
Noninterest Income								
Trust, Investment and Other Servicing Fees	\$ 574.4	\$ 535.2	\$ 429.2	\$ 393.7	\$ —	\$ —	\$ 1,003.6	\$ 928.9
Foreign Exchange Trading Income	85.1	59.7	3.8	6.5	—	—	88.9	66.2
Other Noninterest Income	41.8	43.4	42.4	25.5	2.9	(5.1)	87.1	63.8
Total Noninterest Income	701.3	638.3	475.4	425.7	2.9	(5.1)	1,179.6	1,058.9
Net Interest Income⁽¹⁾	211.3	234.8	204.9	195.0	—	—	416.2	429.8
Revenue ⁽¹⁾	912.6	873.1	680.3	620.7	2.9	(5.1)	1,595.8	1,488.7
Provision for Credit Losses	25.7	(1.1)	35.3	1.1	—	—	61.0	—
Noninterest Expense	659.3	648.0	394.4	379.9	11.9	0.8	1,065.6	1,028.7
Income before Income Taxes ⁽¹⁾	227.6	226.2	250.6	239.7	(9.0)	(5.9)	469.2	460.0
Provision for Income Taxes ⁽¹⁾	49.9	53.6	60.9	60.8	(2.2)	(1.5)	108.6	112.9
Net Income	\$ 177.7	\$ 172.6	\$ 189.7	\$ 178.9	\$ (6.8)	\$ (4.4)	\$ 360.6	\$ 347.1
Percentage of Consolidated Net Income	49%	50%	53%	51%	(2)%	(1)%	100%	100%
Average Assets	\$ 92,715.3	\$ 90,351.7	\$ 31,455.2	\$ 29,065.0	\$ —	\$ —	\$ 124,170.5	\$ 119,416.7

⁽¹⁾ Non-GAAP financial measures stated on a fully taxable equivalent basis (FTE). Total consolidated includes FTE adjustments of \$8.1 million for 2020 and \$7.8 million for 2019.

Note 11 – Stockholders' Equity

Preferred Stock. The Corporation is authorized to issue 10 million shares of preferred stock without par value. The Board of Directors is authorized to fix the particular designations, preferences and relative, participating, optional and other special rights and qualifications, limitations or restrictions for each series of preferred stock issued.

As of March 31, 2020, 5,000 shares of Series D Non-Cumulative Perpetual Preferred Stock (the "Series D Preferred Stock") and 16,000 shares of Series E Non-Cumulative Perpetual Preferred Stock ("Series E Preferred Stock") were outstanding. During the first quarter of 2020, proceeds from the Series E Preferred Stock issuance in the fourth quarter of 2019 were used to fund the redemption of all outstanding shares of the Corporation's Series C Non-Cumulative Perpetual Preferred Stock at a redemption price of \$400 million (\$25,000 per share equivalent to \$25.00 per depository share), which was \$11.5 million in excess of the net carrying value of the shares. The \$11.5 million excess is included in preferred stock dividends in the determination of net income available to common shareholders.

Series D Preferred Stock. As of March 31, 2020, the Corporation had issued and outstanding 500,000 depository shares, each representing a 1/100th ownership interest in a share of Series D Preferred Stock, issued in August 2016. Equity related to Series D Preferred Stock as of March 31, 2020 and December 31, 2019 was \$493.5 million. Shares of the Series D Preferred Stock have no par value and a liquidation preference of \$100,000 (equivalent to \$1,000 per depository share).

Dividends on the Series D Preferred Stock, which are not mandatory, accrue and are payable on the liquidation preference amount, on a non-cumulative basis, at a rate per annum equal to (i) 4.60% from the original issue date of the Series D Preferred Stock to but excluding October 1, 2026; and (ii) a floating rate equal to Three-Month LIBOR plus 3.202% from and including October 1, 2026. Fixed rate dividends are payable in arrears on the first day of April and October of each year, through and including October 1, 2026, and floating rate dividends will be payable in arrears on the first day of January, April, July and October of each year, commencing on January 1, 2027. On January 21, 2020, the Corporation declared a cash dividend of \$2,300 per share of Series D Preferred Stock payable on April 1, 2020, to stockholders of record as of March 15, 2020.

Series E Preferred Stock. As of March 31, 2020, the Corporation had issued and outstanding 16 million depository shares, each representing 1/1,000th ownership interest in a share of Series E Preferred Stock, issued in November 2019. Equity related to Series E Preferred Stock as of March 31, 2020 and December 31, 2019 was \$391.4 million. Shares of the Series E Preferred Stock have no par value and a liquidation preference of \$25,000 (equivalent to \$25 per depository share).

Notes to Consolidated Financial Statements (unaudited) (continued)

Dividends on the Series E Preferred Stock, which are not mandatory, will accrue and be payable on the liquidation preference amount, on a non-cumulative basis, quarterly in arrears on the first day of January, April, July and October of each year, commencing on April 1, 2020, at a rate per annum equal to 4.70%. On January 21, 2020, the Corporation declared a cash dividend, covering the period from the date of issuance of the stock, November 5, 2019 through March 31, 2020, of \$476.5278 per share of Series E Preferred Stock payable on April 1, 2020, to stockholders of record as of March 15, 2020.

Common Stock. During the three months ended March 31, 2020, the Corporation repurchased 3,240,738 shares of common stock, including 496,862 shares withheld related to share-based compensation, at a total cost of \$296.8 million (\$91.59 average price per share). The Corporation's current stock repurchase authorization to repurchase up to 25.0 million shares was approved by the Board of Directors in July 2018. Shares are repurchased by the Corporation to, among other things, manage the Corporation's capital levels. Repurchased shares are used for general purposes, including the issuance of shares under stock option and other incentive plans. The repurchase authorization approved by the Board of Directors has no expiration date.

Under the Corporation's 2019 capital plan, which was reviewed without objection by the Federal Reserve, the Corporation may repurchase up to \$531.7 million of common stock after March 31, 2020 through June 30, 2020.

On March 16, 2020, the Corporation announced the temporary suspension of repurchases of common stock under its share repurchase program, consistent with broader efforts to mitigate the impact of the COVID-19 pandemic on individuals, businesses and the economy by maintaining strong capital levels and liquidity in the U.S. financial system. The Corporation retains the ability to resume purchases of common stock under its share repurchase program as circumstances warrant.

Note 12 – Accumulated Other Comprehensive Income (Loss)

The following tables summarize the components of accumulated other comprehensive income (loss) (AOCI) at March 31, 2020 and 2019, and changes during the three months then ended.

TABLE 56: SUMMARY OF CHANGES IN ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)

(In Millions)	THREE MONTHS ENDED MARCH 31, 2020					TOTAL
	NET UNREALIZED GAINS (LOSSES) ON DEBT SECURITIES AVAILABLE FOR SALE (1)	NET UNREALIZED (LOSSES) GAINS ON CASH FLOW HEDGES	NET FOREIGN CURRENCY ADJUSTMENT	NET PENSION AND OTHER POSTRETIREMENT BENEFIT ADJUSTMENTS		
Balance at December 31, 2019	\$ 114.0	\$ (3.7)	\$ 117.8	\$ (422.8)	\$ (194.7)	
Net Change	199.7	7.3	25.7	7.0	239.7	
Balance at March 31, 2020	\$ 313.7	\$ 3.6	\$ 143.5	\$ (415.8)	\$ 45.0	

⁽¹⁾ Includes net unrealized gains on debt securities transferred from available for sale to held to maturity during the period ended March 31, 2020.

(In Millions)	THREE MONTHS ENDED MARCH 31, 2019					TOTAL
	NET UNREALIZED GAINS (LOSSES) ON DEBT SECURITIES AVAILABLE FOR SALE ⁽¹⁾	NET UNREALIZED (LOSSES) GAINS ON CASH FLOW HEDGES	NET FOREIGN CURRENCY ADJUSTMENT	NET PENSION AND OTHER POSTRETIREMENT BENEFIT ADJUSTMENTS		
Balance at December 31, 2018	\$ (114.9)	\$ 4.0	\$ 67.9	\$ (410.7)	\$ (453.7)	
Net Change	85.6	(4.3)	14.8	12.3	108.4	
Balance at March 31, 2019	\$ (29.3)	\$ (0.3)	\$ 82.7	\$ (398.4)	\$ (345.3)	

⁽¹⁾ Includes net unrealized gains on debt securities transferred from available for sale to held to maturity during the period ended March 31, 2019.

Notes to Consolidated Financial Statements (unaudited) (continued)

TABLE 57: DETAILS OF CHANGES IN ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)

(In Millions)	THREE MONTHS ENDED MARCH 31,					
	2020			2019		
	BEFORE TAX	TAX EFFECT	AFTER TAX	BEFORE TAX	TAX EFFECT	AFTER TAX
Unrealized Gains (Losses) on Debt Securities Available for Sale						
Unrealized Gains (Losses) on Debt Securities Available for Sale	\$ 266.8	\$ (67.1)	\$ 199.7	\$ 115.3	\$ (29.9)	\$ 85.4
Reclassification Adjustment for (Gains) Losses Included in Net Income ⁽¹⁾	—	—	—	0.2	—	0.2
Net Change	\$ 266.8	\$ (67.1)	\$ 199.7	\$ 115.5	\$ (29.9)	\$ 85.6
Unrealized Gains (Losses) on Cash Flow Hedges						
Foreign Exchange Contracts	\$ 13.3	\$ (3.3)	\$ 10.0	\$ 7.2	\$ (1.7)	\$ 5.5
Interest Rate Contracts	0.4	(0.1)	0.3	0.6	(0.2)	0.4
Reclassification Adjustment for (Gains) Losses Included in Net Income ⁽²⁾	(4.0)	1.0	(3.0)	(13.6)	3.4	(10.2)
Net Change	\$ 9.7	\$ (2.4)	\$ 7.3	\$ (5.8)	\$ 1.5	\$ (4.3)
Foreign Currency Adjustments						
Foreign Currency Translation Adjustments	\$ (89.8)	\$ 9.6	\$ (80.2)	\$ (6.5)	\$ 1.6	\$ (4.9)
Long-Term Intra-Entity Foreign Currency Transaction Gains (Losses)	(0.6)	0.1	(0.5)	0.7	(0.2)	0.5
Net Investment Hedge Gains (Losses)	142.7	(36.3)	106.4	28.6	(9.4)	19.2
Net Change	\$ 52.3	\$ (26.6)	\$ 25.7	\$ 22.8	\$ (8.0)	\$ 14.8
Pension and Other Postretirement Benefit Adjustments						
Net Actuarial (Losses) Gains	\$ (1.3)	\$ 0.1	\$ (1.2)	\$ 11.3	\$ (3.1)	\$ 8.2
Reclassification Adjustment for (Gains) Losses Included in Net Income ⁽³⁾						
Amortization of Net Actuarial Loss	10.9	(2.6)	8.3	5.5	(1.3)	4.2
Amortization of Prior Service Cost	(0.1)	—	(0.1)	(0.1)	—	(0.1)
Net Change	\$ 9.5	\$ (2.5)	\$ 7.0	\$ 16.7	\$ (4.4)	\$ 12.3
Total Net Change	\$ 338.3	\$ (98.6)	\$ 239.7	\$ 149.2	\$ (40.8)	\$ 108.4

⁽¹⁾ The before-tax reclassification adjustment out of AOCI related to the realized gains (losses) on debt securities available for sale is recorded as Investment Security Gains (Losses), net within the consolidated statements of income.

⁽²⁾ See Note 21 — Derivative Financial Instruments for the location of the reclassification adjustment related to cash flow hedges.

⁽³⁾ The before-tax reclassification adjustment out of AOCI related to pension and other postretirement benefit adjustments is recorded in Employee Benefits expense within the consolidated statements of income.

Note 13 – Net Income Per Common Share Computations

The computations of net income per common share are presented in the following table.

TABLE 58: NET INCOME PER COMMON SHARE

(\$ In Millions Except Per Common Share Information)	THREE MONTHS ENDED MARCH 31,	
	2020	2019
Basic Net Income Per Common Share		
Average Number of Common Shares Outstanding	208,881,131	218,236,802
Net Income	\$ 360.6	\$ 347.1
Less: Dividends on Preferred Stock	30.5	17.3
Net Income Applicable to Common Stock	330.1	329.8
Less: Earnings Allocated to Participating Securities	3.9	4.3
Earnings Allocated to Common Shares Outstanding	326.2	325.5
Basic Net Income Per Common Share	\$ 1.56	\$ 1.49
Diluted Net Income Per Common Share		
Average Number of Common Shares Outstanding	208,881,131	218,236,802
Plus: Dilutive Effect of Share-based Compensation	935,691	1,033,413
Average Common and Potential Common Shares	209,816,822	219,270,215
Earnings Allocated to Common and Potential Common Shares	\$ 326.2	\$ 325.4
Diluted Net Income Per Common Share	1.55	1.48

Note: For the three months ended March 31, 2020 and 2019, there were no common stock equivalents excluded in the computation of diluted net income per share.

Notes to Consolidated Financial Statements (unaudited) (continued)

Note 14 – Revenue from Contracts with Clients

Trust, Investment, and Other Servicing Fees. Custody and fund administration income is comprised of revenues received from our core asset servicing business for providing custody, fund administration, and middle-office-related services, primarily to C&IS clients. Investment management and advisory income contains revenue received from providing asset management and related services to Wealth Management and C&IS clients and to Northern Trust sponsored funds. Securities lending income represents revenues generated from securities lending arrangements that Northern Trust enters into as agent, mainly with C&IS clients. Other income largely consists of revenues received from providing employee benefit, investment risk and analytic and other services to C&IS and Wealth Management clients.

Other Noninterest Income. Treasury management income represents revenues received from providing cash and liquidity management services to C&IS and Wealth Management clients. The portion of securities commissions and trading income that relates to revenue from contracts with clients is primarily comprised of commissions earned from providing securities brokerage services to Wealth Management and C&IS clients. The portion of other operating income that relates to revenue from contracts with clients is mainly comprised of service fees for banking-related services provided to Wealth Management and C&IS clients.

Performance Obligations. Clients are typically charged monthly or quarterly in arrears based on the fee arrangement agreed to with each client; payment terms will vary depending on the client and services offered.

Substantially all revenues generated from contracts with clients for asset servicing, asset management, securities lending, treasury management and banking-related services are recognized on an accrual basis, over the period in which services are provided. The nature of Northern Trust's performance obligations is to provide a series of distinct services in which the customer simultaneously receives and consumes the benefits of the promised services as they are performed. Fee arrangements are mainly comprised of variable amounts based on market value of client assets managed and serviced, transaction volumes, number of accounts, and securities lending volume and spreads. Revenue is recognized using the output method in an amount that reflects the consideration to which Northern Trust expects to be entitled in exchange for providing each month or quarter of service. For contracts with multiple performance obligations, revenue is allocated to each performance obligation based on the price agreed to with the client, representing its relative standalone selling price.

Security brokerage revenue is primarily represented by securities commissions received in exchange of providing trade execution related services. Control is transferred at a point in time, on the trade date of the transaction, and fees are typically variable based on transaction volumes and security types.

Northern Trust's contracts with its clients are typically open-ended arrangements and are therefore considered to have an original duration of less than one year. Northern Trust has elected the practical expedient to not disclose the value of remaining performance obligations for contracts with an original expected duration of one year or less.

Notes to Consolidated Financial Statements (unaudited) (continued)

The following table presents revenues disaggregated by major revenue source.

TABLE 59: REVENUE DISAGGREGATION

(In Millions)	THREE MONTHS ENDED MARCH 31,	
	2020	2019
Noninterest Income		
Trust, Investment and Other Servicing Fees		
Custody and Fund Administration	\$ 417.6	\$ 397.5
Investment Management and Advisory	510.5	459.2
Securities Lending	23.5	22.8
Other	52.0	49.4
Total Trust, Investment and Other Servicing Fees	\$ 1,003.6	\$ 928.9
Other Noninterest Income		
Foreign Exchange Trading Income	\$ 88.9	\$ 66.2
Treasury Management Fees	11.0	11.7
Security Commissions and Trading Income	41.7	23.3
Other Operating Income	34.4	29.0
Investment Security Gains (Losses), net	—	(0.2)
Total Other Noninterest Income	\$ 176.0	\$ 130.0
Total Noninterest Income	\$ 1,179.6	\$ 1,058.9

On the consolidated statements of income, Trust, Investment and Other Servicing Fees and Treasury Management Fees represent revenue from contracts with clients. For the three months ended March 31, 2020, revenue from contracts with clients also includes \$29.0 million of the \$41.7 million total Securities Commissions and Trading Income and \$10.8 million of the \$34.4 million total Other Operating Income. For the three months ended March 31, 2019, revenue from contracts with clients also includes \$21.0 million of the \$23.3 million total Securities Commissions and Trading Income and \$9.9 million of the \$29.0 million total Other Operating Income.

Receivables Balances. The table below represents receivables balances from contracts with clients, which are included in Other Assets on the consolidated balance sheets, at March 31, 2020 and December 31, 2019.

TABLE 60: CLIENT RECEIVABLES

(In Millions)	MARCH 31, 2020	DECEMBER 31, 2019
Trust Fees Receivable, net ⁽¹⁾	\$ 819.5	\$ 801.9
Other	101.4	101.1
Total Client Receivables	\$ 920.9	\$ 903.0

⁽¹⁾ Trust Fees Receivable is net of a \$5.6 million fee receivable allowance as of both March 31, 2020 and December 31, 2019.

Notes to Consolidated Financial Statements (unaudited) (continued)

Note 15 – Net Interest Income

The components of net interest income were as follows:

TABLE 61: NET INTEREST INCOME

(In Millions)	THREE MONTHS ENDED MARCH 31,	
	2020	2019
Interest Income		
Loans and Leases	\$ 250.2	\$ 298.2
Securities — Taxable	241.1	277.5
— Non-Taxable	0.5	1.1
Interest-Bearing Due from and Deposits with Banks ⁽¹⁾	12.8	17.9
Federal Reserve and Other Central Bank Deposits and Other	24.6	68.1
Total Interest Income	\$ 529.2	\$ 662.8
Interest Expense		
Deposits	\$ 60.9	\$ 147.6
Federal Funds Purchased	2.0	13.4
Securities Sold Under Agreements to Repurchase	1.0	1.8
Other Borrowings	29.2	49.9
Senior Notes	17.9	15.9
Long-Term Debt	8.4	10.0
Floating Rate Capital Debt	1.7	2.2
Total Interest Expense	\$ 121.1	\$ 240.8
Net Interest Income	\$ 408.1	\$ 422.0

⁽¹⁾ Interest-Bearing Due from and Deposits with Banks includes the interest-bearing component of Cash and Due from Banks and Interest-Bearing Deposits with Banks as presented on the consolidated balance sheets.

Note 16 – Income Taxes

Income tax expense for the three months ended March 31, 2020 and March 31, 2019 was \$100.5 million and \$105.1 million, representing an effective tax rate of 21.8% and 23.2%, respectively.

Notes to Consolidated Financial Statements (unaudited) (continued)

Note 17 – Pension and Postretirement Health Care

The following table sets forth the net periodic pension and postretirement benefit expense for Northern Trust’s U.S. Qualified Plan, Non-U.S. Pension Plans, U.S. Non-Qualified Plan, and postretirement health care plan for the three months ended March 31, 2020 and 2019.

TABLE 62: NET PERIODIC PENSION EXPENSE (BENEFIT)

U.S. QUALIFIED PLAN	THREE MONTHS ENDED MARCH 31,	
(In Millions)	2020	2019
Service Cost	\$ 11.8	\$ 10.4
Interest Cost	10.8	11.8
Expected Return on Plan Assets	(19.2)	(21.7)
Amortization		
Net Actuarial Loss	8.8	4.3
Prior Service Cost	(0.1)	(0.1)
Net Periodic Pension Expense	\$ 12.1	\$ 4.7
NON-U.S. PENSION PLANS	THREE MONTHS ENDED MARCH 31,	
(In Millions)	2020	2019
Service Cost	\$ 0.5	\$ 0.5
Interest Cost	0.7	1.0
Expected Return on Plan Assets	(0.7)	(1.0)
Settlement Expense	0.2	—
Amortization		
Net Actuarial Loss	0.3	0.1
Net Periodic Pension Expense	\$ 1.0	\$ 0.6
U.S. NON-QUALIFIED PLAN	THREE MONTHS ENDED MARCH 31,	
(In Millions)	2020	2019
Service Cost	\$ 1.1	\$ 1.0
Interest Cost	1.2	1.5
Amortization		
Net Actuarial Loss	1.8	1.4
Prior Service Cost	—	—
Net Periodic Pension Expense	\$ 4.1	\$ 3.9
POSTRETIREMENT HEALTH CARE PLAN	THREE MONTHS ENDED MARCH 31,	
(In Millions)	2020	2019
Interest Cost	\$ 0.2	\$ 0.3
Amortization		
Net Actuarial (Gain)	(0.2)	(0.3)
Net Periodic Postretirement Expense	\$ —	\$ —

The components of net periodic pension expense are recorded in Employee Benefits expense within the consolidated statements of income.

There were no contributions to the U.S. Qualified Plan during the three months ended March 31, 2020 and 2019, respectively.

Notes to Consolidated Financial Statements (unaudited) (continued)

Note 18 – Share-Based Compensation Plans

The Northern Trust Corporation 2017 Long-Term Incentive Plan provides for the grant of non-qualified and incentive stock options; tandem and free-standing stock appreciation rights; stock awards in the form of restricted stock, restricted stock units and other stock awards; and performance awards.

Beginning with the grants made on February 21, 2017 under the Corporation's prior equity incentive plan, restricted stock unit and performance stock unit grants continue to vest in accordance with the original terms of the award if the applicable employee retires after satisfying applicable age and service requirements. For all applicable periods, stock option grants continue to vest in accordance with the original terms of the award if the employee meets applicable age and service requirements upon separation from service.

The Corporation granted 763,554 stock units awards with a total grant-date fair value of \$76.2 million during the three months ended March 31, 2020, compared to 798,669 stock units awards with a total grant-date fair value of \$73.4 million during the three months ended March 31, 2019. Compensation expense for the three months ended March 31, 2020 included \$23.2 million attributable to restricted stock units granted to retirement-eligible employees that were expensed in their entirety on the date of grant, compared to \$21.2 million in the prior-year quarter.

There were no non-qualified stock option grants in the three months ended March 31, 2020 and 2019.

The Corporation granted 205,847 performance stock units with a total grant-date fair value of \$20.8 million during the three months ended March 31, 2020, compared to 211,269 performance stock units with a total grant-date fair value of \$19.6 million during the three months ended March 31, 2019. Compensation expense for the three months ended March 31, 2020 included \$10.8 million attributable to performance stock units granted to retirement-eligible employees that were expensed in their entirety on the date of grant, compared to \$9.2 million in the prior-year quarter.

Restricted stock unit award compensation expense for the three months ended March 31, 2020 and 2019 included \$4.3 million and \$3.3 million, respectively, attributable to restricted stock units vested in full and expensed in their entirety upon date of grant.

Total compensation expense for share-based payment arrangements and the associated tax impacts were as follows for the three months ended March 31, 2020 and 2019.

TABLE 63: TOTAL COMPENSATION EXPENSE FOR SHARE-BASED PAYMENT ARRANGEMENTS

(In Millions)	THREE MONTHS ENDED MARCH 31,	
	2020	2019
Restricted Stock Unit Awards	\$ 40.7	\$ 39.2
Stock Options	0.2	0.5
Performance Stock Units	12.9	15.6
Total Share-Based Compensation Expense	53.8	55.3
Tax Benefits Recognized	\$ 13.4	\$ 13.7

Note 19 – Variable Interest Entities

Variable Interest Entities (VIEs) are defined within GAAP as entities which either have a total equity investment that is insufficient to permit the entity to finance its activities without additional subordinated financial support or whose equity investors lack the characteristics of a controlling financial interest. Investors that finance a VIE through debt or equity interests, or other counterparties that provide other forms of support, such as guarantees, subordinated fee arrangements, or certain types of derivative contracts, are variable interest holders in the entity and the variable interest holder, if any, that has both the power to direct the activities that most significantly impact the entity and a variable interest that could potentially be significant to the entity is deemed to be the VIE's primary beneficiary and is required to consolidate the VIE.

Leveraged Leases. In leveraged leasing transactions, Northern Trust acts as lessor of the underlying asset subject to the lease and typically funds 20 - 30% of the asset's cost via an equity ownership in a trust with the remaining 70 - 80% provided by third-party non-recourse debt holders. In such transactions, the trusts, which are VIEs, are created to provide the lessee use of the property with substantially all of the rights and obligations of ownership. The lessee's maintenance and operation of the leased property has a direct effect on the fair value of the underlying property, and the lessee also has the ability to increase the benefits it can receive and limit the losses it can suffer by the manner in which it uses the property. As a result, Northern Trust has determined

Notes to Consolidated Financial Statements (unaudited) (continued)

that it is not the primary beneficiary of the leveraged lease trust VIEs given it lacks the power to direct the activities that most significantly impact the economic performance of the leveraged lease trust VIEs.

Northern Trust's maximum exposure to loss as a result of its involvement with leveraged lease trust VIEs is limited to the carrying amounts of its leveraged lease investments. The carrying amounts of these investments, which are included in Loans and Leases on the consolidated balance sheets, were \$42.8 million and \$42.6 million as of March 31, 2020 and December 31, 2019, respectively. Northern Trust's funding requirements relative to the leveraged lease trust VIEs are limited to its invested capital. Northern Trust has no other liquidity arrangements or obligations to purchase assets of the leveraged lease trust VIEs that would expose Northern Trust to a loss.

Tax Credit Structures. Northern Trust invests in qualified affordable housing projects and community development entities (collectively, community development projects) that are designed to generate a return primarily through the realization of tax credits. The community development projects are formed as limited partnerships and limited liability companies in which Northern Trust invests as a limited partner/investor member through equity contributions. The economic performance of the community development projects, some of which are VIEs, is subject to the performance of their underlying investment and their ability to operate in compliance with the rules and regulations necessary for the qualification of tax credits generated by equity investments. Northern Trust has determined that it is not the primary beneficiary of any community development project VIEs as it lacks the power to direct the activities that most significantly impact the economic performance of the underlying investments or to affect their ability to operate in compliance with the rules and regulations necessary for the qualification of tax credits generated by equity investments. This power is held by the general partners and managing members who exercise full and exclusive control of the operations of the community development project VIEs.

Northern Trust's maximum exposure to loss as a result of its involvement with community development projects is limited to the carrying amounts of its investments, including any undrawn commitments. As of March 31, 2020 and December 31, 2019, the carrying amounts of these investments in community development projects that generate tax credits, included in Other Assets on the consolidated balance sheets, totaled \$746.2 million and \$749.3 million, respectively, of which \$697.8 million and \$700.3 million are VIEs as of March 31, 2020 and December 31, 2019, respectively. As of March 31, 2020 and December 31, 2019, liabilities related to unfunded commitments on investments in tax credit community development projects, included in Other Liabilities on the consolidated balance sheets, totaled \$362.7 million and \$376.2 million, respectively, of which \$342.5 million and \$354.3 million, related to undrawn commitments on VIEs as of March 31, 2020 and December 31, 2019, respectively. Northern Trust's funding requirements are limited to its invested capital and undrawn commitments for future equity contributions. Northern Trust has no exposure to loss from liquidity arrangements and no obligation to purchase assets of the community development projects.

Tax credits and other tax benefits attributable to community development projects totaled \$16.3 million and \$16.4 million for the three months ended March 31, 2020 and 2019, respectively.

Investment Funds. Northern Trust acts as asset manager for various funds in which clients of Northern Trust are investors. As an asset manager of funds, Northern Trust earns a competitively priced fee that is based on assets managed and varies with each fund's investment objective. Based on its analysis, Northern Trust has determined that it is not the primary beneficiary of these VIEs under GAAP.

Periodically, Northern Trust makes seed capital investments to certain funds. As of March 31, 2020, Northern Trust had \$100.0 million of investments valued using net asset value per share and included in Other Assets and had \$74.6 million in unfunded commitments related to seed capital investments. As of December 31, 2019, Northern Trust had \$112.0 million of investments valued using net asset value per share and included in Other Assets and had no unfunded commitments related to seed capital investments.

Note 20 – Contingent Liabilities

Commitments, Letters of Credit and Indemnifications. Northern Trust, in the normal course of business, enters into various types of commitments and issues letters of credit to meet the liquidity and credit enhancement needs of its clients.

Legally binding commitments to extend credit generally have fixed expiration dates or other termination clauses. Since a significant portion of the commitments are expected to expire without being drawn upon, the total commitment amount does not necessarily represent future loans or liquidity requirements. Legally binding commitments to extend credit totaled \$21.2 billion and \$24.4 billion as of March 31, 2020 and December 31, 2019, respectively.

Standby letters of credit obligate Northern Trust to meet certain financial obligations of its clients, if, under the contractual terms of the agreement, the clients are unable to do so. These instruments are primarily issued to support public and private financial commitments, including commercial paper, bond financing, initial margin requirements on futures exchanges and similar

Notes to Consolidated Financial Statements (unaudited) (continued)

transactions. Northern Trust is obligated to meet the entire financial obligation of these agreements and in certain cases is able to recover the amounts paid through recourse against collateral received or other participants. Standby letters of credit outstanding and financial guarantees were \$2.4 billion as of both March 31, 2020 and December 31, 2019. Financial guarantees are issued by Northern Trust to guarantee the performance of a client to a third party under certain arrangements.

As part of its securities custody activities and at the direction of its clients, Northern Trust lends securities owned by clients to borrowers who are reviewed and approved by the Northern Trust Capital Markets Credit Committee. In connection with these activities, Northern Trust has issued indemnifications to certain clients against certain losses that are a direct result of a borrower's failure to return securities when due, should the value of such securities exceed the value of the collateral required to be posted. Borrowers are required to collateralize fully securities received with cash or marketable securities. As securities are loaned, collateral is maintained at a minimum of 100% of the fair value of the securities plus accrued interest. The collateral is revalued on a daily basis. The amount of securities loaned as of March 31, 2020 and December 31, 2019 subject to indemnification was \$139.1 billion and \$138.1 billion, respectively. Because of the credit quality of the borrowers and the requirement to fully collateralize securities borrowed, management believes that the exposure to credit loss from this activity is not significant and no liability was recorded as of March 31, 2020 or December 31, 2019, related to these indemnifications.

Legal Proceedings. In the normal course of business, the Corporation and its subsidiaries are routinely defendants in or parties to pending and threatened legal actions, and are subject to regulatory examinations, information-gathering requests, investigations, and proceedings, both formal and informal. In certain legal actions, claims for substantial monetary damages are asserted. In regulatory matters, claims for disgorgement, restitution, penalties and/or other remedial actions or sanctions may be sought.

Based on current knowledge, after consultation with legal counsel and after taking into account current accruals, management does not believe that losses, fines or penalties, if any, arising from pending litigation or threatened legal actions or regulatory matters either individually or in the aggregate, after giving effect to applicable reserves and insurance coverage will have a material adverse effect on the consolidated financial position or liquidity of the Corporation, although such matters could have a material adverse effect on the Corporation's operating results for a particular period.

Under GAAP, (i) an event is "probable" if the "future event or events are likely to occur"; (ii) an event is "reasonably possible" if "the chance of the future event or events occurring is more than remote but less than likely"; and (iii) an event is "remote" if "the chance of the future event or events occurring is slight."

The outcome of litigation and regulatory matters is inherently difficult to predict and/or the range of loss often cannot be reasonably estimated, particularly for matters that (i) will be decided by a jury, (ii) are in early stages, (iii) involve uncertainty as to the likelihood of a class being certified or the ultimate size of the class, (iv) are subject to appeals or motions, (v) involve significant factual issues to be resolved, including with respect to the amount of damages, (vi) do not specify the amount of damages sought or (vii) seek very large damages based on novel and complex damage and liability legal theories. Accordingly, the Corporation cannot reasonably estimate the eventual outcome of these pending matters, the timing of their ultimate resolution or what the eventual loss, fines or penalties, if any, related to each pending matter will be.

In accordance with applicable accounting guidance, the Corporation records accruals for litigation and regulatory matters when those matters present loss contingencies that are both probable and reasonably estimable. When loss contingencies are not both probable and reasonably estimable, the Corporation does not record accruals. No material accruals have been recorded for pending litigation or threatened legal actions or regulatory matters.

For a limited number of matters for which a loss is reasonably possible in future periods, whether in excess of an accrued liability or where there is no accrued liability, the Corporation is able to estimate a range of possible loss. As of March 31, 2020, the Corporation has estimated the range of reasonably possible loss for these matters to be from zero to approximately \$20 million in the aggregate. The Corporation's estimate with respect to the aggregate range of reasonably possible loss is based upon currently available information and is subject to significant judgment and a variety of assumptions and known and unknown uncertainties. The matters underlying the estimated range will change from time to time, and actual results may vary significantly from the current estimate.

In certain other pending matters, there may be a range of reasonably possible loss (including reasonably possible loss in excess of amounts accrued) that cannot be reasonably estimated for the reasons described above. Such matters are not included in the estimated range of reasonably possible loss discussed above.

In 2015, Northern Trust Fiduciary Services (Guernsey) Limited (NTFS), an indirect subsidiary of the Corporation, was charged by a French investigating magistrate judge with complicity in estate tax fraud in connection with the administration of two trusts

Notes to Consolidated Financial Statements (unaudited) (continued)

for which it serves as trustee. Charges also were brought against a number of other persons and entities related to this matter. In 2017, a French court found no estate tax fraud had occurred and NTFS and all other persons and entities charged were acquitted. The Public Prosecutor's Office of France appealed the court decision and in June 2018 a French appellate court issued its opinion on the matter, acquitting all persons and entities charged, including NTFS. The Public Prosecutor's Office of France has appealed the appellate court's decision to the Cour de Cassation, the highest court in France. As trustee, NTFS provided no tax advice and had no involvement in the preparation or filing of the challenged estate tax filings.

Visa Class B Common Shares. Northern Trust, as a member of Visa U.S.A. Inc. (Visa U.S.A.) and in connection with the 2007 restructuring of Visa U.S.A. and its affiliates and the 2008 initial public offering of Visa Inc. (Visa), received certain Visa Class B common shares. The Visa Class B common shares are subject to certain selling restrictions until the final resolution of certain litigation related to interchange fees involving Visa (the covered litigation), at which time the shares are convertible into Visa Class A common shares based on a conversion rate dependent upon the ultimate cost of resolving the covered litigation. On June 28, 2018, and September 27, 2019, Visa deposited an additional \$600 million and \$300 million, respectively, into an escrow account previously established with respect to the covered litigation. As a result of the additional contributions to the escrow account, the rate at which Visa Class B common shares will convert into Visa Class A common shares was reduced.

In September 2018, Visa reached a proposed class settlement agreement covering damage claims but not injunctive relief claims regarding the covered litigation. In December 2019, the district court granted final approval for the proposed class settlement agreement. Certain merchants have opted out of the class settlement and are pursuing claims separately, while other merchants have appealed the approval order granted by the district court. The ultimate resolution of the covered litigation, the timing for removal of the selling restrictions on the Visa Class B common shares and the rate at which such shares will ultimately convert into Visa Class A common shares are uncertain.

In June 2016 and 2015, Northern Trust recorded a \$123.1 million and \$99.9 million net gain on the sale of 1.1 million and 1.0 million of its Visa Class B common shares, respectively. These sales do not affect Northern Trust's risk related to the impact of the covered litigation on the rate at which such shares will ultimately convert into Visa Class A common shares. Northern Trust continued to hold approximately 4.1 million Visa Class B common shares, which are recorded at their original cost basis of zero, as of March 31, 2020 and December 31, 2019.

Note 21 – Derivative Financial Instruments

Northern Trust is a party to various derivative financial instruments that are used in the normal course of business to meet the needs of its clients, as part of its trading activity for its own account and as part of its risk management activities. These instruments may include foreign exchange contracts, interest rate contracts, total return swap contracts, and swaps related to the sale of certain Visa Class B common shares.

Foreign exchange contracts are agreements to exchange specific amounts of currencies at a future date, at a specified rate of exchange. Foreign exchange contracts are entered into primarily to meet the foreign exchange needs of clients. Foreign exchange contracts are also used for trading and risk management purposes. For risk management purposes, Northern Trust uses foreign exchange contracts to reduce its exposure to changes in foreign exchange rates relating to certain forecasted non-functional-currency-denominated revenue and expenditure transactions, foreign-currency-denominated assets and liabilities, including debt securities, and net investments in non-U.S. affiliates.

Interest rate contracts include swap and option contracts. Interest rate swap contracts involve the exchange of fixed and floating rate interest payment obligations without the exchange of the underlying principal amounts. Northern Trust enters into interest rate swap contracts with its clients and also may utilize such contracts to reduce or eliminate the exposure to changes in the cash flows or fair value of hedged assets or liabilities due to changes in interest rates. Interest rate option contracts may include caps, floors, collars and swaptions, and provide for the transfer or reduction of interest rate risk, typically in exchange for a fee. Northern Trust enters into option contracts primarily as a seller of interest rate protection to clients. Northern Trust receives a fee at the outset of the agreement for the assumption of the risk of an unfavorable change in interest rates. This assumed interest rate risk is then mitigated by entering into an offsetting position with an outside counterparty. Northern Trust may also purchase or enter into option contracts for risk management purposes including to reduce the exposure to changes in the cash flows of hedged assets due to changes in interest rates.

Notes to Consolidated Financial Statements (unaudited) (continued)

The following table shows the notional and fair values of all derivative financial instruments as of March 31, 2020 and December 31, 2019.

TABLE 64: NOTIONAL AND FAIR VALUES OF DERIVATIVE FINANCIAL INSTRUMENTS

(In Millions)	MARCH 31, 2020			DECEMBER 31, 2019		
	NOTIONAL VALUE	FAIR VALUE		NOTIONAL VALUE	FAIR VALUE	
		ASSET ⁽¹⁾	LIABILITY ⁽²⁾		ASSET ⁽¹⁾	LIABILITY ⁽²⁾
Derivatives Designated as Hedging under GAAP						
Interest Rate Contracts						
Fair Value Hedges	\$ 4,527.2	\$ 12.5	\$ 18.3	\$ 4,538.2	\$ 20.3	\$ 20.9
Cash Flow Hedges	150.0	0.4	—	200.0	0.2	0.2
Foreign Exchange Contracts						
Cash Flow Hedges	1,544.2	35.8	14.9	1,661.5	8.5	11.5
Net Investment Hedges	2,773.3	110.8	0.5	2,873.8	73.7	11.9
Total Derivatives Designated as Hedging under GAAP	\$ 8,994.7	\$ 159.5	\$ 33.7	\$ 9,273.5	\$ 102.7	\$ 44.5
Derivatives Not Designated as Hedging under GAAP						
Non-Designated Risk Management Derivatives						
Foreign Exchange Contracts	\$ 195.0	\$ 2.7	\$ 1.9	\$ 176.5	\$ 0.9	\$ 0.7
Other Financial Derivatives ⁽³⁾	550.6	—	26.5	640.3	—	33.4
Total Non-Designated Risk Management Derivatives	\$ 745.6	\$ 2.7	\$ 28.4	\$ 816.8	\$ 0.9	\$ 34.1
Client-Related and Trading Derivatives						
Foreign Exchange Contracts	\$ 293,879.0	\$ 5,786.1	\$ 5,746.1	\$ 291,533.6	\$ 3,151.7	\$ 3,158.1
Interest Rate Contracts	9,951.9	328.6	141.8	8,976.8	132.4	76.3
Total Client-Related and Trading Derivatives	\$ 303,830.9	\$ 6,114.7	\$ 5,887.9	\$ 300,510.4	\$ 3,284.1	\$ 3,234.4
Total Derivatives Not Designated as Hedging under GAAP	\$ 304,576.5	\$ 6,117.4	\$ 5,916.3	\$ 301,327.2	\$ 3,285.0	\$ 3,268.5
Total Gross Derivatives	\$ 313,571.2	\$ 6,276.9	\$ 5,950.0	\$ 310,600.7	\$ 3,387.7	\$ 3,313.0
Less: Netting ⁽⁴⁾		2,065.8	4,890.2		2,338.0	1,618.4
Total Derivative Financial Instruments		\$ 4,211.1	\$ 1,059.8		\$ 1,049.7	\$ 1,694.6

⁽¹⁾ Derivative assets are reported in Other Assets on the consolidated balance sheets.

⁽²⁾ Derivative liabilities are reported in Other Liabilities on the consolidated balance sheets.

⁽³⁾ This line includes swaps related to sales of certain Visa Class B common shares.

⁽⁴⁾ See further detail in Note 22 — Offsetting of Assets and Liabilities.

Notional amounts of derivative financial instruments do not represent credit risk, and are not recorded in the consolidated balance sheets. They are used merely to express the volume of this activity. Northern Trust's credit-related risk of loss is limited to the positive fair value of the derivative instrument, net of any collateral received, which is significantly less than the notional amount.

All derivative financial instruments, whether designated as hedges or not, are recorded on the consolidated balance sheets at fair value within Other Assets or Other Liabilities. Northern Trust has elected to net derivative assets and liabilities when legally enforceable master netting arrangements or similar agreements exist between Northern Trust and the counterparty.

Hedging Derivative Instruments Designated under GAAP. Northern Trust uses derivative instruments to hedge its exposure to foreign currency, interest rate, and equity price. Certain hedging relationships are formally designated and qualify for hedge accounting under GAAP as fair value, cash flow or net investment hedges. Other derivatives that are entered into for risk management purposes as economic hedges are not formally designated as hedges and changes in fair value are recognized currently in Other Operating Income within the consolidated statements of income (see below section "Derivative Instruments Not Designated as Hedging under GAAP").

In order to qualify for hedge accounting, a formal assessment is performed on a calendar-quarter basis to verify that derivatives used in designated hedging transactions continue to be highly effective in offsetting the changes in fair value or cash flows of the hedged item. If a derivative ceases to be highly effective, matures, is sold or is terminated, or if a hedged forecasted transaction is no longer probable of occurring, hedge accounting is terminated and the derivative is treated as if it were a trading instrument.

Fair Value Hedges. Derivatives are designated as fair value hedges to limit Northern Trust's exposure to changes in the fair value of assets and liabilities due to movements in interest rates. Northern Trust enters into interest rate swaps to hedge changes in fair value of available for sale debt securities and long-term subordinated debt and senior notes. Northern Trust applied the "shortcut"

Notes to Consolidated Financial Statements (unaudited) (continued)

method of accounting, available under GAAP, which assumes there is perfect effectiveness in a hedge, for all of its fair value hedges during the three-month periods ended March 31, 2020 and 2019. Changes in the fair value of the derivative instrument and changes in the fair value of the hedged asset or liability attributable to the hedged risk are recognized currently in earnings within the same income statement line item.

Cash Flow Hedges. Derivatives are also designated as cash flow hedges in order to minimize the variability in cash flows of earning assets or forecasted transactions caused by movements in interest or foreign exchange rates. Northern Trust enters into foreign exchange contracts to hedge changes in cash flows due to movements in foreign exchange rates of forecasted foreign-currency-denominated transactions and foreign-currency-denominated debt securities. Northern Trust also enters into interest rate contracts to hedge changes in cash flows due to movements in interest rates of available for sale debt securities. The change in fair value of cash flow hedging derivative instruments are recorded in AOCI and reclassified to earnings when the hedged forecasted transaction impacts earnings within the same income statement line item.

There were no material gains or losses reclassified into earnings during the three-month periods ended March 31, 2020 and 2019, as a result of the discontinuance of forecasted transactions that were no longer probable of occurring. It is estimated that net gains of \$2.6 million and \$16.9 million will be reclassified into net income within the next twelve months relating to cash flow hedges of foreign-currency-denominated transactions and cash flow hedges of foreign-currency-denominated debt securities, respectively. It is estimated that net gains of \$0.4 million will be reclassified into net income upon the receipt of interest payments on earning assets within the next twelve months relating to cash flow hedges of available for sale debt securities. As of March 31, 2020, 23 months was the maximum length of time over which the exposure to variability in future cash flows of forecasted foreign-currency-denominated transactions was being hedged.

The following tables provide fair value and cash flow hedge derivative gains and losses recognized in income during the three-month periods ended March 31, 2020 and 2019.

TABLE 65: LOCATION AND AMOUNT OF FAIR VALUE AND CASH FLOW HEDGE DERIVATIVE GAINS AND LOSSES RECORDED IN INCOME

(In Millions)	INTEREST INCOME		INTEREST EXPENSE		OTHER OPERATING INCOME	
	2020	2019	2020	2019	2020	2019
THREE MONTHS ENDED MARCH 31,						
Total amounts on the consolidated statements of income	\$ 529.2	\$ 662.8	\$ 121.1	\$ 240.8	\$ 34.4	\$ 29.0
Gains (Losses) on fair value hedges recognized on						
Interest Rate Contracts						
Recognized on derivatives	(76.0)	(35.4)	150.4	28.5	—	—
Recognized on hedged items	76.0	35.4	(150.4)	(28.5)	—	—
Amounts related to interest settlements on derivatives	(0.5)	5.5	(2.9)	(1.6)	—	—
Total gains (losses) recognized on fair value hedges	\$ (0.5)	\$ 5.5	\$ (2.9)	\$ (1.6)	\$ —	\$ —
Gains (Losses) on cash flow hedges recognized on						
Foreign Exchange Contracts						
Net gains (losses) reclassified from AOCI to net income	\$ 4.1	\$ 14.4	\$ —	\$ —	\$ (0.1)	\$ (0.6)
Interest Rate Contracts						
Net gains (losses) reclassified from AOCI to net income	—	(0.2)	—	—	—	—
Total gains (losses) reclassified from AOCI to net income on cash flow hedges	\$ 4.1	\$ 14.2	\$ —	\$ —	\$ (0.1)	\$ (0.6)

Notes to Consolidated Financial Statements (unaudited) (continued)

The following table provides the impact of fair value hedge accounting on the carrying value of the designated hedged items as of March 31, 2020 and December 31, 2019.

TABLE 66: HEDGED ITEMS IN FAIR VALUE HEDGES

(In Millions)	MARCH 31, 2020		DECEMBER 31, 2019	
	CARRYING VALUE OF THE HEDGED ITEMS	CUMULATIVE HEDGE ACCOUNTING BASIS ADJUSTMENT ⁽¹⁾	CARRYING VALUE OF THE HEDGED ITEMS	CUMULATIVE HEDGE ACCOUNTING BASIS ADJUSTMENT ⁽²⁾
Available for Sale Debt Securities ⁽³⁾	\$ 2,999.2	\$ 75.7	\$ 2,981.0	\$ 3.3
Senior Notes and Long-Term Subordinated Debt	1,748.5	270.0	1,748.5	126.9
Total	\$ 4,747.7	\$ 345.7	\$ 4,729.5	\$ 130.2

⁽¹⁾ The cumulative hedge accounting basis adjustment includes \$1.6 million related to discontinued hedging relationships of available for sale debt securities as of March 31, 2020. There are no amounts related to discontinued hedging relationships in the cumulative hedge accounting basis adjustment of senior notes and long-term debt as of March 31, 2020.

⁽²⁾ The cumulative hedge accounting basis adjustment includes \$1.5 million related to discontinued hedging relationships of available for sale debt securities as of December 31, 2019. There were no amounts related to discontinued hedging relationships in the cumulative hedge accounting basis adjustment of senior notes and long-term debt as of December 31, 2019.

⁽³⁾ Carrying value represents amortized cost.

Net Investment Hedges. Certain foreign exchange contracts are designated as net investment hedges to minimize Northern Trust's exposure to variability in the foreign currency translation of net investments in non-U.S. branches and subsidiaries. Net investment hedge gains of \$142.7 million and \$28.6 million were recognized in AOCI related to foreign exchange contracts for the three months ended March 31, 2020 and 2019, respectively.

Derivative Instruments Not Designated as Hedging under GAAP. Northern Trust's derivative instruments that are not designated as hedging under GAAP include derivatives for purposes of client-related and trading activities, as well as other risk management purposes. These activities consist principally of providing foreign exchange services to clients in connection with Northern Trust's global custody business. However, in the normal course of business, Northern Trust also engages in trading of currencies for its own account.

Non-designated risk management derivatives include foreign exchange contracts entered into to manage the foreign currency risk of non-U.S.-dollar-denominated assets and liabilities, the net investment in certain non-U.S. affiliates, commercial loans and forecasted foreign-currency-denominated transactions. Swaps related to sales of certain Visa Class B common shares were entered into pursuant to which Northern Trust retains the risks associated with the ultimate conversion of the Visa Class B common shares into Visa Class A common shares. Total return swaps are entered into to manage the equity price risk associated with certain investments.

Changes in the fair value of derivative instruments not designated as hedges under GAAP are recognized currently in income. The following table provides the location and amount of gains and losses recorded in the consolidated statements of income for the three months ended March 31, 2020 and 2019 for derivative instruments not designated as hedges under GAAP.

TABLE 67: LOCATION AND AMOUNT OF GAINS AND LOSSES RECORDED IN INCOME FOR DERIVATIVES NOT DESIGNATED AS HEDGING UNDER GAAP

(In Millions)	DERIVATIVE GAINS (LOSSES) LOCATION RECOGNIZED IN INCOME	AMOUNT OF DERIVATIVE GAINS (LOSSES) RECOGNIZED IN INCOME	
		THREE MONTHS ENDED MARCH 31, 2020	2019
Non-designated risk management derivatives			
Foreign Exchange Contracts	Other Operating Income	\$ 0.1	\$ 0.9
Other Financial Derivatives ⁽¹⁾	Other Operating Income	2.9	(7.3)
Gains (Losses) from non-designated risk management derivatives		\$ 3.0	\$ (6.4)
Client-related and trading derivatives			
Foreign Exchange Contracts	Foreign Exchange Trading Income	\$ 88.9	\$ 66.2
Interest Rate Contracts	Security Commissions and Trading Income	11.0	1.5
Gains (Losses) from client-related and trading derivatives		\$ 99.9	\$ 67.7
Total gains (losses) from derivatives not designated as hedging under GAAP		\$ 102.9	\$ 61.3

⁽¹⁾ This line includes swaps related to the sale of certain Visa Class B common shares and total return swap contracts.

Notes to Consolidated Financial Statements (unaudited) (continued)

Note 22 – Offsetting of Assets and Liabilities

Northern Trust has elected to net derivative assets and liabilities when legally enforceable master netting arrangements or similar agreements exist between Northern Trust and the counterparty.

The following table provides information regarding the offsetting of derivative assets and securities purchased under agreements to resell within the consolidated balance sheets as of March 31, 2020 and December 31, 2019.

TABLE 68: OFFSETTING OF DERIVATIVE ASSETS AND SECURITIES PURCHASED UNDER AGREEMENTS TO RESELL

(In Millions)	MARCH 31, 2020				
	GROSS RECOGNIZED ASSETS	GROSS AMOUNTS OFFSET IN THE BALANCE SHEET ⁽²⁾	NET AMOUNTS PRESENTED IN THE BALANCE SHEET	GROSS AMOUNTS NOT OFFSET IN THE BALANCE SHEET	NET AMOUNT ⁽⁴⁾
Derivative Assets ⁽¹⁾					
Foreign Exchange Contracts Over the Counter (OTC)	\$ 4,542.6	\$ 2,062.6	\$ 2,480.0	\$ 8.7	\$ 2,471.3
Interest Rate Swaps OTC	341.5	3.2	338.3	—	338.3
Total Derivatives Subject to a Master Netting Arrangement	4,884.1	2,065.8	2,818.3	8.7	2,809.6
Total Derivatives Not Subject to a Master Netting Arrangement	1,392.8	—	1,392.8	25.9	1,366.9
Total Derivatives	6,276.9	2,065.8	4,211.1	34.6	4,176.5
Securities Purchased under Agreements to Resell ⁽³⁾	\$ 998.2	\$ —	\$ 998.2	\$ 998.2	\$ —
(In Millions)	DECEMBER 31, 2019				
	GROSS RECOGNIZED ASSETS	GROSS AMOUNTS OFFSET IN THE BALANCE SHEET ⁽²⁾	NET AMOUNTS PRESENTED IN THE BALANCE SHEET	GROSS AMOUNTS NOT OFFSET IN THE BALANCE SHEET	NET AMOUNT ⁽⁴⁾
Derivative Assets ⁽¹⁾					
Foreign Exchange Contracts OTC	\$ 2,691.1	\$ 2,334.1	\$ 357.0	\$ 16.5	\$ 340.5
Interest Rate Swaps OTC	151.9	3.9	148.0	—	148.0
Interest Rate Swaps Exchange Cleared	1.0	—	1.0	—	1.0
Total Derivatives Subject to a Master Netting Arrangement	2,844.0	2,338.0	506.0	16.5	489.5
Total Derivatives Not Subject to a Master Netting Arrangement	543.7	—	543.7	0.3	543.4
Total Derivatives	3,387.7	2,338.0	1,049.7	16.8	1,032.9
Securities Purchased under Agreements to Resell ⁽³⁾	\$ 707.8	\$ —	\$ 707.8	\$ 707.8	\$ —

⁽¹⁾ Derivative assets are reported in Other Assets on the consolidated balance sheets. Other Assets (excluding derivative assets) totaled \$7.6 billion and \$7.4 billion as of March 31, 2020 and December 31, 2019, respectively.

⁽²⁾ Including cash collateral received from counterparties.

⁽³⁾ Securities purchased under agreements to resell are reported in Federal Funds Sold and Securities Purchased under Agreements to Resell on the consolidated balance sheets. There were no Federal Funds Sold as of March 31, 2020 and \$5.0 million of Federal Funds Sold as of December 31, 2019.

⁽⁴⁾ Northern Trust did not possess any cash collateral that was not offset in the consolidated balance sheets that could have been used to offset the net amounts presented in the consolidated balance sheets as of March 31, 2020 and December 31, 2019.

Notes to Consolidated Financial Statements (unaudited) (continued)

The following table provides information regarding the offsetting of derivative liabilities and securities sold under agreements to repurchase within the consolidated balance sheets as of March 31, 2020 and December 31, 2019.

TABLE 69: OFFSETTING OF DERIVATIVE LIABILITIES AND SECURITIES SOLD UNDER AGREEMENTS TO REPURCHASE

(In Millions)	MARCH 31, 2020				
	GROSS RECOGNIZED LIABILITIES	GROSS AMOUNTS OFFSET IN THE BALANCE SHEET ⁽²⁾	NET AMOUNTS PRESENTED IN THE BALANCE SHEET	GROSS AMOUNTS NOT OFFSET IN THE BALANCE SHEET	NET AMOUNT ⁽³⁾
Derivative Liabilities ⁽¹⁾					
Foreign Exchange Contracts OTC	\$ 5,000.8	\$ 4,763.3	\$ 237.5	\$ 1.1	\$ 236.4
Interest Rate Swaps OTC	160.1	126.9	33.2	—	33.2
Other Financial Derivatives	26.5	—	26.5	—	26.5
Total Derivatives Subject to a Master Netting Arrangement	5,187.4	4,890.2	297.2	1.1	296.1
Total Derivatives Not Subject to a Master Netting Arrangement	762.6	—	762.6	—	762.6
Total Derivatives	5,950.0	4,890.2	1,059.8	1.1	1,058.7
Securities Sold under Agreements to Repurchase	\$ 34.1	\$ —	\$ 34.1	\$ 34.1	\$ —

(In Millions)	DECEMBER 31, 2019				
	GROSS RECOGNIZED LIABILITIES	GROSS AMOUNTS OFFSET IN THE BALANCE SHEET ⁽²⁾	NET AMOUNTS PRESENTED IN THE BALANCE SHEET	GROSS AMOUNTS NOT OFFSET IN THE BALANCE SHEET	NET AMOUNT ⁽³⁾
Derivative Liabilities ⁽¹⁾					
Foreign Exchange Contracts OTC	\$ 2,181.6	\$ 1,548.6	\$ 633.0	\$ 0.1	\$ 632.9
Interest Rate Swaps OTC	96.7	57.3	39.4	—	39.4
Interest Rate Swaps Exchange Cleared	0.7	—	0.7	—	0.7
Other Financial Derivatives	33.4	12.5	20.9	—	20.9
Total Derivatives Subject to a Master Netting Arrangement	2,312.4	1,618.4	694.0	0.1	693.9
Total Derivatives Not Subject to a Master Netting Arrangement	1,000.6	—	1,000.6	—	1,000.6
Total Derivatives	3,313.0	1,618.4	1,694.6	0.1	1,694.5
Securities Sold under Agreements to Repurchase	\$ 489.7	\$ —	\$ 489.7	\$ 489.7	\$ —

⁽¹⁾ Derivative liabilities are reported in Other Liabilities on the consolidated balance sheets. Other Liabilities (excluding derivative liabilities) totaled \$3.8 billion and \$3.1 billion as of March 31, 2020 and December 31, 2019, respectively.

⁽²⁾ Including cash collateral deposited with counterparties.

⁽³⁾ Northern Trust did not place any cash collateral with counterparties that was not offset in the consolidated balance sheets that could have been used to offset the net amounts presented in the consolidated balance sheets as of March 31, 2020 and December 31, 2019.

All of Northern Trust's securities sold under agreements to repurchase (repurchase agreements) and securities purchased under agreements to resell (reverse repurchase agreements) involve the transfer of financial assets in exchange for cash subject to a right and obligation to repurchase those assets for an agreed upon amount. In the event of a repurchase failure, the cash or financial assets are available for offset. All of Northern Trust's repurchase agreements and reverse repurchase agreements are subject to a master netting arrangement, which sets forth the rights and obligations for repurchase and offset. Under the master netting arrangement, Northern Trust is entitled to offset receivables from and collateral placed with a single counterparty against obligations owed to that counterparty. In addition, collateral held by Northern Trust can be offset against receivables from that counterparty. However, Northern Trust's repurchase agreements and reverse repurchase agreements do not meet the requirements to net under GAAP.

Derivative asset and liability positions with a single counterparty can be offset against each other in cases where legally enforceable master netting arrangements or similar agreements exist. Derivative assets and liabilities can be further offset by cash collateral received from, and deposited with, the transacting counterparty. The basis for this view is that, upon termination of transactions subject to a master netting arrangement or similar agreement, the individual derivative receivables do not represent resources to which general creditors have rights and individual derivative payables do not represent claims that are equivalent to the claims of general creditors.

Credit risk associated with derivative instruments relates to the failure of the counterparty and the failure of Northern Trust to pay based on the contractual terms of the agreement, and is generally limited to the unrealized fair value gains and losses on these

Notes to Consolidated Financial Statements (unaudited) (continued)

instruments, net of any collateral received or deposited. The amount of credit risk will increase or decrease during the lives of the instruments as interest rates, foreign exchange rates, or equity prices fluctuate. Northern Trust's risk is controlled by limiting such activity to an approved list of counterparties and by subjecting such activity to the same credit and quality controls as are followed in lending and investment activities. Credit Support Annexes and other similar agreements are currently in place with a number of Northern Trust's counterparties which mitigate the aforementioned credit risk associated with derivative activity conducted with those counterparties by requiring that significant net unrealized fair value gains be supported by collateral placed with Northern Trust.

Additional cash collateral received from and deposited with derivative counterparties totaling \$360.7 million and \$415.2 million, respectively, as of March 31, 2020, and \$196.3 million and \$2.0 million, respectively, as of December 31, 2019, was not offset against derivative assets and liabilities in the consolidated balance sheets as the amounts exceeded the net derivative positions with those counterparties.

Certain master netting arrangements Northern Trust enters into with derivative counterparties contain credit-risk-related contingent features in which the counterparty has the option to declare Northern Trust in default and accelerate cash settlement of net derivative liabilities with the counterparty in the event Northern Trust's credit rating falls below specified levels. The aggregate fair value of all derivative instruments with credit-risk-related contingent features that were in a liability position was \$935.7 million and \$766.2 million at March 31, 2020 and December 31, 2019, respectively. Cash collateral amounts deposited with derivative counterparties on those dates included \$922.7 million and \$327.1 million, respectively, posted against these liabilities, resulting in a net maximum amount of termination payments that could have been required at March 31, 2020 and December 31, 2019, of \$13.0 million and \$439.1 million, respectively. Accelerated settlement of these liabilities would not have a material effect on the consolidated financial position or liquidity of Northern Trust.

Item 4. Controls and Procedures

As of March 31, 2020, the Corporation's management, with the participation of the Corporation's Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of the Corporation's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the Exchange Act)), that are designed to ensure that information required to be disclosed by the Corporation in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified by the SEC's rules and forms. Based on such evaluation, such officers have concluded that, as of March 31, 2020, the Corporation's disclosure controls and procedures are effective.

There have been no changes in the Corporation's internal control over financial reporting identified in connection with the evaluation required by Rules 13a-15 and 15d-15 under the Exchange Act during the last fiscal quarter that have materially affected, or that are reasonably likely to materially affect, the Corporation's internal control over financial reporting.

PART II — OTHER INFORMATION

Item 1. Legal Proceedings

The information presented under the caption “Legal Proceedings” in Note 20 — Contingent Liabilities included under Part I, Item 1 of this Form 10-Q is incorporated herein by reference.

Item 1A. Risk Factors

Our business, results of operations, and financial condition have been, and will likely continue to be, adversely affected by the ongoing COVID-19 pandemic.

The ongoing COVID-19 pandemic, and governmental and societal responses thereto, have had a severe impact on recent global economic and market conditions, including significant disruption of, and volatility in, financial markets; global supply chain disruptions; and the institution of social distancing and shelter-in-place requirements that have resulted in temporary closures of many businesses, lost revenues, and increased unemployment.

These conditions have impacted- or are expected in the future to impact-our business, results of operations, and financial condition negatively, including through lower revenue from certain of our fee-based businesses; lower net interest income resulting from lower interest rates; increased provisions for credit losses; impairments on the securities we hold; and decreased demand for certain of our products and services. Additionally, our liquidity and regulatory capital could be adversely impacted by volatility and disruptions in the capital and credit markets; volatility in foreign exchange rates; deposit flows; and continued client draws on lines of credit. Our business operations may also be disrupted if significant portions of our workforce are unable to work effectively, including because of illness, quarantines, government actions, or other restrictions in connection with the pandemic.

While governmental authorities have taken unprecedented measures to provide economic assistance to individual households and businesses, stabilize the markets, and support economic growth, the success of these measures is unknown and they may not be sufficient to mitigate fully the negative impact of the ongoing pandemic. Further, some measures, such as a suspension of mortgage and other loan payments and foreclosures, may have a negative impact on our business, while our participation in other measures could result in reputational harm, litigation, or regulatory and government actions, proceedings, or penalties.

The extent to which the COVID-19 pandemic impacts our business, results of operations and financial condition will depend on future developments, which are highly uncertain and are difficult to predict, including, but not limited to, the duration and spread of the outbreak, its severity, the actions to contain the virus or treat its impact, and how quickly and to what extent normal economic and operating conditions can resume. The ongoing pandemic may also have the effect of heightening many of the other risks described in the section entitled “Risk Factors” in our most recent Annual Report on Form 10-K and any subsequent filings with the U.S. Securities and Exchange Commission.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

(c) The following table shows certain information relating to the Corporation’s purchases of common stock for the three months ended March 31, 2020.

TABLE 70: REPURCHASES OF COMMON STOCK

PERIOD	TOTAL NUMBER OF SHARES PURCHASED	AVERAGE PRICE PAID PER SHARE	TOTAL NUMBER OF SHARES PURCHASED AS PART OF A PUBLICLY ANNOUNCED PLAN ⁽¹⁾	MAXIMUM NUMBER OF SHARES THAT MAY YET BE PURCHASED UNDER THE PLAN
January 1 - 31, 2020	714,783	\$ 104.25	714,783	8,516,740
February 1 - 29, 2020	916,878	95.49	916,878	7,599,862
March 1 - 31, 2020	1,112,215	76.68	1,112,215	6,487,647
Total (First Quarter)	2,743,876	\$ 90.15	2,743,876	6,487,647

⁽¹⁾ Repurchases were made pursuant to the repurchase program announced by the Corporation on July 17, 2018, under which the Corporation’s Board of Directors authorized the Corporation to repurchase up to 25.0 million shares of the Corporation’s common stock. The repurchase program has no expiration date.

Item 6. Exhibits

<u>Exhibit Number</u>	<u>Description</u>
4.1	Certain instruments defining the rights of the holders of long-term debt of the Corporation and certain of its subsidiaries, none of which authorize a total amount of indebtedness in excess of 10% of the total assets of the Corporation and its subsidiaries on a consolidated basis, have not been filed as exhibits. The Corporation hereby agrees to furnish a copy of any of these agreements to the SEC upon request.
10.1	Form of 2020 Performance Stock Unit Terms and Conditions
10.2	Form of 2020 Stock Unit Terms and Conditions
31.1	Rule 13a-14(a)/15d-14(a) Certification of CEO Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2	Rule 13a-14(a)/15d-14(a) Certification of CFO Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32	Certifications of CEO and CFO Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101	Includes the following financial and related information from Northern Trust's Quarterly Report on Form 10-Q as of and for the quarter ended March 31, 2020, formatted in Inline Extensible Business Reporting Language (iXBRL): (1) the Consolidated Balance Sheets, (2) the Consolidated Statements of Income, (3) the Consolidated Statements of Comprehensive Income, (4) the Consolidated Statements of Changes in Stockholders' Equity, (5) the Consolidated Statements of Cash Flows, and (6) Notes to Consolidated Financial Statements.
104	The cover page from this Quarterly Report on Form 10-Q, formatted in Inline XBRL.

