

NORTHERN TRUST CORP
Form 10-Q
April 29, 2019
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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, 2019

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 36-2723087

(State or other jurisdiction of (I.R.S. Employer
incorporation or organization) Identification No.)

50 South LaSalle Street 60603

Chicago, Illinois

(Address of principal executive offices) (Zip Code)

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

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 Accelerated filer

Non-accelerated filer Smaller reporting company

Emerging growth company

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

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217,676,589 Shares – \$1.66 2/3 Par Value

(Shares of Common Stock Outstanding on March 31, 2019)

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NORTHERN TRUST CORPORATION
QUARTERLY REPORT ON FORM 10-Q
FOR THE QUARTERLY PERIOD ENDED MARCH 31, 2019
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(UNAUDITED)

CONDENSED INCOME STATEMENTS (In Millions)	Three Months Ended March 31,		
	2019	2018	% Change ⁽¹⁾
Noninterest Income	\$1,058.9	\$1,092.0	(3)%
Net Interest Income	422.0	384.0	10
Provision for Credit Losses	—	(3.0) N/M
Noninterest Expense	1,028.7	995.3	3
Income before Income Taxes	452.2	483.7	(7)
Provision for Income Taxes	105.1	102.1	3
Net Income	\$347.1	\$381.6	(9)%
PER COMMON SHARE			
Net Income — Basic	\$1.49	\$1.59	(6)%
— Diluted	1.48	1.58	(6)
Cash Dividends Declared Per Common Share	0.60	0.42	43
Book Value — End of Period (EOP)	44.72	41.66	7
Market Price — EOP	90.41	103.13	(12)

SELECTED BALANCE SHEET DATA (In Millions)

End of Period:	March 31,	December	% Change ⁽¹⁾
	2019	31, 2018	
Assets	\$121,869.4	\$132,212.5	(8)%
Earning Assets	111,120.5	122,847.3	(10)
Deposits	95,844.2	104,496.8	(8)
Stockholders' Equity	10,616.2	10,508.3	1

	Three Months Ended March 31,		
	2019	2018	% Change ⁽¹⁾
Average Balances:			

Assets	\$119,416.7	\$124,493.3	(4)%
Earning Assets	110,672.2	115,686.3	(4)
Deposits	91,369.8	98,197.5	(7)
Stockholders' Equity	10,428.8	10,137.7	3

CLIENT ASSETS (In Billions)	March 31,	December	% Change ⁽¹⁾
	2019	31, 2018	
Assets Under Custody/Administration ⁽²⁾	\$10,927.4	\$10,125.3	8 %
Assets Under Custody	8,199.7	7,593.9	8
Assets Under Management	1,162.1	1,069.4	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.

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SELECTED RATIOS AND METRICS

	Three Months Ended March 31, 2019		2018	
Financial Ratios:				
Return on Average Common Equity	14.0%		16.0%	
Return on Average Assets	1.18		1.24	
Dividend Payout Ratio	40.5		26.6	
Net Interest Margin ⁽¹⁾	1.58		1.38	
	March 31, 2019		December 31, 2018	
	Advanced	Standardized	Advanced	Standardized
	Approach	Approach	Approach	Approach
Capital Ratios:				
Northern Trust Corporation				
Common Equity Tier 1	13.5%	13.0	%	13.7%
Tier 1	14.8	14.3		15.0
Total	16.6	16.3		16.9
Tier 1 Leverage	8.2	8.2		8.0
Supplementary Leverage	7.2	N/A		7.0
				N/A
The Northern Trust Company				
Common Equity Tier 1	13.9%	13.2	%	14.1%
Tier 1	13.9	13.2		14.1
Total	15.5	14.9		15.8
Tier 1 Leverage	7.4	7.4		7.3
Supplementary Leverage	6.6	N/A		6.4
				N/A

(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 21.

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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 (the Corporation) is a financial holding company that 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” 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

Net income per diluted common share was \$1.48 in the current quarter, down from \$1.58 in the first quarter of 2018. Net income was \$347.1 million in the current quarter as compared to \$381.6 million in the prior-year quarter. Annualized return on average common equity was 14.0% in the current quarter and 16.0% in the prior-year quarter. The annualized return on average assets was 1.18% in the current quarter as compared to 1.24% in the prior-year quarter.

Revenue was relatively unchanged compared to the prior-year quarter, totaling \$1.48 billion.

Noninterest income decreased \$33.1 million, or 3%, to \$1.06 billion from \$1.09 billion in the prior-year quarter, primarily reflecting lower foreign exchange trading income, trust, investment and other servicing fees, other operating income, and securities commissions and trading income.

Net interest income increased \$38.0 million, or 10%, to \$422.0 million in the current quarter as compared to \$384.0 million in the prior-year quarter, primarily resulting from a higher net interest margin, partially offset by a decrease in earning assets.

There was no provision for credit losses in the current quarter, as compared to a provision credit of \$3.0 million in the prior-year quarter.

Noninterest expense totaled \$1.03 billion in the current quarter, up \$33.4 million, or 3%, from \$995.3 million in the prior-year quarter, primarily attributable to higher outside services, compensation, and equipment and software expense, partially offset by lower employee benefits expense.

The provision for income taxes in the current quarter totaled \$105.1 million, representing an effective tax rate of 23.2%. The provision for income taxes in the prior-year quarter totaled \$102.1 million, representing an effective tax rate of 21.1%.

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FIRST QUARTER CONSOLIDATED RESULTS OF OPERATIONS (continued)

Noninterest Income

The components of noninterest income are provided below.

Table 1: Noninterest Income

Noninterest Income (\$ In Millions)	Three Months Ended March 31,		
	2019	2018	Change
Trust, Investment and Other Servicing Fees	\$928.9	\$937.7	\$(8.8) (1)%
Foreign Exchange Trading Income	66.2	78.5	(12.3) (16)
Treasury Management Fees	11.7	14.0	(2.3) (17)
Security Commissions and Trading Income	23.3	27.2	(3.9) (14)
Other Operating Income	29.0	34.8	(5.8) (16)
Investment Security (Losses) Gains, net	(0.2)	(0.2)	— 30
Total Noninterest Income	\$1,058.9	\$1,092.0	\$(33.1) (3)%

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. 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,		
	2019	2018	Change	2019	2018	Change
S&P 500	2,718	2,733	(1)%	2,834	2,641	7 %
MSCI EAFE (U.S. dollars)	1,833	2,072	(12)	1,875	2,002	(6)
MSCI EAFE (local currency)	1,074	1,147	(6)	1,105	1,105	—

Table 3: Fixed Income Market Indices

	As of March 31,		
	2019	2018	Change
Barclays Capital U.S. Aggregate Bond Index	2,107	2,016	4 %
Barclays Capital Global Aggregate Bond Index	489	491	—

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

Assets Under Custody / Administration (\$ In Billions)	March 31, December		March 31, Change		Change	
	2019	31, 2018	2018	Q1-19/Q4-18	Q1-19/Q1-18	
Corporate & Institutional	\$10,238.9	\$9,490.5	\$10,131.7	8 %	1 %	
Wealth Management	688.5	634.8	654.0	8	5	
Total Assets Under Custody / Administration	\$10,927.4	\$10,125.3	\$10,785.7	8 %	1 %	

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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

Assets Under Custody (\$ In Billions)	March 31, 2019	December 31, 2018	March 31, 2018	Change Q1-19/Q4-18	Change Q1-19/Q1-18
Corporate & Institutional	\$7,529.1	\$6,971.0	\$7,466.5	8 %	1 %
Wealth Management	670.6	622.9	645.2	8	4
Total Assets Under Custody	\$8,199.7	\$7,593.9	\$8,111.7	8 %	1 %

The 1% increase in consolidated assets under custody from \$8.11 trillion as of March 31, 2018 to \$8.20 trillion as of March 31, 2019 primarily reflects favorable markets, partially offset by the impact of unfavorable movements in foreign exchange rates and net outflows.

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

Table 6: Allocation of Assets Under Custody

Assets Under Custody	March 31, 2019		December 31, 2018		March 31, 2018	
	C&ISWM	Total	C&ISWM	Total	C&ISWM	Total
Equities	45 %	57 %	46 %	44 %	54 %	45 %
Fixed Income	38	19	36	39	20	37
Cash and Other Assets	15	24	16	15	26	16
Securities Lending Collateral	2	—	2	2	—	2

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

Table 7: Assets Under Management

Assets Under Management (\$ In Billions)	March 31, 2019	December 31, 2018	March 31, 2018	Change Q1-19/Q4-18	Change Q1-19/Q1-18
Corporate & Institutional	\$867.9	\$790.8	\$878.3	10 %	(1) %
Wealth Management	294.2	278.6	287.4	6	2
Total Assets Under Management	\$1,162.1	\$1,069.4	\$1,165.7	9 %	— %

Consolidated assets under management were relatively unchanged compared to the prior-year quarter, totaling \$1.17 trillion at March 31, 2018 and \$1.16 trillion as of March 31, 2019, as net outflows and the unfavorable impact of movements in foreign exchange rates were partially offset by favorable markets.

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, 2019	December 31, 2018	March 31, 2018
Equities	\$591.8	\$534.2	\$583.7
Fixed Income	185.1	178.3	177.7
Cash and Other Assets	220.1	207.0	216.8
Securities Lending Collateral	165.1	149.9	187.5
Total Assets Under Management	\$1,162.1	\$1,069.4	\$1,165.7

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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, 2019		December 31, 2018		March 31, 2018	
	C&ISWM	Total	C&ISWM	Total	C&ISWM	Total
Assets Under Management	51%	50%	51%	47%	50%	50%
Equities	13	25	16	13	26	17
Fixed Income	17	25	19	17	27	19
Cash and Other Assets	19	—	14	19	—	14
Securities Lending Collateral	21	—	16	21	—	16

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

Table 10: Activity in Consolidated Assets Under Management by Investment Type

(\$ In Billions)	Three Months Ended				
	March 31, 2019	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018
Beginning Balance of AUM	\$ 1,069.4	\$ 1,171.5	\$ 1,148.9	\$ 1,165.7	\$ 1,161.0
Inflows by Investment Type					
Equity	49.8	43.5	42.3	44.7	44.2
Fixed Income	14.5	13.7	15.1	17.5	17.4
Cash & Other Assets	133.2	136.4	109.3	124.2	114.4
Securities Lending Collateral	74.3	51.8	23.3	22.4	68.1
Total Inflows	271.8	245.4	190.0	208.8	244.1
Outflows by Investment Type					
Equity	(48.8)	(45.1)	(43.9)	(42.4)	(47.8)
Fixed Income	(14.5)	(15.3)	(12.8)	(20.4)	(24.0)
Cash & Other Assets	(127.1)	(135.6)	(103.8)	(130.6)	(117.4)
Securities Lending Collateral	(59.1)	(68.4)	(30.5)	(36.1)	(48.3)
Total Outflows	(249.5)	(264.4)	(191.0)	(229.5)	(237.5)
Net Inflows / (Outflows)	22.3	(19.0)	(1.0)	(20.7)	6.6
Market Performance, Currency & Other					
Market Performance & Other	70.9	(80.8)	24.6	11.5	(4.6)
Currency	(0.5)	(2.3)	(1.0)	(7.6)	2.7
Total Market Performance, Currency & Other	70.4	(83.1)	23.6	3.9	(1.9)
Ending Balance of AUM	\$ 1,162.1	\$ 1,069.4	\$ 1,171.5	\$ 1,148.9	\$ 1,165.7

Foreign exchange trading income totaled \$66.2 million in the current quarter, down \$12.3 million, or 16%, compared to \$78.5 million in the prior-year quarter. The decrease was primarily due to lower market volatility and decreased foreign exchange swap activity in Treasury as compared to the prior-year quarter.

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FIRST QUARTER CONSOLIDATED RESULTS OF OPERATIONS (continued)

Noninterest Income (continued)

Security commissions and trading income totaled \$23.3 million in the current quarter, down \$3.9 million, or 14%, compared to \$27.2 million in the prior-year quarter, primarily due to lower core brokerage revenue.

Other operating income totaled \$29.0 million in the current quarter, down \$5.8 million, or 16%, compared to \$34.8 million in the prior-year quarter, primarily due to higher expenses associated with existing swap agreements related to Visa Inc. Class B common shares and lower income from miscellaneous other operating income categories. The components of other operating income are provided below.

Table 11: Other Operating Income

Other Operating Income	Three Months Ended March 31,		
	2019	2018	Change
(\$ In Millions)			
Loan Service Fees	\$12.1	\$12.5	\$(0.4) (3)%
Banking Service Fees	11.2	12.5	(1.3) (11)%
Other Income	5.7	9.8	(4.1) (40)
Total Other Operating Income	\$29.0	\$34.8	\$(5.8) (16)%

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FIRST QUARTER CONSOLIDATED RESULTS OF OPERATIONS (continued)

Net Interest Income

The following table presents an analysis of average balances and interest rate changes affecting net interest income.

Table 12: Average Consolidated Balance Sheets with Analysis of Net Interest Income

(Interest and Rate on a Fully Taxable Equivalent Basis) (\$ In Millions)	NORTHERN TRUST CORPORATION FIRST QUARTER					
	2019			2018		
	Interest	Average Balance	Rate ⁽⁶⁾	Interest	Average Balance	Rate ⁽⁶⁾
Average Earning Assets						
Federal Reserve and Other Central Bank Deposits and Other ⁽¹⁾	\$61.3	\$20,163.2	1.23 %	\$47.4	\$26,495.1	0.72 %
Interest-Bearing Due from and Deposits with Banks ⁽²⁾	17.9	6,452.2	1.13	19.9	6,920.4	1.17
Federal Funds Sold and Securities Purchased under Agreements to Resell Securities	6.8	978.1	2.84	6.8	1,467.1	1.89
U.S. Government	28.7	5,238.9	2.22	23.8	5,735.4	1.68
Obligations of States and Political Subdivisions	5.0	770.5	2.57	2.4	678.2	1.42
Government Sponsored Agency	148.5	22,439.0	2.69	81.4	18,848.3	1.75
Other ⁽³⁾	102.2	23,440.9	1.77	79.2	23,073.8	1.39
Total Securities	284.4	51,889.3	2.22	186.8	48,335.7	1.57
Loans and Leases ⁽⁴⁾	300.2	31,189.4	3.90	253.7	32,468.0	3.17
Total Earning Assets	670.6	110,672.2	2.46	514.6	115,686.3	1.80
Allowance for Credit Losses Assigned to Loans and Leases	—	(114.0)	—	—	(131.0)	—
Cash and Due from Banks and Other Central Bank Deposits ⁽⁵⁾	—	1,940.7	—	—	2,593.2	—
Buildings and Equipment	—	424.4	—	—	457.0	—
Client Security Settlement Receivables	—	981.5	—	—	1,012.0	—
Goodwill	—	675.5	—	—	611.0	—
Other Assets	—	4,836.4	—	—	4,264.8	—
Total Assets	\$—	\$119,416.7	— %	\$—	\$124,493.3	— %
Average Source of Funds						
Deposits						
Savings, Money Market and Other	\$35.0	\$14,372.8	0.99 %	\$12.9	\$15,916.4	0.33 %
Savings Certificates and Other Time	2.8	761.4	1.48	2.1	1,058.5	0.82
Non-U.S. Offices — Interest-Bearing	109.8	58,377.2	0.76	48.1	59,199.7	0.33
Total Interest-Bearing Deposits	147.6	73,511.4	0.81	63.1	76,174.6	0.34
Short-Term Borrowings	65.1	10,494.0	2.52	34.5	9,405.3	1.49
Senior Notes	15.9	2,014.1	3.19	11.8	1,497.4	3.18
Long-Term Debt	10.0	1,112.9	3.64	11.0	1,426.5	3.14
Floating Rate Capital Debt	2.2	277.6	3.27	1.5	277.5	2.21
Total Interest-Related Funds	240.8	87,410.0	1.12	121.9	88,781.3	0.56
Interest Rate Spread	—	—	1.34	—	—	1.24
Demand and Other Noninterest-Bearing Deposits	—	17,858.4	—	—	22,022.9	—
Other Liabilities	—	3,719.5	—	—	3,551.4	—
Stockholders' Equity	—	10,428.8	—	—	10,137.7	—
Total Liabilities and Stockholders' Equity	\$—	\$119,416.7	— %	\$—	\$124,493.3	— %

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Net Interest Income/Margin (FTE Adjusted)	\$429.8 \$—	1.58 %	\$392.7 \$—	1.38 %
Net Interest Income/Margin (Unadjusted)	\$422.0 \$—	1.55 %	\$384.0 \$—	1.35 %

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FIRST QUARTER CONSOLIDATED RESULTS OF OPERATIONS (continued)

Net Interest Income (continued)

ANALYSIS OF NET INTEREST INCOME CHANGES
DUE TO VOLUME AND RATE

(In Millions)	Three Months Ended		
	March 31, 2019/2018		
	Change Due To		
	Average	Rate	Total
	Balance		
Earning Assets (FTE)	\$(9.8)	\$165.8	\$156.0
Interest-Related Funds	43.2	75.7	118.9
Net Interest Income (FTE)	\$(53.0)	\$90.1	\$37.1

Federal Reserve and Other Central Bank Deposits and Other includes collateral deposits with certain securities (1) depositories and clearing houses, which are classified in other assets in the consolidated balance sheets as of March 31, 2019.

(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.

Other securities include certain community development investments and Federal Home Loan Bank and Federal (3) Reserve stock, which are classified in other assets in the consolidated balance sheets as of March 31, 2019 and 2018.

(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.

Net Interest Income (FTE Adjusted), a non-generally accepted accounting principle (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 24.8% for the three months ended March 31, 2019 and 2018, Notes: respectively. Total taxable equivalent interest adjustments amounted to \$7.8 million and \$8.7 million for the three months ended March 31, 2019 and 2018, 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 21.

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 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.

Net interest income on a fully taxable equivalent (FTE) basis totaled \$429.8 million in the current quarter, up \$37.1 million, or 9%, compared to \$392.7 million in the prior-year quarter. The increase was primarily the result of a higher net interest margin, partially offset by a decrease in earning assets. Average earning assets for the current quarter were \$110.7 billion, down from \$115.7 billion in the prior-year quarter, primarily reflecting lower levels of short-term interest-bearing deposits with banks and loans and leases, partially offset by higher levels of securities. The decline in earning assets was primarily the result of lower levels of client demand and other noninterest-bearing deposits. The net interest margin on an FTE basis increased to 1.58% in the current quarter from 1.38% in the prior-year quarter, primarily due to higher short-term interest rates and a balance sheet mix shift.

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 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 21.

Federal Reserve and other central bank deposits and other averaged \$20.2 billion, down \$6.3 billion, or 24%, from \$26.5 billion in the prior-year quarter. Average securities were \$51.9 billion, up \$3.6 billion, or 7%, from \$48.3 billion in the prior-year quarter and include certain community development investments, Federal Home Loan Bank stock, and Federal Reserve stock of \$604.5 million, \$246.5 million and \$53.9 million, respectively, which are recorded in other assets in the consolidated balance sheets.

Loans and leases averaged \$31.2 billion, down \$1.3 billion, or 4%, from \$32.5 billion in the prior-year quarter, primarily reflecting lower levels of residential real estate, commercial real estate loans, and commercial and institutional loans, partially offset by an increase in private client loans. Residential real estate loans averaged \$6.6 billion, down \$692.9 million, or 10%, from \$7.3 billion for the prior-year quarter. Commercial real estate loans averaged \$3.3 billion, down \$235.9 million, or 7%, from \$3.5 billion for the prior-year quarter. Commercial and institutional loans averaged \$8.9 billion, down \$205.7 million, or 2%, from \$9.1 billion

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FIRST QUARTER CONSOLIDATED RESULTS OF OPERATIONS (continued)

Net Interest Income (continued)

for the prior-year quarter. Private client loans averaged \$10.9 billion, up \$463.8 million, or 4%, from \$10.4 billion in the prior-year quarter.

Northern Trust utilizes a diverse mix of funding sources. Total interest-bearing deposits averaged \$73.5 billion in the current quarter, compared to \$76.2 billion in the prior-year quarter, a decrease of \$2.7 billion. Other interest-bearing funds averaged \$13.9 billion in the current quarter, compared to \$12.6 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 \$3.6 billion, or 14%, to \$23.3 billion in the current quarter from \$26.9 billion in the prior-year quarter, primarily resulting from lower levels of client demand and other noninterest-bearing deposits.

Provision for Credit Losses

There was no provision credit for credit losses in the current quarter, as compared to a provision credit of \$3.0 million in the prior-year quarter. The provision in the current 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 recoveries in the current quarter were \$1.2 million, resulting from charge-offs of \$1.0 million and recoveries of \$2.2 million. The prior-year quarter included \$3.0 million of net charge-offs, reflecting \$4.3 million of charge-offs and \$1.3 million of recoveries. Nonperforming assets of \$124.1 million decreased 4% from \$128.9 million at the end of the prior-year quarter. Residential real estate, commercial and institutional, and commercial real estate loans accounted for 89%, 7%, and 4%, respectively, of total nonperforming 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 16.

Noninterest Expense

The components of noninterest expense are provided below.

Table 13: Noninterest Expense

Noninterest Expense (\$ In Millions)	Three Months Ended March 31,		
	2019	2018	Change
Compensation	\$482.0	\$471.7	\$10.3 2 %
Employee Benefits	85.7	91.7	(6.0) (7)
Outside Services	188.4	171.4	17.0 10
Equipment and Software	148.3	140.0	8.3 6
Occupancy	51.6	51.5	0.1 —
Other Operating Expense	72.7	69.0	3.7 6
Total Noninterest Expense	\$1,028.7	\$995.3	\$33.4 3 %

Compensation expense, the largest component of noninterest expense, totaled \$482.0 million in the current quarter, up \$10.3 million, or 2%, compared to \$471.7 million in the prior-year quarter, primarily reflecting higher salary expense and severance-related charges in the current quarter, partially offset by lower cash-based incentive accruals. The increase in salary expense was driven by staff growth and base pay adjustments.

Employee benefits expense totaled \$85.7 million in the current quarter, down \$6.0 million, or 7%, compared to \$91.7 million in the prior-year quarter, primarily due to lower medical costs and retirement plan expenses.

Outside services expense totaled \$188.4 million in the current quarter, up \$17.0 million, or 10%, compared to \$171.4 million in the prior-year quarter, primarily reflecting higher technical services costs and legal expense.

Equipment and software expense totaled \$148.3 million in the current quarter, up \$8.3 million, or 6%, compared to \$140.0 million in the prior-year quarter, primarily due to higher software-related expense and amortization.

Other operating expense totaled \$72.7 million in the current quarter, up \$3.7 million, or 6%, from \$69.0 million in the prior-year quarter, primarily driven by higher charges associated with account servicing activities, staff-related

expenses, and business promotion expense, partially offset by decreased FDIC insurance premiums.

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FIRST QUARTER CONSOLIDATED RESULTS OF OPERATIONS (continued)

Noninterest Expense (continued)

The components of other operating expense are provided below.

Table 14: Other Operating Expense

Other Operating Expense	Three Months Ended March 31,			
	2019	2018	Change	
(\$ In Millions)				
Business Promotion	\$17.7	\$16.1	\$1.6	10 %
Staff Related	8.6	5.4	3.2	60
FDIC Insurance Premiums	2.9	8.9	(6.0)	(67)
Other Intangibles Amortization	4.2	4.5	(0.3)	(8)
Other Expenses	39.3	34.1	5.2	16
Total Other Operating Expense	\$72.7	\$69.0	\$3.7	6 %

Provision for Income Taxes

Income tax expense for the three months ended March 31, 2019 was \$105.1 million, representing an effective tax rate of 23.2%, compared to \$102.1 million in the prior-year quarter, representing an effective tax rate of 21.1%.

The increase in the provision for income taxes was primarily attributable to a tax benefit recognized in the prior-year quarter resulting from a change in accounting method regarding the timing of tax deductions for software development-related expenses and an adjustment recorded in the current quarter related to the calculation of the Corporation's U.S. foreign income tax credit with respect to the foreign income tax liabilities of its non-U.S. branches, partially offset by a net tax provision adjustment recorded in the prior-year quarter associated with the implementation of the Tax Cuts and Jobs Act (TCJA) enacted in the fourth quarter of 2017, a decrease in income before income taxes, and income tax benefits realized in the current quarter as a result of the Corporation's organizational restructuring associated with the pending withdrawal of the United Kingdom from the European Union (Brexit).

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.

Effective January 1, 2019, Northern Trust implemented several enhancements to its FTP methodology, including the allocation of contingent liquidity charges to C&IS and Wealth Management client instruments and products. These methodology enhancements affect the results of each reporting segment. Due to the lack of historical information, prior-period segment results have not been revised to reflect the methodology enhancements.

Also beginning in 2019, all 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.

For reporting periods ended prior to January 1, 2019, income and expense associated with the wholesale funding activities and investment portfolios of the Corporation and its principal subsidiary, The Northern Trust Company (the Bank), as well as certain corporate-based expense, executive level compensation and nonrecurring items, were not allocated to C&IS and Wealth Management, and were reported in Treasury and Other.

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.

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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, 2019 and 2018.

Table 15: Results of Reporting Segments

Three Months Ended March 31, (\$ In Millions)	Corporate & Institutional Services		Wealth Management		Treasury and Other		Total Consolidated	
	2019	2018	2019	2018	2019	2018	2019	2018
Noninterest Income Trust, Investment and Other	\$535.2	\$544.3	\$393.7	\$393.4	\$—	\$—	\$928.9	\$937.7
Servicing Fees								
Foreign Exchange Trading	59.7	62.4	6.5	1.2	—	14.9	66.2	78.5
Income								
Other Noninterest Income	43.4	46.6	25.5	25.7	(5.1)	3.5	63.8	75.8
Net Interest Income*	234.8	229.4	195.0	198.8	—	(35.5)	429.8	392.7
Revenue*	873.1	882.7	620.7	619.1	(5.1)	(17.1)	1,488.7	1,484.7
Provision for Credit Losses	(1.1)	(3.9)	1.1	0.9	—	—	—	(3.0)
Noninterest Expense	648.0	585.6	379.9	365.7	0.8	44.0	1,028.7	995.3
Income before Taxes*	226.2	301.0	239.7	252.5	(5.9)	(61.1)	460.0	492.4
Provision for Income Taxes*	53.6	66.8	60.8	62.4	(1.5)	(18.4)	112.9	110.8
Net Income	\$172.6	\$234.2	\$178.9	\$190.1	\$(4.4)	\$(42.7)	\$347.1	\$381.6
Percentage of Consolidated Net Income	50	% 61	% 51	% 50	% (1)	% (11)	% 100	% 100
Average Assets	\$90,351.7	\$83,637.0	\$29,065.0	\$26,108.0	\$—	\$14,748.3	\$119,416.7	\$124,493.3

* Non-GAAP financial measures stated on a fully taxable equivalent basis (FTE). Total consolidated includes FTE adjustments of \$7.8 million for 2019 and \$8.7 million for 2018. 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 21.

Corporate & Institutional Services

C&IS net income totaled \$172.6 million in the current quarter compared to \$234.2 million in the prior-year quarter, a decrease of \$61.6 million, or 26%. Noninterest income was \$638.3 million in the current quarter, down \$15.0 million, or 2%, from \$653.3 million in the prior-year quarter, primarily reflecting lower trust, investment and other servicing fees and foreign exchange trading income.

Table 16: C&IS Trust, Investment and Other Servicing Fees

(\$ In Millions)	Three Months Ended March 31,		
	2019	2018	Change
Custody and Fund Administration	\$375.1	\$373.9	\$1.2 — %
Investment Management	104.3	109.7	(5.4) (5)
Securities Lending	22.7	26.0	(3.3) (13)
Other	33.1	34.7	(1.6) (5)
Total C&IS Trust, Investment and Other Servicing Fees	\$535.2	\$544.3	\$(9.1) (2)%

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.

Custody and fund administration fees were relatively unchanged from the prior-year quarter, primarily due to new business, partially offset by unfavorable markets and the unfavorable impact of movements in foreign exchange rates. Investment management fees decreased \$5.4 million, or 5%, primarily due to unfavorable markets. Securities lending fees decreased 13%, primarily reflecting lower loan volumes.

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REPORTING SEGMENTS (continued)

Corporate & Institutional Services (continued)

Foreign exchange trading income totaled \$59.7 million in the current quarter, a decrease of \$2.7 million, or 4%, from \$62.4 million in the prior-year quarter. The decrease was driven primarily due to lower market volatility, partially offset by higher income allocations due to the enhanced segment reporting methodology beginning in 2019.

Other noninterest income in C&IS totaled \$43.4 million in the current quarter, down 7%, from \$46.6 million in the prior-year quarter, primarily due to lower securities commissions and trading income and lower treasury management fees.

Net interest income stated on an FTE basis, inclusive of the FTP methodology enhancements described above, was \$234.8 million in the current quarter, up \$5.4 million, or 2%, from \$229.4 million in the prior-year quarter. The increase in net interest income was primarily attributable to higher short-term interest rates. Average earning assets totaled \$82.9 billion, up from \$77.7 billion in the prior-year quarter, primarily resulting from allocations due to the enhanced segment reporting methodology beginning in 2019. The earning assets in C&IS consisted primarily of intercompany assets and loans and leases. Funding sources were primarily comprised of non-U.S. custody-related interest-bearing deposits, which averaged \$58.4 billion in the current quarter, up from \$55.2 billion in the prior-year quarter.

The provision for credit losses was a provision credit of \$1.1 million in the current quarter, compared with a provision credit of \$3.9 million in the prior-year quarter. The current quarter provision credit 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. The prior-year quarter provision reflected reductions in outstanding loans and undrawn loan commitments that resulted in a reduction in the inherent allowance.

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, totaled \$648.0 million in the current quarter, up \$62.4 million, or 11%, from \$585.6 million in the prior-year quarter, primarily reflecting higher expense allocations, including those due to the enhanced segment reporting methodology beginning in 2019, and higher compensation expense.

Wealth Management

Wealth Management net income was \$178.9 million in the current quarter, down \$11.2 million, or 6%, from \$190.1 million in the prior-year quarter. Noninterest income was \$425.7 million, up \$5.4 million, or 1%, from \$420.3 million in the prior-year quarter, primarily reflecting increased foreign exchange trading income. Trust, investment and other servicing fees in Wealth Management totaled \$393.7 million in the current quarter, relatively unchanged from \$393.4 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,			
	2019	2018	Change	
Central	\$150.7	\$153.9	\$(3.2)	(2)%
East	100.9	98.9	2.0	2
West	79.5	78.6	0.9	1
Global Family Office	62.6	62.0	0.6	1
Total Wealth Management Trust, Investment and Other Servicing Fees	\$393.7	\$393.4	\$0.3	—%

Wealth Management fee income is calculated primarily based on market values. Wealth Management fees were relatively unchanged compared to the prior-year quarter, primarily due to new business, partially offset by unfavorable markets.

Foreign exchange trading income totaled \$6.5 million in the current quarter, an increase of \$5.3 million from \$1.2 million in the prior-year quarter. The increase was driven primarily due to the enhanced segment reporting methodology beginning in 2019.

Other noninterest income was \$25.5 million in the current quarter, relatively unchanged from \$25.7 million in the prior-year quarter, primarily reflecting a decrease in securities commissions and trading income.

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REPORTING SEGMENTS (continued)

Wealth Management (continued)

Net interest income stated on an FTE basis was \$195.0 million in the current quarter, down 2%, from \$198.8 million in the prior-year quarter, primarily reflecting higher charges due to enhancements to the Corporation's FTP methodology during the current quarter, partially offset by higher yields on earning assets. Average earning assets increased \$2.0 billion to \$27.8 billion from the prior-year quarter's \$25.8 billion, primarily resulting from allocations due to the enhanced segment reporting methodology beginning in 2019. Earning assets and funding sources were primarily comprised of loans and domestic interest-bearing deposits, respectively.

The provision for credit losses was a provision of \$1.1 million in the current quarter, compared with a provision of \$0.9 million in the prior-year quarter. The current-quarter provision reflected a net increase in the inherent allowance, which was driven by lower credit quality. The prior-year quarter provision reflected net charge-offs, partially offset by reductions in outstanding loans that resulted in a reduction in the inherent allowance.

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, totaled \$379.9 million in the current quarter, up \$14.2 million, or 4%, from \$365.7 million in the prior-year quarter, primarily reflecting higher expense allocations, including those due to the enhanced segment reporting methodology beginning in 2019, and higher compensation expense, partially offset by lower other operating expenses.

Treasury and Other

Beginning in 2019, Treasury and Other includes income and expenses associated with non-recurring activities such as certain costs associated with acquisitions, divestitures, litigation, restructuring, and tax adjustments. For reporting periods ended prior to January 1, 2019, income and expense associated with the wholesale funding activities and investment portfolios of the Corporation and the Bank, as well as certain corporate-based expense, executive level compensation and nonrecurring items, were not allocated to C&IS and Wealth Management, and are reported in Treasury and Other.

Treasury and Other noninterest income decreased from \$18.4 million in the prior-year quarter to an expense of \$5.1 million in the current quarter. The decrease in noninterest income in Treasury and Other was driven by the enhanced segment reporting methodology beginning in 2019.

Net interest income increased \$35.5 million from net interest expense of \$35.5 million in the prior-year quarter to zero in the current quarter due to the enhanced segment reporting methodology. Beginning in 2019, net interest income and average assets are allocated to the C&IS and Wealth Management reporting segments. Average earnings assets were \$12.2 billion in the prior-year quarter.

Noninterest expense totaled \$0.8 million in the current quarter, down \$43.2 million, or 98%, from \$44.0 million in the prior-year quarter due to the enhanced segment reporting methodology beginning in 2019.

The provision for income taxes was a benefit of \$1.5 million in the current quarter compared to an \$18.4 million benefit in the prior-year quarter. The prior-year quarter tax provision included a benefit resulting from a change in accounting method regarding the timing of tax deductions for software development-related expenses and a net tax provision adjustment associated with the implementation of the TCJA enacted in the fourth quarter of 2017.

CONSOLIDATED BALANCE SHEETS

Total assets were \$121.9 billion and \$132.2 billion at March 31, 2019 and December 31, 2018, respectively, and averaged \$119.4 billion in the current quarter compared with \$124.5 billion in the quarter ended March 31, 2018. 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. Loans and leases totaled \$30.6 billion and \$32.5 billion at March 31, 2019 and December 31, 2018, respectively, and averaged \$31.2 billion in the current quarter, down 4% from \$32.5 billion in the quarter ended March 31, 2018. Securities, inclusive of Federal Reserve stock, Federal Home Loan Bank stock, and certain community development investments, which are classified in other assets in the consolidated balance sheets, totaled \$50.2 billion and \$52.3 billion at March 31, 2019 and December 31, 2018, respectively, and averaged \$51.9 billion for the current quarter, up 7% from \$48.3 billion in the quarter ended March 31, 2018. In aggregate, the categories of federal funds sold and securities purchased under agreements to resell, interest-bearing due from and deposits with banks, and Federal Reserve and other central bank

deposits and other totaled \$30.3 billion and \$38.1 billion at March 31, 2019 and December 31, 2018, respectively, and averaged \$27.6 billion in the current quarter, down 21% from \$34.9 billion in the quarter ended March 31, 2018, primarily reflecting decreased Federal Reserve and

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CONSOLIDATED BALANCE SHEETS (continued)

other central bank deposits. Interest-bearing client deposits at March 31, 2019 and December 31, 2018, totaled \$74.0 billion and \$81.8 billion, respectively, and averaged \$73.5 billion in the current quarter compared to \$76.2 billion in the quarter ended March 31, 2018. Noninterest-bearing client deposits at March 31, 2019 and December 31, 2018 totaled \$21.9 billion and \$22.7 billion, respectively, and averaged \$17.9 billion in the current quarter, down 19% from \$22.0 billion in the quarter ended March 31, 2018.

Total stockholders' equity was \$10.6 billion at March 31, 2019 and \$10.5 billion at December 31, 2018, and averaged \$10.4 billion for the current quarter, up 3% from \$10.1 billion for the quarter ended March 31, 2018. The increase in stockholders' equity was primarily attributable to earnings, 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, 2019, the Corporation declared cash dividends totaling \$133.7 million to common stockholders, and cash dividends totaling \$17.3 million to preferred stockholders. During the three months ended March 31, 2019, the Corporation repurchased 2,850,152 shares of common stock, including 510,011 shares withheld related to share-based compensation, at a total cost of \$257.4 million (\$90.31 average price per share).

CAPITAL RATIOS

The capital ratios of Northern Trust and its principal subsidiary, The Northern Trust Company, remained strong at March 31, 2019, exceeding the minimum requirements for classification as "well-capitalized" under applicable U.S. regulatory requirements.

The table below provides capital ratios for Northern Trust Corporation and The Northern Trust Company determined by Basel III phased in requirements.

Table 25: Regulatory Capital Ratios

Capital Ratios — Northern Trust Corporation	March 31, 2019			December 31, 2018			March 31, 2018		
	Advanced Approach	Standardized Approach		Advanced Approach	Standardized Approach		Advanced Approach	Standardized Approach	
Common Equity Tier 1	13.5%	13.0%	%	13.7%	12.9%	%	13.0%	12.3%	%
Tier 1	14.8%	14.3%	%	15.0%	14.1%	%	14.3%	13.6%	%
Total	16.6%	16.3%	%	16.9%	16.1%	%	16.2%	15.5%	%
Tier 1 Leverage	8.2%	8.2%	%	8.0%	8.0%	%	7.6%	7.6%	%
Supplementary Leverage	7.2%	N/A		7.0%	N/A		6.6%	N/A	

Capital Ratios — The Northern Trust Company	March 31, 2019			December 31, 2018			March 31, 2018		
	Advanced Approach	Standardized Approach		Advanced Approach	Standardized Approach		Advanced Approach	Standardized Approach	
Common Equity Tier 1	13.9%	13.2%	%	14.1%	13.1%	%	13.6%	12.6%	%
Tier 1	13.9%	13.2%	%	14.1%	13.1%	%	13.6%	12.6%	%
Total	15.5%	14.9%	%	15.8%	14.8%	%	15.2%	14.3%	%
Tier 1 Leverage	7.4%	7.4%	%	7.3%	7.3%	%	7.0%	7.0%	%
Supplementary Leverage	6.6%	N/A		6.4%	N/A		6.1%	N/A	

STATEMENTS OF CASH FLOWS

Net cash provided by operating activities of \$293.7 million for the three months ended March 31, 2019 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 an increase in accounts receivable. For the three months ended March 31, 2018, net cash used in operating activities of \$477.8 million was primarily attributable to higher net collateral deposited with derivative counterparties and net changes in other operating activities, primarily due to incentive payments, an increase in prepaid expenses, and a decrease in accounts payable, partially offset by period earnings.

Net cash provided by investing activities of \$11.6 billion for the three months ended March 31, 2019 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. For the three months ended March 31, 2018, net cash provided by investing activities of \$11.2 billion was primarily attributable to

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STATEMENTS OF CASH FLOWS (continued)

decreased levels of Federal Reserve and other central bank deposits, client security settlement receivables, interest-bearing deposits with banks, and loans and leases, partially offset by net purchases of debt securities held to maturity and available for sale, and higher levels of federal funds sold and securities purchased under agreements to resell.

Net cash used in financing activities of \$11.4 billion for the three months ended March 31, 2019 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 non-interest bearing non-U.S. office client deposits. For the three months ended March 31, 2018, net cash used in financing activities of \$9.2 billion was primarily attributable to decreased levels of total deposits and federal funds purchased and the repurchase of common stock pursuant to the Corporation's share repurchase program, partially offset by higher short-term other borrowings. The decrease in total deposits was primarily attributable to lower levels of interest-bearing non-U.S. office client deposits.

ASSET QUALITY

Securities Portfolio

Northern Trust maintains a high quality debt securities portfolio, with 82% of the combined available for sale, held to maturity, and trading account portfolios at March 31, 2019, composed of U.S. Treasury and government sponsored agency securities and triple-A rated corporate notes, asset-backed securities, covered bonds, sub-sovereign, supranational, sovereign and non-U.S. agency bonds, commercial mortgage-backed securities and obligations of states and political subdivisions. The remaining portfolio was comprised of corporate notes, negotiable certificates of deposit, obligations of states and political subdivisions and other securities, of which as a percentage of the total securities portfolio, 8% was rated double-A, 2% was rated below double-A, and 8% was not rated by Moody's Investors Service or Standard and Poor's (primarily non-U.S. sovereign securities whose long term ratings are at least A).

Net unrealized losses within the investment securities portfolio totaled \$82.8 million at March 31, 2019, compared to net unrealized losses of \$240.0 million as of December 31, 2018. Net unrealized losses as of March 31, 2019 were comprised of \$186.1 million and \$268.9 million of gross unrealized gains and losses, respectively. As of March 31, 2019, unrealized losses of \$124.6 million and \$27.0 million related to government sponsored agency and U.S. government securities, respectively, are primarily attributable to changes in market rates since purchase. Unrealized losses of \$64.6 million as of March 31, 2019 in securities classified as "other" related to securities primarily purchased at a premium or par by Northern Trust to fulfill its obligation under the Community Reinvestment Act (CRA). Unrealized losses on these CRA-related securities were attributable to yields that were below market rates for the purpose of supporting institutions and programs that benefit low- to moderate-income communities within Northern Trust's market area. Also, \$14.4 million of the unrealized losses related to corporate debt securities, primarily reflecting widened credit spreads and higher market rates since purchase. As of March 31, 2019, 36% of the corporate debt portfolio was backed by guarantees provided by U.S. and non-U.S. governmental entities.

For the three months ended March 31, 2019, no charges were recorded relating to the other-than-temporary impairment (OTTI) of CRA-eligible securities. There were \$0.2 million OTTI losses for the three months ended March 31, 2018. Northern Trust has evaluated all securities with unrealized losses for possible OTTI in accordance with GAAP and Northern Trust's security impairment review policy.

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.

Nonperforming Loans and Leases and Other Real Estate Owned

Nonperforming assets consist of nonperforming 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.

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ASSET QUALITY (continued)

Nonperforming Loans and Leases and Other Real Estate Owned (continued)

The following table provides the amounts of nonperforming 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. The balance of loans delinquent 90 days or more and still accruing interest can fluctuate widely based on the timing of cash collections, renegotiations and renewals.

Table 26: Nonperforming Assets

(\$ In Millions)	March 31, 2019	December 31, 2018	March 31, 2018
Nonperforming Loans and Leases			
Commercial			
Commercial and Institutional	\$7.6	\$6.8	\$4.4
Commercial Real Estate	4.2	6.9	6.2
Non-U.S.	0.6	0.4	—
Total Commercial	12.4	14.1	10.6
Personal			
Residential Real Estate	\$103.5	\$95.0	\$114.1
Private Client	0.2	0.2	—
Total Personal	103.7	95.2	114.1
Total Nonperforming Loans and Leases	116.1	109.3	124.7
Other Real Estate Owned	8.0	8.4	4.2
Total Nonperforming Assets	\$124.1	\$117.7	\$128.9
90 Day Past Due Loans Still Accruing	\$13.0	\$16.4	\$6.2
Nonperforming Loans and Leases to Total Loans and Leases	0.38	% 0.34	% 0.39
Coverage of Loan and Lease Allowance to			
Nonperforming Loans and Leases	1.0	x 1.0	x 1.0

Nonperforming assets of \$124.1 million as of March 31, 2019 primarily reflected increases within the residential real estate portfolio as a result of new nonperforming assets, partially offset by payments and charge-offs. In addition to the negative impact on net interest income and the risk of credit losses, nonperforming assets also increase operating costs due to the expense associated with collection efforts. Changes in the level of nonperforming 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 specific allowance and of the qualitative factors used in the determination of the inherent allowance levels 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 mortgages, 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 loan-to-collateral values of no more than 65% to 80% at inception. Revaluations of supporting collateral are obtained upon refinancing or default or when otherwise considered warranted. Collateral revaluations for mortgages are performed by independent third parties.

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

Provision and Allowance for Credit Losses

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 probable credit losses that have been identified with specific borrower relationships (specific loss component) and for probable losses that are believed to be inherent in the loan and lease portfolios, undrawn commitments and standby letters of credit (inherent loss component). Control processes and analyses employed to

evaluate the appropriateness of the allowance for credit losses are reviewed on at least an annual basis and modified as necessary.

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ASSET QUALITY (continued)

Provision and Allowance for Credit Losses (Continued)

The amount of specific allowance is determined through an individual evaluation of loans and lending-related commitments considered impaired that is based on expected future cash flows, collateral value and other factors that may impact the borrower's ability to pay. The inherent component of the allowance addresses exposure relating to probable but unidentified credit-related losses. The inherent component of the allowance also covers the credit exposure associated with undrawn loan commitments and standby letters of credit. To estimate the allowance for credit losses on these instruments, management uses conversion rates to determine the estimated amount that will be drawn and assigns an allowance factor determined in accordance with the methodology utilized for outstanding loans. There was no provision for credit losses in the current quarter, compared to a provision credit of \$3.0 million in the prior-year quarter. Net recoveries were \$1.2 million, resulting from \$1.0 million of charge-offs and \$2.2 million of recoveries, compared to \$3.0 million of net charge-offs in the prior-year quarter, resulting from \$4.3 million of charge-offs and \$1.3 million of recoveries. Residential real estate loans accounted for 89% and 91% of total nonperforming loans and leases at March 31, 2019 and 2018, respectively.

Note 7 to the consolidated financial statements includes a table that details the changes in the allowance for credit losses during the three months ended March 31, 2019 and 2018 due to charge-offs, recoveries and provisions for credit losses.

The following table shows the specific portion of the allowance and the inherent portion of the allowance and its components by loan and lease segment and class.

Table 27: Allocation of the Allowance for Credit Losses

(\$ In Millions)	March 31, 2019		December 31, 2018		March 31, 2018	
	Allowance Amount	Percent of Loans to Total	Allowance Amount	Percent of Loans to Total	Allowance Amount	Percent of Loans to Total
Specific Allowance	\$11.3	— %	\$10.0	— %	\$5.0	— %
Allocated Inherent Allowance						
Commercial						
Commercial and Institutional	35.2	28	33.5	27	33.7	28
Commercial Real Estate	34.8	10	35.5	10	40.9	11
Lease Financing, net	0.1	—	0.1	—	0.1	1
Non-U.S.	—	5	—	8	—	5
Other	0.1	1	2.7	2	1.5	1
Total Commercial	70.2	44	71.8	47	76.2	46
Personal						
Residential Real Estate	45.3	21	45.8	20	55.5	22
Private Client	11.2	35	9.2	33	9.5	32
Other	1.4	—	1.4	—	1.6	—
Total Personal	57.9	56	56.4	53	66.6	54
Total Allocated Inherent Allowance	\$128.1	100 %	\$128.2	100 %	\$142.8	100 %
Total Allowance for Credit Losses	\$139.4		\$138.2		\$147.8	
Allowance Assigned to						
Loans and Leases	\$114.5		\$112.6		\$125.4	
Undrawn Commitments and Standby Letters of Credit	24.9		25.6		22.4	
Total Allowance for Credit Losses	\$139.4		\$138.2		\$147.8	
Allowance Assigned to Loans and Leases to Total Loans and Leases	0.37 %		0.35 %		0.39 %	

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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 as of the period-end balance sheet. Both simulation models use the same initial market interest rates and product balances.

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, 2018.

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.

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 28: Net Interest Income Sensitivity as of March 31, 2019

(\$ 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	\$ 73
200 Basis Points	116
Decrease in Interest Rates Below Market Implied Forward Rates	
100 Basis Points	(40)

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

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MARKET RISK MANAGEMENT (continued)

of other measures provided. Further, the estimated impacts presented above are not directly comparable to those presented in prior periods due to the impact of certain client deposit modeling enhancements.

MVE Sensitivity — MVE is defined as the present value of assets minus the present value of liabilities, net of the value of instruments 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; and

the present values of most noninterest-related balances (such as receivables, equipment, and payables) are the same as their book values.

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 29: Market Value of Equity Sensitivity as of March 31, 2019

(\$ In Millions)	Increase/(Decrease) Estimated Impact on Market Value of Equity
Increase in Interest Rates Above Market Implied Forward Rates	
100 Basis Points	\$ 383
200 Basis Points	321
Decrease in Interest Rates Below Market Implied Forward Rates	
100 Basis Points	(373)

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 interest rate risk. MVE sensitivity is not comparable to actual results disclosed elsewhere or directly predictive of future values of other measures provided. Further, the estimated impacts presented above are not directly comparable to those presented in prior periods due to the impact of certain client deposit modeling enhancements.

During the period ended March 31, 2019, Northern Trust did not exceed the NII or MVE sensitivity tolerances established by the Board.

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 foreign exchange VaR measures to meet specific regulatory and internal management needs. Variations include different methodologies (historical, variance-covariance and Monte Carlo), equally weighted and exponentially weighted volatilities, horizons of one day and ten days, confidence levels ranging from 95% to 99.95% and look

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MARKET RISK MANAGEMENT (continued)

back periods of one year and four years. Those alternative measures provide management an array of corroborating metrics and alternative perspectives on Northern Trust's market risks.

During the period ended March 31, 2019, Northern Trust did not incur 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 global foreign currency 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 foreign currency is typically less than the sum of its two components due to diversification benefits derived from the two subcomponents.

Table 30: Foreign Currency Value-At-Risk

(\$ In Millions)	Total VaR (Spot and Forward)		Foreign Exchange Spot VaR		Foreign Exchange Forward VaR	
	March 31, 2019	December 31, 2018	March 31, 2019	December 31, 2018	March 31, 2019	December 31, 2018
High	\$ 0.2	\$ 0.2	\$ 0.2	\$ 0.2	\$0.1	\$ 0.1
Low	0.1	0.1	—	—	—	—
Average	0.1	0.1	0.1	0.1	0.1	0.1
Quarter-End	0.1	0.1	0.1	0.1	0.1	0.1

RECONCILIATION OF CERTAIN REPORTED ITEMS TO FULLY TAXABLE EQUIVALENTS

The following table presents a reconciliation of interest income, net interest income, net interest margin, and revenue prepared in accordance with GAAP to such measures on an FTE basis, which are non-GAAP financial measures. 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 31: Reconciliation of Reported Revenue and Net Interest Income to Fully Taxable Equivalent

(\$ In Millions)	Three Months Ended March 31, 2019			March 31, 2018				
	Reported	FTE Adj.	FTE	Reported	FTE Adj.	FTE		
Interest Income	\$662.8	\$ 7.8	\$670.6	\$505.9	\$ 8.7	\$514.6		
Interest Expense	240.8	—	240.8	121.9	—	121.9		
Net Interest Income	\$422.0	\$ 7.8	\$429.8	\$384.0	\$ 8.7	\$392.7		
Net Interest Margin	1.55	%	1.58	%	1.35	%	1.38	%
Revenue	\$1,480.9	\$ 7.8	\$1,488.7	\$1,476.0	\$ 8.7	\$1,484.7		

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RECENT ACCOUNTING PRONOUNCEMENTS AND DEVELOPMENTS

In June 2016, the Financial Accounting Standards Board (FASB) issued 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 current GAAP, and (3) a simplified accounting model for purchased credit-impaired debt securities and loans. ASU 2016-13 is effective for interim and annual reporting periods beginning after December 15, 2019, although early adoption is permitted. Northern Trust plans to adopt ASU 2016-13 on January 1, 2020.

Northern Trust has established a working group across various functions, an overall governance structure, and a detailed project plan for its implementation efforts. Further, Northern Trust is finalizing the development activities for its credit models, and its internal model validation group has started the review and validation process for these credit models. To ensure that expected credit losses are calculated under the new methodology in accordance with ASU 2016-13, parallel testing will be performed during the second half of 2019. In addition, Northern Trust assessed the new disclosure requirements and evaluated the availability of required new data elements, and is in the process of drafting disclosures required under ASU 2016-13. Northern Trust continues to evaluate specific application issues and the overall impact of the adoption of ASU 2016-13.

In August 2018, the FASB issued 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). ASU 2018-15 is effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years, although early adoption is permitted. ASU 2018-15 is not expected to impact significantly Northern Trust’s consolidated financial condition or results of operations.

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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,” “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; 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 in the United States or other countries across the globe resulting from any of a number of factors, including, for example, actual or potential changes to international trade policy; 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 client 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 including with respect to the adoption of the Tax Cuts and Jobs Act;

geopolitical risks and the risks of extraordinary events such as natural disasters, terrorist events and war, and the responses of the United States and other countries to those events;

the pending 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;

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FORWARD-LOOKING STATEMENTS (continued)

Northern Trust's ability to maintain a product mix that achieves acceptable margins;
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, including its "Value for Spend" initiative;
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, 2018, 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.

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Item 1. Consolidated Financial Statements (unaudited)

CONSOLIDATED BALANCE SHEETS NORTHERN TRUST CORPORATION

(In Millions Except Share Information)	March 31, 2019 (Unaudited)	December 31, 2018
Assets		
Cash and Due from Banks	\$5,074.1	\$4,581.6
Federal Reserve and Other Central Bank Deposits	23,422.2	30,080.2
Interest-Bearing Deposits with Banks	3,861.6	4,264.2
Federal Funds Sold and Securities Purchased under Agreements to Resell	552.2	1,165.2
Debt Securities		
Available for Sale	37,058.2	36,888.8
Held to Maturity (Fair value of \$12,097.7 and \$14,267.0)	12,143.0	14,354.0
Trading Account	0.3	0.3
Total Debt Securities	49,201.5	51,243.1
Loans and Leases		
Commercial	13,635.5	15,175.2
Personal	16,985.1	17,314.8
Total Loans and Leases (Net of unearned income of \$13.3 and \$13.2)	30,620.6	32,490.0
Allowance for Credit Losses Assigned to Loans and Leases	(114.5) (112.6
Buildings and Equipment	411.5	428.2
Client Security Settlement Receivables	2,067.3	1,646.1
Goodwill	683.0	669.3
Other Assets	6,089.9	5,757.2
Total Assets	\$121,869.4	\$132,212.5
Liabilities		
Deposits		
Demand and Other Noninterest-Bearing	\$14,886.8	\$14,508.0
Savings, Money Market and Other Interest-Bearing	14,784.6	14,612.0
Savings Certificates and Other Time	856.2	688.7
Non U.S. Offices — Noninterest-Bearing	6,977.1	8,220.1
— Interest-Bearing	58,339.5	66,468.0
Total Deposits	95,844.2	104,496.8
Federal Funds Purchased	651.8	2,594.2
Securities Sold Under Agreements to Repurchase	39.7	168.3
Other Borrowings	7,749.8	7,901.7
Senior Notes	2,024.1	2,011.3
Long-Term Debt	1,125.8	1,112.4
Floating Rate Capital Debt	277.6	277.6
Other Liabilities	3,540.2	3,141.9
Total Liabilities	111,253.2	121,704.2
Stockholders' Equity		
Preferred Stock, No Par Value; Authorized 10,000,000 shares:		
Series C, outstanding shares of 16,000	388.5	388.5
Series D, outstanding shares of 5,000	493.5	493.5
Common Stock, \$1.66 2/3 Par Value; Authorized 560,000,000 shares;		
Outstanding shares of 217,676,589 and 219,012,050	408.6	408.6
Additional Paid-In Capital	1,003.3	1,068.5

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Retained Earnings	10,972.9	10,776.8
Accumulated Other Comprehensive Loss	(345.3)	(453.7)
Treasury Stock (27,494,935 and 26,159,474 shares, at cost)	(2,305.3)	(2,173.9)
Total Stockholders' Equity	10,616.2	10,508.3
Total Liabilities and Stockholders' Equity	\$121,869.4	\$132,212.5

See accompanying notes to the consolidated financial statements.

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CONSOLIDATED STATEMENTS OF INCOME
(UNAUDITED) NORTHERN TRUST CORPORATION

(In Millions Except Share Information)	Three Months Ended	
	2019	2018
Noninterest Income		
Trust, Investment and Other Servicing Fees	\$928.9	\$ 937.7
Foreign Exchange Trading Income	66.2	78.5
Treasury Management Fees	11.7	14.0
Security Commissions and Trading Income	23.3	27.2
Other Operating Income	29.0	34.8
Investment Security Gains (Losses), net (Note)	(0.2)	(0.2)
Total Noninterest Income	1,058.9	1,092.0
Net Interest Income		
Interest Income	662.8	505.9
Interest Expense	240.8	121.9
Net Interest Income	422.0	384.0
Provision for Credit Losses	—	(3.0)
Net Interest Income after Provision for Credit Losses	422.0	387.0
Noninterest Expense		
Compensation	482.0	471.7
Employee Benefits	85.7	91.7
Outside Services	188.4	171.4
Equipment and Software	148.3	140.0
Occupancy	51.6	51.5
Other Operating Expense	72.7	69.0
Total Noninterest Expense	1,028.7	995.3
Income before Income Taxes	452.2	483.7
Provision for Income Taxes	105.1	102.1
Net Income	\$347.1	\$ 381.6
Preferred Stock Dividends	17.3	17.3
Net Income Applicable to Common Stock	\$329.8	\$ 364.3
Per Common Share		
Net Income – Basic	\$1.49	\$ 1.59
– Diluted	1.48	1.58
Average Number of Common Shares Outstanding		
– Basic	218,236,802	215,681,167
– Diluted	219,270,227	217,047,519
Note: Changes in Other-Than-Temporary-Impairment (OTTI) Losses	\$—	\$ (0.2)
Other Security Gains (Losses), net	(0.2)	—
Investment Security Gains (Losses), net	\$(0.2)	\$(0.2)
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (UNAUDITED)	NORTHERN TRUST CORPORATION	

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(In Millions)	Three Months	
	Ended March 31,	
	2019	2018
Net Income	\$347.1	\$381.6
Other Comprehensive Income (Loss) (Net of Tax and Reclassifications)		
Net Unrealized (Losses) Gains on Debt Securities Available for Sale	85.6	(55.0)
Net Unrealized (Losses) Gains on Cash Flow Hedges	(4.3)	(3.7)
Foreign Currency Translation Adjustments	14.8	(13.1)
Pension and Other Postretirement Benefit Adjustments	12.3	5.7
Other Comprehensive Income	108.4	(66.1)
Comprehensive Income	\$455.5	\$315.5

See accompanying notes to the consolidated financial statements.

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CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (UNAUDITED)	NORTHERN TRUST CORPORATION	
(In Millions)	Three Months Ended March 31,	
	2019	2018
Preferred Stock		
Balance at January 1 and March 31	\$882.0	\$882.0
Common Stock		
Balance at January 1 and March 31	408.6	408.6
Additional Paid-in Capital		
Balance at January 1	1,068.4	1,047.3
Treasury Stock Transactions — Stock Options and Awards	(120.4)	(83.5)
Stock Options and Awards — Amortization	55.3	56.6
Balance at March 31	1,003.3	1,020.4
Retained Earnings		
Balance at January 1	10,776.8	9,685.1
Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income	—	25.3
Change in Accounting Principle	—	(4.5)
Net Income	347.1	381.6
Dividends Declared — Common Stock	(133.7)	(96.4)
Dividends Declared — Preferred Stock	(17.3)	(17.3)
Balance at March 31	10,972.9	9,973.8
Accumulated Other Comprehensive Income (Loss)		
Balance at January 1	(453.7)	(414.3)
Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income	—	(25.3)
Net Unrealized (Losses) Gains on Debt Securities Available for Sale	85.6	(55.0)
Net Unrealized (Losses) Gains on Cash Flow Hedges	(4.3)	(3.7)
Foreign Currency Translation Adjustments	14.8	(13.1)
Pension and Other Postretirement Benefit Adjustments	12.3	5.7
Balance at March 31	(345.3)	(505.7)
Treasury Stock		
Balance at January 1	(2,173.9)	(1,392.4)
Stock Options and Awards	126.0	102.5
Stock Purchased	(257.4)	(263.2)
Balance at March 31	(2,305.3)	(1,553.1)
Total Stockholders' Equity at March 31	\$10,616.2	\$10,226.0

See accompanying notes to the consolidated financial statements.

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CONSOLIDATED STATEMENTS OF CASH FLOWS (UNAUDITED) NORTHERN TRUST CORPORATION

	Three Months Ended March 31,	
(In Millions)	2019	2018
Cash Flows From Operating Activities		
Net Income	\$347.1	\$381.6
Adjustments to Reconcile Net Income to Net Cash Provided by Operating Activities		
Investment Security Losses, net	0.2	0.2
Amortization and Accretion of Securities and Unearned Income, net	20.0	35.6
Provision for Credit Losses	—	(3.0)
Depreciation on Buildings and Equipment	24.9	27.8
Amortization of Computer Software	84.8	83.6
Amortization of Intangibles	4.2	4.5
Pension Plan Contributions	(3.0)	(71.9)
Change in Receivables	(105.3)	(79.7)
Change in Interest Payable	(3.6)	5.7
Change in Collateral With Derivative Counterparties, net	292.7	(619.8)
Other Operating Activities, net	(368.3)	(242.4)
Net Cash Provided by (Used in) Operating Activities	293.7	(477.8)
Cash Flows From Investing Activities		
Net Change in Federal Funds Sold and Securities Purchased under Agreements to Resell	620.5	(211.9)
Change in Interest-Bearing Deposits with Banks	400.6	660.2
Net Change in Federal Reserve and Other Central Bank Deposits	6,738.8	11,533.0
Purchases of Debt Securities – Held to Maturity	(3,724.4)	(5,511.6)
Proceeds from Maturity and Redemption of Debt Securities – Held to Maturity	5,948.6	4,678.4
Purchases of Debt Securities – Available for Sale	(1,834.1)	(2,725.3)
Proceeds from Sale, Maturity and Redemption of Debt Securities – Available for Sale	1,714.3	2,044.4
Change in Loans and Leases	1,875.1	491.2
Purchases of Buildings and Equipment	(9.1)	(6.0)
Purchases and Development of Computer Software	(81.9)	(79.8)
Change in Client Security Settlement Receivables	(419.7)	1,058.2
Other Investing Activities, net	378.9	(774.6)
Net Cash Provided by Investing Activities	11,607.6	11,156.2
Cash Flows From Financing Activities		
Change in Deposits	(8,838.2)	(7,841.1)
Change in Federal Funds Purchased	(1,942.4)	(1,953.3)
Change in Securities Sold under Agreements to Repurchase	(128.5)	(23.8)
Change in Short-Term Other Borrowings	(158.7)	997.7
Repayments of Senior Notes and Long-Term Debt	—	(1.7)
Treasury Stock Purchased	(257.4)	(263.2)
Net Proceeds from Stock Options	5.5	19.1
Cash Dividends Paid on Common Stock	(120.8)	(95.0)
Cash Dividends Paid on Preferred Stock	(5.9)	(5.9)
Net Cash Used in Financing Activities	(11,446.4)	(9,167.2)
Effect of Foreign Currency Exchange Rates on Cash	37.6	52.1
Change in Cash and Due from Banks	492.5	1,563.3

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Cash and Due from Banks at Beginning of Year	4,581.6	4,518.1
Cash and Due from Banks at End of Year	\$5,074.1	\$6,081.4
Supplemental Disclosures Of Cash Flow Information		
Interest Paid	\$244.2	\$116.0
Income Taxes Paid	27.2	29.7
Transfers from Loans to OREO	—	1.1
See accompanying notes to the consolidated financial statements.		

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Notes to Consolidated Financial Statements (unaudited)

Note 1 – Basis of Presentation

The consolidated financial statements include the accounts of Northern Trust Corporation (the Corporation) and its wholly-owned subsidiary, The Northern Trust Company (the Bank), and various other wholly-owned subsidiaries of the Corporation and the 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, 2019 and 2018, 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 amounts in prior periods 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 of the Notes to Consolidated Financial Statements in the Annual Report on Form 10-K for the year ended December 31, 2018.

Note 2 – Recent Accounting Pronouncements

On January 1, 2019, Northern Trust adopted ASU No. 2016-02, “Leases (Topic 842)” (ASU 2016-02). ASU 2016-02 introduces a lessee model that brings most leases on the balance sheet, with certain specified scope exceptions. Specifically within the lessee model under ASU 2016-02, a lessee is required to recognize on the balance sheet a liability to make future lease payments, known as the lease liability, and a right-of-use asset (ROU asset) representing its right to use the underlying asset over the lease term. Upon adoption, Northern Trust elected the package of practical expedients available under ASU 2016-02, which allowed Northern Trust to forego a reassessment of (1) whether any expired or existing contracts are or contain leases, (2) lease classification for any expired or existing leases, and (3) the initial direct costs for any existing leases. As a result of adopting ASU 2016-02, Northern Trust recognized operating lease liabilities and ROU assets of approximately \$530 million and \$480 million, respectively. Northern Trust did not restate comparative periods for the effects of applying ASU 2016-02. There was no significant impact to Northern Trust’s consolidated results of operations. Please refer to “Note 8 - Leases” for further information.

On January 1, 2019, Northern Trust adopted ASU No. 2017-08, “Receivables-Nonrefundable Fees and Other Costs (Subtopic 310-20): Premium Amortization on Purchased Callable Securities” (ASU 2017-08). ASU 2017-08 amends the amortization period for certain callable debt securities held at a premium and shortens the amortization period for the premium to the earliest call date. Upon adoption of ASU 2017-08, there was no significant impact to Northern Trust’s consolidated financial condition or results of operations.

On January 1, 2019, Northern Trust adopted ASU No. 2018-16, “Derivatives and Hedging (Topic 815): Inclusion of the Secured Overnight Financing Rate (SOFR) Overnight Index Swap (OIS) Rate as a Benchmark Interest Rate for Hedge Accounting Purposes” (ASU 2018-16). ASU 2018-16 permits use of the OIS rate based on SOFR as a U.S. benchmark interest rate for hedge accounting purposes under Topic 815. Upon adoption of ASU 2018-16, 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. Northern Trust's policy is to recognize transfers into and transfers out of fair value levels as of the end of the reporting period in which the transfer occurred. No transfers between fair value levels occurred during the three months ended March 31, 2019 or the year ended December 31, 2018.

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.

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Notes to Consolidated Financial Statements (unaudited) (continued)

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, 2019, Northern Trust's available for sale debt securities portfolio included 1,490 Level 2 debt securities with an aggregate market value of \$32.0 billion. All 1,490 debt securities were valued by external pricing vendors. As of December 31, 2018, Northern Trust's available for sale debt securities portfolio included 1,479 Level 2 debt securities with an aggregate market value of \$31.7 billion. All 1,479 debt securities were valued by external pricing vendors. Trading account debt securities, which totaled \$0.3 million as of March 31, 2019 and December 31, 2018, 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 21 – "Contingent Liabilities" for further information.

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.

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Notes to Consolidated Financial Statements (unaudited) (continued)

The following table presents the fair values of Northern Trust's Level 3 liabilities as of March 31, 2019 and December 31, 2018, as well as the valuation techniques, significant unobservable inputs, and quantitative information used to develop significant unobservable inputs for such assets and liabilities as of such dates.

Table 32: Level 3 Significant Unobservable Inputs

		March 31, 2019		
Financial Instrument	Fair Value	Valuation Technique	Unobservable Inputs	Range of Inputs
Swaps Related to Sale of Certain Visa Class B Common Shares	\$35.0 million	Discounted Cash Flow	Visa Class A Appreciation	7.0 % - 11.0%
			Conversion Rate	1.62x - 1.64x
			Expected Duration	1.25 - 3.75 years
		December 31, 2018		
Financial Instrument	Fair Value	Valuation Technique	Unobservable Inputs	Range of Inputs
Swap Related to Sale of Certain Visa Class B Common Shares	\$32.8 million	Discounted Cash Flow	Visa Class A Appreciation	7.0 % - 11.0%
			Conversion Rate	1.62x - 1.64x
			Expected Duration	1.5 - 4.0 years

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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, 2019 and December 31, 2018, segregated by fair value hierarchy level.

Table 33: Recurring Basis Hierarchy Leveling

(In Millions)	Level 1	Level 2	Level 3	Netting	Assets/Liabilities at Fair Value
March 31, 2019					
Debt Securities					
Available for Sale					
U.S. Government	\$5,022.0	\$—	\$—	\$—	\$ 5,022.0
Obligations of States and Political Subdivisions	—	764.8	—	—	764.8
Government Sponsored Agency	—	22,568.6	—	—	22,568.6
Non-U.S. Government	—	142.7	—	—	142.7
Corporate Debt	—	2,293.7	—	—	2,293.7
Covered Bonds	—	837.4	—	—	837.4
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	—	2,236.1	—	—	2,236.1
Other Asset-Backed	—	2,520.2	—	—	2,520.2
Commercial Mortgage-Backed	—	658.1	—	—	658.1
Other	—	14.6	—	—	14.6
Total Available for Sale	5,022.0	32,036.2	—	—	37,058.2
Trading Account	—	0.3	—	—	0.3
Total Available for Sale and Trading Debt Securities	5,022.0	32,036.5	—	—	37,058.5
Other Assets					
Derivative Assets					
Foreign Exchange Contracts	—	1,642.0	—	—	1,642.0
Interest Rate Contracts	—	104.6	—	—	104.6
Total Derivative Assets	—	1,746.6	—	(979.9)	766.7
Other Liabilities					
Derivative Liabilities					
Foreign Exchange Contracts	—	1,490.5	—	—	1,490.5
Interest Rate Contracts	—	79.6	—	—	79.6
Other Financial Derivatives ⁽¹⁾	—	0.9	35.0	—	35.9
Total Derivative Liabilities	\$—	\$1,571.0	\$ 35.0	\$(1,123.7)	\$ 482.3

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, 2019, derivative assets and liabilities shown above also include reductions of \$139.2 million and \$283.1 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 and a total return swap contract.

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Notes to Consolidated Financial Statements (unaudited) (continued)

(In Millions)	Level 1	Level 2	Level 3	Netting	Assets/Liabilities at Fair Value
December 31, 2018					
Debt Securities					
Available for Sale					
U.S. Government	\$5,185.3	\$—	\$—	\$—	\$ 5,185.3
Obligations of States and Political Subdivisions	—	655.9	—	—	655.9
Government Sponsored Agency	—	22,424.6	—	—	22,424.6
Non-U.S. Government	—	142.2	—	—	142.2
Corporate Debt	—	2,294.7	—	—	2,294.7
Covered Bonds	—	829.3	—	—	829.3
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	—	2,096.2	—	—	2,096.2
Other Asset-Backed	—	2,657.7	—	—	2,657.7
Commercial Mortgage-Backed	—	587.2	—	—	587.2
Other	—	15.7	—	—	15.7
Total Available for Sale	5,185.3	31,703.5	—	—	36,888.8
Trading Account	—	0.3	—	—	0.3
Total Available for Sale and Trading Debt Securities	5,185.3	31,703.8	—	—	36,889.1
Other Assets					
Derivative Assets					
Foreign Exchange Contracts	—	2,466.1	—	—	2,466.1
Interest Rate Contracts	—	96.1	—	—	96.1
Other Financial Derivatives ⁽¹⁾	—	1.3	—	—	1.3
Total Derivative Assets	—	2,563.5	—	(1,357.1)	1,206.4
Other Liabilities					
Derivative Liabilities					
Foreign Exchange Contracts	—	2,262.5	—	—	2,262.5
Interest Rate Contracts	—	93.1	—	—	93.1
Other Financial Derivatives ⁽²⁾	—	—	32.8	—	32.8
Total Derivative Liabilities	\$—	\$2,355.6	\$ 32.8	\$(1,796.3)	\$ 592.1

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, 2018, derivative assets and liabilities shown above also include reductions of \$134.5 million and \$573.7 million, respectively, as a result of cash collateral received from and deposited with derivative counterparties.

⁽¹⁾ This line consists of a total return swap contract.

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

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Notes to Consolidated Financial Statements (unaudited) (continued)

The following table presents the changes in Level 3 liabilities for the three months ended March 31, 2019 and 2018.
Table 34: Changes in Level 3 Liabilities

Level 3 Liabilities (In Millions)	Swaps Related to Sale of Certain Visa Class B Common Shares	
	2019	2018
Three Months Ended March 31, Fair Value at January 1	\$ 32.8	\$ 29.7
Total (Gains) Losses: Included in Earnings ⁽¹⁾	5.1	4.2
Purchases, Issues, Sales, and Settlements Settlements	(2.9)	(2.6)
Fair Value at March 31	\$ 35.0	\$ 31.3

⁽¹⁾ (Gains) losses are recorded in other operating income in the consolidated statements of income.

During the three months ended March 31, 2019 and 2018, there were no transfers into or out of Level 3 liabilities. 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.

Assets measured at fair value on a nonrecurring basis at March 31, 2019 and 2018, all of which were categorized as Level 3 under the fair value hierarchy, were comprised of impaired 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, and were subject to adjustments to reflect management's judgment as to realizable value. 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 impaired loans and OREO assets that have been adjusted to fair value totaled \$22.3 million and \$0.1 million, respectively, at March 31, 2019, and \$9.7 million and \$0.4 million, respectively, at March 31, 2018. Assets measured at fair value on a nonrecurring basis reflect management's judgment as to realizable value.

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Notes to Consolidated Financial Statements (unaudited) (continued)

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, 2019 and December 31, 2018, 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 35: Level 3 Nonrecurring Basis Significant Unobservable Inputs

March 31, 2019				
Financial Instrument	Fair Value	Valuation Technique	Unobservable Input	Range of Discounts Applied
Loans	\$22.3 million	Market Approach	Discount to reflect realizable value	15.0% - 30.0%
OREO	\$0.1 million	Market Approach	Discount to reflect realizable value	15.0% - 30.0%
December 31, 2018				
Financial Instrument	Fair Value	Valuation Technique	Unobservable Input	Range of Discounts Applied
Loans	\$24.9 million	Market Approach	Discount to reflect realizable value	15.0% - 30.0%
OREO	\$0.4 million	Market Approach	Discount to reflect realizable value	15.0% - 30.0%

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Notes to Consolidated Financial Statements (unaudited) (continued)

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

Table 36: Fair Value of Financial Instruments

(In Millions)

	March 31, 2019		Fair Value		
	Book Value	Total Fair Value	Level 1	Level 2	Level 3
Assets					
Cash and Due from Banks	\$5,074.1	\$5,074.1	\$5,074.1	\$—	\$—
Federal Reserve and Other Central Bank Deposits	23,422.2	23,422.2	—	23,422.2	—
Interest-Bearing Deposits with Banks	3,861.6	3,861.6	—	3,861.6	—
Federal Funds Sold and Securities Purchased under Agreements to Resell	552.2	552.2	—	552.2	—
Debt Securities					
Available for Sale (Note)	37,058.2	37,058.2	5,022.0	32,036.2	—
Held to Maturity	12,143.0	12,097.7	119.6	11,978.1	—
Trading Account	0.3	0.3	—	0.3	—
Loans (excluding Leases)					
Held for Investment	30,417.0	30,481.9	—	—	30,481.9
Held for Sale	—	—	—	—	—
Client Security Settlement Receivables	2,067.3	2,067.3	—	2,067.3	—
Total Assets					
Federal Reserve and Federal Home Loan Bank Stock	300.5	300.5	—	300.5	—
Community Development Investments	589.5	589.5	—	589.5	—
Employee Benefit and Deferred Compensation	200.5	197.5	131.1	66.4	—
Liabilities					
Deposits					
Demand, Noninterest-Bearing, Savings, Money Market and Other Interest-Bearing	\$36,648.5	\$36,648.5	\$36,648.5	\$—	\$—
Savings Certificates and Other Time	856.2	866.9	—	866.9	—
Non U.S. Offices Interest-Bearing	58,339.5	58,339.5	—	58,339.5	—
Federal Funds Purchased	651.8	651.8	—	651.8	—
Securities Sold Under Agreements to Repurchase	39.7	39.7	—	39.7	—
Other Borrowings	7,749.8	7,754.6	—	7,754.6	—
Senior Notes	2,024.1	2,031.0	—	2,031.0	—
Long-Term Debt					
Subordinated Debt	1,125.8	1,133.2	—	1,133.2	—
Floating Rate Capital Debt	277.6	256.4	—	256.4	—
Other Liabilities					
Standby Letters of Credit	56.2	56.2	—	—	56.2
Loan Commitments	33.0	33.0	—	—	33.0
Derivative Instruments					
Asset/Liability Management					
Foreign Exchange Contracts					
Assets	\$80.2	\$80.2	\$—	\$80.2	\$—
Liabilities	16.5	16.5	—	16.5	—
Interest Rate Contracts					
Assets	24.1	24.1	—	24.1	—
Liabilities	20.8	20.8	—	20.8	—

Other Financial Derivatives					
Liabilities ⁽¹⁾	35.9	35.9	—	0.9	35.0
Client-Related and Trading					
Foreign Exchange Contracts					
Assets	1,561.8	1,561.8	—	1,561.8	—
Liabilities	1,474.0	1,474.0	—	1,474.0	—
Interest Rate Contracts					
Assets	80.5	80.5	—	80.5	—
Liabilities	58.8	58.8	—	58.8	—

Note: Refer to the table located on page 32 for the disaggregation of available for sale debt securities.

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

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Notes to Consolidated Financial Statements (unaudited) (continued)

(In Millions)	December 31, 2018				
	Book Value	Total Fair Value	Fair Value Level 1	Fair Value Level 2	Fair Value Level 3
Assets					
Cash and Due from Banks	\$4,581.6	\$4,581.6	\$4,581.6	\$ —	\$ —
Federal Reserve and Other Central Bank Deposits	30,080.2	30,080.2	—	30,080.2	—
Interest-Bearing Deposits with Banks	4,264.2	4,264.2	—	4,264.2	—
Federal Funds Sold and Securities Purchased under Agreements to Resell	1,165.2	1,165.2	—	1,165.2	—
Debt Securities					
Available for Sale (Note)	36,888.8	36,888.8	5,185.3	31,703.5	—
Held to Maturity	14,354.0	14,267.0	101.6	14,165.4	—
Trading Account	0.3	0.3	—	0.3	—
Loans (excluding Leases)					
Held for Investment	32,287.0	32,339.2	—	—	32,339.2
Held for Sale	—	—	—	—	—
Client Security Settlement Receivables	1,646.1	1,646.1	—	1,646.1	—
Total Assets					
Federal Reserve and Federal Home Loan Bank Stock	300.3	300.3	—	300.3	—
Community Development Investments	606.6	606.6	—	606.6	—
Employee Benefit and Deferred Compensation	202.3	194.5	125.0	69.5	—
Liabilities					
Deposits					
Demand, Noninterest-Bearing, Savings, Money Market and Other Interest-Bearing	\$37,340.1	\$37,340.1	\$37,340.1	\$ —	\$ —
Savings Certificates and Other Time	688.7	691.8	—	691.8	—
Non U.S. Offices Interest-Bearing	66,468.0	66,468.0	—	66,468.0	—
Federal Funds Purchased	2,594.2	2,594.2	—	2,594.2	—
Securities Sold Under Agreements to Repurchase	168.3	168.3	—	168.3	—
Other Borrowings	7,901.7	7,904.1	—	7,904.1	—
Senior Notes	2,011.3	1,994.4	—	1,994.4	—
Long-Term Debt					
Subordinated Debt	1,112.4	1,089.7	—	1,089.7	—
Floating Rate Capital Debt	277.6	253.5	—	253.5	—
Other Liabilities					
Standby Letters of Credit	30.8	30.8	—	—	30.8
Loan Commitments	34.3	34.3	—	—	34.3
Derivative Instruments					
Asset/Liability Management					
Foreign Exchange Contracts					
Assets	\$306.7	\$306.7	\$—	\$306.7	\$ —
Liabilities	72.5	72.5	—	72.5	—
Interest Rate Contracts					
Assets	30.0	30.0	—	30.0	—
Liabilities	24.5	24.5	—	24.5	—
Other Financial Derivatives					
Assets ⁽¹⁾	1.3	1.3	—	1.3	—

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Liabilities ⁽²⁾	32.8	32.8	—	—	32.8
Client-Related and Trading Foreign Exchange Contracts					
Assets	2,159.4	2,159.4	—	2,159.4	—
Liabilities	2,190.0	2,190.0	—	2,190.0	—
Interest Rate Contracts					
Assets	66.1	66.1	—	66.1	—
Liabilities	68.6	68.6	—	68.6	—

Note: Refer to the table located on page 33 for the disaggregation of available for sale debt securities.

(1) This line consists of a total return swap contract.

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

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Notes to Consolidated Financial Statements (unaudited) (continued)

Note 4 – Securities

The following tables provide the amortized cost and fair values of debt securities at March 31, 2019 and December 31, 2018.

Table 37: Reconciliation of Amortized Cost to Fair Value of Debt Securities Available for Sale

(In Millions)	March 31, 2019			
	Amortized Cost	Gross Unrealized Gains	Losses	Fair Value
U.S. Government	\$5,030.0	\$19.0	\$27.0	\$5,022.0
Obligations of States and Political Subdivisions	755.8	10.7	1.7	764.8
Government Sponsored Agency	22,624.9	68.3	124.6	22,568.6
Non-U.S. Government	143.3	—	0.6	142.7
Corporate Debt	2,297.6	10.2	14.1	2,293.7
Covered Bonds	837.4	2.6	2.6	837.4
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	2,214.0	24.3	2.2	2,236.1
Other Asset-Backed	2,530.5	3.3	13.6	2,520.2
Commercial Mortgage-Backed	647.6	12.5	2.0	658.1
Other	14.6	—	—	14.6
Total	\$37,095.7	\$150.9	\$188.4	\$37,058.2
(In Millions)	December 31, 2018			
	Amortized Cost	Gross Unrealized Gains	Losses	Fair Value
U.S. Government	\$5,203.1	\$21.8	\$39.6	\$5,185.3
Obligations of States and Political Subdivisions	657.6	2.0	3.7	655.9
Government Sponsored Agency	22,522.7	52.4	150.5	22,424.6
Non-U.S. Government	143.3	—	1.1	142.2
Corporate Debt	2,312.6	3.2	21.1	2,294.7
Covered Bonds	832.7	1.4	4.8	829.3
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	2,087.8	11.9	3.5	2,096.2
Other Asset-Backed	2,678.9	1.7	22.9	2,657.7
Commercial Mortgage-Backed	587.4	4.0	4.2	587.2
Other	15.7	—	—	15.7
Total	\$37,041.8	\$98.4	\$251.4	\$36,888.8

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Notes to Consolidated Financial Statements (unaudited) (continued)

Table 38: Reconciliation of Amortized Cost to Fair Value of Debt Securities Held to Maturity

Debt Securities Held to Maturity	March 31, 2019			
	Amortized Cost	Gross Unrealized Gains	Unrealized Losses	Fair Value
(In Millions)				
U.S Government	\$ 119.6	\$—	\$—	\$ 119.6
Obligations of States and Political Subdivisions	16.0	0.6	—	16.6
Government Sponsored Agency	4.3	0.2	—	4.5
Corporate Debt	451.6	0.4	0.3	451.7
Covered Bonds	2,617.8	15.5	4.8	2,628.5
Non-U.S. Government	4,338.1	4.7	5.0	4,337.8
Certificates of Deposit	75.8	—	—	75.8
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	3,170.2	13.5	4.6	3,179.1
Other Asset-Backed	1,099.6	0.3	1.2	1,098.7
Other	250.0	—	64.6	185.4
Total	\$ 12,143.0	\$ 35.2	\$ 80.5	\$ 12,097.7
Debt Securities Held to Maturity	December 31, 2018			
	Amortized Cost	Gross Unrealized Gains	Unrealized Losses	Fair Value
(In Millions)				
U.S Government	\$ 101.6	\$—	\$—	\$ 101.6
Obligations of States and Political Subdivisions	18.9	0.6	—	19.5
Government Sponsored Agency	4.5	0.2	—	4.7
Corporate Debt	472.9	0.4	1.8	471.5
Covered Bonds	2,877.6	9.6	9.3	2,877.9
Non-U.S. Government	6,488.2	2.1	8.7	6,481.6
Certificates of Deposit	45.1	—	—	45.1
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	2,966.8	5.8	12.3	2,960.3
Other Asset-Backed	1,146.4	—	4.0	1,142.4
Other	232.0	—	69.6	162.4
Total	\$ 14,354.0	\$ 18.7	\$ 105.7	\$ 14,267.0

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, 2019, no securities were transferred from available for sale to held to maturity.

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Notes to Consolidated Financial Statements (unaudited) (continued)

The following table provides the remaining maturity of debt securities as of March 31, 2019.

Table 39: Remaining Maturity of Debt Securities Available for Sale and Held to Maturity

(In Millions)	March 31, 2019	
	Amortized Fair Cost	Value
Available for Sale		
Due in One Year or Less	\$9,967.0	\$9,950.6
Due After One Year Through Five Years	19,376.6	19,379.5
Due After Five Years Through Ten Years	6,790.3	6,771.8
Due After Ten Years	961.8	956.3
Total	37,095.7	37,058.2
Held to Maturity		
Due in One Year or Less	4,820.9	4,820.7
Due After One Year Through Five Years	6,787.3	6,795.4
Due After Five Years Through Ten Years	452.5	440.4
Due After Ten Years	82.3	41.2
Total	\$12,143.0	\$12,097.7

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

Investment Security Gains / Losses. Net investment security losses of \$0.2 million were recognized in the three months ended March 31, 2019. Net investment security losses of \$0.2 million were recognized in the three months ended March 31, 2018, which related to the other-than-temporary impairment (OTTI) of certain Community Reinvestment Act (CRA) eligible held to maturity securities. There were \$127.5 million sales of securities during the three months ended March 31, 2019. Gross proceeds from the sale of securities during the three months ended March 31, 2018 were \$2.0 million.

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Notes to Consolidated Financial Statements (unaudited) (continued)

Debt Securities with Unrealized Losses. The following table provides information regarding debt securities that had been in a continuous unrealized loss position for less than twelve months and for twelve months or longer as of March 31, 2019 and December 31, 2018.

Table 40: Debt Securities with Unrealized Losses

Debt Securities with Unrealized Losses as of March 31, 2019	Less than 12 Months		12 Months or Longer		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
(In Millions)						
U.S. Government	\$—	\$ —	\$2,674.5	\$ 27.0	\$2,674.5	\$ 27.0
Obligations of States and Political Subdivisions	66.2	1.2	209.8	0.5	276.0	1.7
Government Sponsored Agency	6,933.4	31.9	8,371.6	92.7	15,305.0	124.6
Non-U.S. Government	2,321.8	0.1	1,259.6	5.5	3,581.4	5.6
Corporate Debt	339.3	0.9	1,009.1	13.5	1,348.4	14.4
Covered Bonds	181.0	0.3	1,022.9	7.1	1,203.9	7.4
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	253.4	0.6	1,501.8	6.2	1,755.2	6.8
Other Asset-Backed	1,436.5	8.7	893.8	6.1	2,330.3	14.8
Commercial Mortgage-Backed	18.7	0.1	193.5	1.9	212.2	2.0
Other	60.7	19.8	125.8	44.8	186.5	64.6
Total	\$11,611.0	\$ 63.6	\$17,262.4	\$ 205.3	\$28,873.4	\$ 268.9
Debt Securities with Unrealized Losses as of December 31, 2018	Less than 12 Months		12 Months or Longer		Total	
(In Millions)	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
U.S. Government	\$—	\$ —	\$2,862.0	\$ 39.6	\$2,862.0	\$ 39.6
Obligations of States and Political Subdivisions	169.6	2.4	279.6	1.3	449.2	3.7
Government Sponsored Agency	8,368.8	33.5	6,822.4	117.0	15,191.2	150.5
Non-U.S. Government	5,065.2	0.8	1,274.0	9.0	6,339.2	9.8
Corporate Debt	712.7	4.1	1,097.4	18.8	1,810.1	22.9
Covered Bonds	646.4	3.7	696.9	10.4	1,343.3	14.1
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	1,105.0	4.6	1,189.2	11.2	2,294.2	15.8
Other Asset-Backed	2,507.8	15.9	954.9	11.0	3,462.7	26.9
Commercial Mortgage-Backed	22.8	0.1	274.4	4.1	297.2	4.2
Other	50.5	18.8	112.6	50.8	163.1	69.6
Total	\$18,648.8	\$ 83.9	\$15,563.4	\$ 273.2	\$34,212.2	\$ 357.1

As of March 31, 2019, 1,234 debt securities with a combined fair value of \$28.9 billion were in an unrealized loss position, with their unrealized losses totaling \$268.9 million. Unrealized losses of \$124.6 million and \$27.0 million related to government sponsored agency and U.S. Government securities, respectively, are primarily attributable to changes in market interest rates since their purchase. Unrealized losses of \$14.4 million within corporate debt securities primarily reflect higher market rates since purchase; 36% of the corporate debt portfolio is backed by guarantees provided by U.S. and non-U.S. governmental entities.

The majority of the \$64.6 million of unrealized losses in debt securities classified as “other” at March 31, 2019 related to debt securities primarily purchased at a premium or par by Northern Trust to fulfill its obligations under the CRA. Unrealized losses on these CRA-related securities were attributable to yields that were below market rates for the purpose of supporting institutions and programs that benefit low- to moderate- income communities within Northern Trust’s market area. The remaining unrealized losses on Northern Trust’s securities portfolio as of March 31, 2019 were attributable to changes in overall market interest rates, increased credit spreads or reduced market liquidity. As of

March 31, 2019, Northern Trust did not intend to sell any investment 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.

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Notes to Consolidated Financial Statements (unaudited) (continued)

Security impairment reviews are conducted quarterly to identify and evaluate securities that have indications of possible OTTI. A determination as to whether a security's decline in market value is other-than-temporary 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 other-than-temporary include, but are not limited to: the length of time the security has been impaired; 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 it 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 OTTI has occurred.

While all securities are considered, the process for identifying credit impairment within CRA-eligible mortgage-backed securities incorporates an expected loss approach using discounted cash flows on the underlying collateral pools. To evaluate whether an unrealized loss on CRA-eligible mortgage-backed securities is other-than-temporary, a calculation of the security's present value is made using current pool data, the current delinquency pipeline, default rates and loan loss severities based on the historical performance of the mortgage pools, and Northern Trust's outlook for the housing market and the overall economy. If the present value of the collateral pools were found to be less than the current amortized cost of the security, a credit-related OTTI loss would be recorded in earnings equal to the difference between the two amounts.

Impairments of CRA-eligible mortgage-backed securities are influenced by a number of factors, including but not limited to, U.S. economic and housing market performance, pool credit enhancement level, year of origination and estimated credit quality of the collateral. The factors used in estimating losses related to CRA-eligible mortgage-backed securities vary by vintage of loan origination and collateral quality.

No OTTI losses were recognized during the three months ended March 31, 2019 related to CRA-eligible mortgage-backed securities. There were \$0.2 million OTTI losses recognized during the three months ended March 31, 2018.

Credit Losses on Debt Securities. The table below provides the cumulative credit-related losses recognized in earnings on debt securities other-than-temporarily impaired.

Table 41: Cumulative Credit-Related Losses on Debt Securities

(In Millions)	Three Months Ended March 31, 2019 2018	
Cumulative Credit-Related Losses on Debt Securities Held — Beginning of Period	\$4.1	\$3.6
Plus: Losses on Newly Identified Impairments	—	0.2
Additional Losses on Previously Identified Impairments	—	—
Less: Current and Prior Period Losses on Debt Securities Sold During the Period	—	—
Cumulative Credit-Related Losses on Debt Securities Held — End of Period	\$4.1	\$3.8

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.

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Notes to Consolidated Financial Statements (unaudited) (continued)

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

Table 42: Repurchase Agreements Accounted for as Secured Borrowings

(In Millions)	March 31, 2019 Remaining Contractual Maturity of the Agreements Overnight and Continuous
Repurchase Agreements	
U.S. Treasury and Agency Securities	\$ 39.7
Total Borrowings	39.7
Gross Amount of Recognized Liabilities for Repurchase Agreements in Note 23	39.7
Amounts related to agreements not included in Note 23 Note 6 – Loans and Leases	—

Amounts outstanding for loans and leases, by segment and class, are shown below.

Table 43: Loans and Leases

(In Millions)	March 31, 2019	December 31, 2018
Commercial		
Commercial and Institutional	\$8,532.1	\$ 8,728.1
Commercial Real Estate	3,185.0	3,228.8
Non-U.S.	1,648.6	2,701.6
Lease Financing, net	89.3	90.7
Other	180.5	426.0
Total Commercial	13,635.5	15,175.2
Personal		
Private Client	10,669.9	10,733.3
Residential Real Estate	6,286.6	6,514.0
Other	28.6	67.5
Total Personal	16,985.1	17,314.8
Total Loans and Leases	\$30,620.6	\$ 32,490.0
Allowance for Credit Losses Assigned to Loans and Leases	(114.5)	(112.6)
Net Loans and Leases	\$30,506.1	\$ 32,377.4

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, 2019 and December 31, 2018, equity credit lines totaled \$526.7 million and \$655.5 million, respectively, and equity credit lines for which first liens were held by Northern Trust represented 96% and 95% of the total equity credit lines as of March 31, 2019 and December 31, 2018, 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 that totaled \$1.2 billion at March 31, 2019, and \$2.2 billion at December 31, 2018. Demand deposit overdrafts reclassified as loan balances totaled \$88.4 million and \$152.5 million at March 31, 2019 and December 31, 2018, respectively. There were no loans or leases classified as held for sale as of March 31, 2019 and December 31, 2018, respectively.

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.

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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, management reporting and the calculation of credit loss allowances and economic capital.

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 or other subjective assessment methodologies, 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 validated at least annually.

Loan and lease segment and class balances as of March 31, 2019 and December 31, 2018 are provided below, segregated by borrower ratings into "1 to 3," "4 to 5" and "6 to 9" (watch list), categories.

Table 44: Borrower Ratings

(In Millions)	March 31, 2019				December 31, 2018			
	1 to 3 Category	4 to 5 Category	6 to 9 Category (Watch List)	Total	1 to 3 Category	4 to 5 Category	6 to 9 Category (Watch List)	Total
Commercial								
Commercial and Institutional	\$5,293.4	\$3,118.6	\$ 120.1	\$8,532.1	\$5,477.4	\$3,159.8	\$ 90.9	\$8,728.1
Commercial Real Estate	1,095.2	2,068.8	21.0	3,185.0	1,209.6	1,992.2	27.0	3,228.8
Non-U.S.	1,021.1	626.3	1.2	1,648.6	1,625.3	1,075.3	1.0	2,701.6
Lease Financing, net	76.9	12.4	—	89.3	78.3	12.4	—	90.7
Other	104.9	75.6	—	180.5	203.3	222.7	—	426.0
Total Commercial	7,591.5	5,901.7	142.3	13,635.5	8,593.9	6,462.4	118.9	15,175.2
Personal								
Private Client	5,983.0	4,680.2	6.7	10,669.9	6,321.1	4,403.2	9.0	10,733.3
Residential Real Estate	2,535.3	3,496.6	254.7	6,286.6	2,745.0	3,502.3	266.7	6,514.0
Other	16.6	12.0	—	28.6	32.2	35.3	—	67.5
Total Personal	8,534.9	8,188.8	261.4	16,985.1	9,098.3	7,940.8	275.7	17,314.8
Total Loans and Leases	\$16,126.4	\$14,090.5	\$ 403.7	\$30,620.6	\$17,692.2	\$14,403.2	\$ 394.6	\$32,490.0

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.

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Notes to Consolidated Financial Statements (unaudited) (continued)

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 nonperforming 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 likelihood of loss.

Recognition of Income. Interest income on loans 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 nonperforming and interest income is recorded on a cash basis. At the time a loan is determined to be nonperforming, interest accrued but not collected is reversed against interest income in the current period. Interest collected on nonperforming 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. Nonperforming loans are returned to performing status when factors indicating doubtful collectability no longer exist. Factors considered in returning a loan to performing 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 performing 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 performing status provided there has been a sustained period of repayment performance (generally a minimum of six months) 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 months) under the revised terms.

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Past due status is based on how long since the contractual due date a principal or interest payment has been past due. For disclosure purposes, loans that are 29 days past due or less are reported as current. The following table provides balances and delinquency status of performing and nonperforming loans and leases by segment and class, as well as the total OREO and nonperforming asset balances, as of March 31, 2019 and December 31, 2018.

Table 45: Delinquency Status

March 31, 2019

(In Millions)	Current	30-59 Days Past Due	60-89 Days Past Due	90 Days or More Past Due	Total Performing	Nonperforming	Total Loans and Leases
Commercial							
Commercial and Institutional	\$8,499.3	\$ 22.1	\$ 3.1	\$ —	\$8,524.5	\$ 7.6	\$ 8,532.1
Commercial Real Estate	3,161.4	3.3	8.1	8.0	3,180.8	4.2	3,185.0
Non-U.S.	1,647.6	0.4	—	—	1,648.0	0.6	1,648.6
Lease Financing, net	89.3	—	—	—	89.3	—	89.3
Other	180.5	—	—	—	180.5	—	180.5
Total Commercial	13,578.1	25.8	11.2	8.0	13,623.1	12.4	13,635.5
Personal							
Private Client	10,622.5	39.1	7.6	0.5	10,669.7	0.2	10,669.9
Residential Real Estate	6,143.2	28.9	6.5	4.5	6,183.1	103.5	6,286.6
Other	28.6	—	—	—	28.6	—	28.6
Total Personal	16,794.3	68.0	14.1	5.0	16,881.4	103.7	16,985.1
Total Loans and Leases	\$30,372.4	\$ 93.8	\$ 25.3	\$ 13.0	\$30,504.5	\$ 116.1	\$ 30,620.6
						Other Real Estate Owned	\$ 8.0
						Total Nonperforming Assets	\$ 124.1

December 31, 2018

(In Millions)	Current	30-59 Days Past Due	60-89 Days Past Due	90 Days or More Past Due	Total Performing	Nonperforming	Total Loans and Leases
Commercial							
Commercial and Institutional	\$8,678.2	\$ 37.4	\$ 4.5	\$ 1.2	\$8,721.3	\$ 6.8	\$ 8,728.1
Commercial Real Estate	3,191.5	8.4	15.6	6.4	3,221.9	6.9	3,228.8
Non-U.S.	2,701.2	—	—	—	2,701.2	0.4	2,701.6
Lease Financing, net	90.7	—	—	—	90.7	—	90.7
Other	426.0	—	—	—	426.0	—	426.0
Total Commercial	15,087.6	45.8	20.1	7.6	15,161.1	14.1	15,175.2
Personal							
Private Client	10,681.1	39.5	12.5	—	10,733.1	0.2	10,733.3
Residential Real Estate	6,376.8	27.2	6.2	8.8	6,419.0	95.0	6,514.0
Other	67.5	—	—	—	67.5	—	67.5
Total Personal	17,125.4	66.7	18.7	8.8	17,219.6	95.2	17,314.8
Total Loans and Leases	\$32,213.0	\$ 112.5	\$ 38.8	\$ 16.4	\$32,380.7	\$ 109.3	\$ 32,490.0
						Other Real Estate Owned	\$ 8.4
						Total Nonperforming Assets	\$ 117.7

Impaired Loans. A loan is considered to be impaired when, based on current information and events, management determines that it is probable that Northern Trust will be unable to collect all amounts due according to the contractual terms of the loan agreement. Impaired loans are identified through ongoing credit management and risk rating processes, including the formal review of past due and watch list credits. Payment performance and delinquency status are critical factors in identifying impairment for all loans and leases, particularly those within the residential real

estate, private client and personal-other classes. Other key factors considered in identifying impairment of loans and leases within the commercial and institutional, lease financing, net, non-U.S., and commercial-other classes relate to the borrower's ability to perform under the terms of the obligation as measured through the

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Notes to Consolidated Financial Statements (unaudited) (continued)

assessment of future cash flows, including consideration of collateral value, market value, and other factors. A loan is also considered to be impaired if its terms have been modified as a concession by Northern Trust or a bankruptcy court resulting from the debtor's financial difficulties, referred to as a troubled debt restructuring (TDR). All TDRs are reported as impaired loans in the calendar year of their restructuring. In subsequent years, a TDR may cease being reported as impaired 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 performing status if it satisfies the six payment periods performance requirement; however, it will remain reported as impaired. Impairment is measured based upon the present value of expected future cash flows, discounted at the loan's original effective interest rate, the fair value of the collateral if the loan is collateral dependent, or the loan's observable market value. If the loan valuation is less than the recorded value of the loan, based on the certainty of loss, either a specific allowance is established, or a charge-off is recorded, for the difference. Smaller balance (individually less than \$1 million) homogeneous loans are collectively evaluated for impairment and excluded from impaired loan disclosures as allowed under applicable accounting standards. Northern Trust's accounting policies for material impaired loans is consistent across all classes of loans and leases.

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Notes to Consolidated Financial Statements (unaudited) (continued)

The following table provides information related to impaired loans by segment and class.

Table 46: Impaired Loans as of the Period End

(In Millions)	As of March 31, 2019			As of December 31, 2018		
	Recorded Investment	Unpaid Principal Balance	Specific Allowance	Recorded Investment	Unpaid Principal Balance	Specific Allowance
With No Related Specific Allowance						
Commercial and Institutional	\$0.1	\$ 0.1	\$ —	\$0.2	\$ 0.4	\$ —
Commercial Real Estate	2.8	4.7	—	5.8	7.6	—
Private Client	1.7	1.7	—	1.7	1.7	—
Residential Real Estate	88.7	117.6	—	76.7	104.7	—
With a Related Specific Allowance						
Commercial and Institutional	7.5	8.8	3.7	6.4	7.3	3.0
Commercial Real Estate	1.3	1.4	1.1	2.6	2.8	1.1
Residential Real Estate	21.2	24.8	2.9	22.8	26.1	3.1
Total						
Commercial	11.7	15.0	4.8	15.0	18.1	4.1
Personal	111.6	144.1	2.9	101.2	132.5	3.1
Total	\$123.3	\$ 159.1	\$ 7.7	\$116.2	\$ 150.6	\$ 7.2

(In Millions)	Three Months Ended March 31, 2019		Three Months Ended March 31, 2018	
	Average Recorded Investment	Average Interest Income Recognized	Average Recorded Investment	Average Interest Income Recognized
With No Related Specific Allowance				
Commercial and Institutional	\$0.1	\$ —	\$19.6	\$ —
Commercial Real Estate	3.8	—	6.5	—
Private Client	1.7	—	0.6	—
Residential Real Estate	89.2	0.6	93.8	0.5
With a Related Specific Allowance				
Commercial and Institutional	7.1	—	—	—
Commercial Real Estate	1.7	—	1.9	—
Residential Real Estate	20.9	—	13.8	—
Total				
Commercial	12.7	—	28.0	—
Personal	111.8	0.6	108.2	0.5
Total	\$124.5	\$ 0.6	\$136.2	\$ 0.5

Note: Average recorded investment in impaired loans is calculated as the average of the month-end impaired loan balances for the period.

Interest income that would have been recorded for nonperforming loans in accordance with their original terms was \$1.9 million and \$2.2 million, respectively, for the three months ended March 31, 2019 and 2018.

There were \$9.0 million and \$12.6 million of aggregate undrawn loan commitments and standby letters of credit at March 31, 2019 and December 31, 2018, respectively, issued to borrowers whose loans were classified as nonperforming or impaired.

Troubled Debt Restructurings (TDRs). Included within impaired loans were \$70.9 million and \$64.6 million of nonperforming TDRs, and \$33.2 million and \$35.2 million of performing TDRs as of March 31, 2019 and December 31, 2018, respectively. All TDRs are reported as impaired loans in the calendar year of their restructuring. In subsequent years, a TDR may cease being reported as impaired if the loan was modified at a market rate and has

performed according to the modified terms for at least six

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months. A loan that has been modified at a below market rate will return to performing status if it satisfies the six-month performance requirement; however, it will remain reported as impaired.

The following table provides, by segment and class, the number of loans and leases modified in TDRs during the three-month periods ended March 31, 2019 and 2018, and the recorded investments and unpaid principal balances as of March 31, 2019 and 2018.

Table 47: Modified Troubled Debt Restructurings

(\$ 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
Commercial Real Estate	—	—	—
Total Commercial	1	7.6	8.8
Personal			
Private Client	—	—	—
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.

(\$ In Millions)	Three Months Ended March 31, 2018		
	Number of Loans and Leases	Recorded Investment	Unpaid Principal Balance
Commercial			
Commercial and Institutional	1	\$ 0.3	\$ 0.5
Commercial Real Estate	—	—	—
Total Commercial	1	0.3	0.5
Personal			
Private Client	1	—	0.1
Residential Real Estate	14	7.5	8.7
Total Personal	15	7.5	8.8
Total Loans and Leases	16	\$ 7.8	\$ 9.3

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, 2019, the TDR modifications of loans within residential real estate were extension 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. During the three months ended March 31, 2018, the TDR modifications of loans within residential real estate were extension of term and other modifications. During the three months ended March 31, 2018, there were no TDR modifications within commercial real estate.

There were no residential real estate loans modified in a TDR during the twelve months ended December 31, 2018, which subsequently became nonperforming during the three months ended March 31, 2019.

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Notes to Consolidated Financial Statements (unaudited) (continued)

There were two residential real estate loans modified in TDR during the twelve months ended December 31, 2017, which subsequently became nonperforming during the three months ended March 31, 2018. The total recorded investment for these loans was approximately \$0.3 million and the unpaid principal balance for these loans was approximately \$0.4 million.

All loans and leases modified in TDRs are evaluated for impairment. The nature and extent of impairment of TDRs, including those that have experienced a subsequent default, is considered in the determination of an appropriate level of allowance for credit losses.

Northern Trust may obtain physical possession of real estate via foreclosure on an in-substance repossession. As of March 31, 2019, Northern Trust held foreclosed real estate properties with a carrying value of \$8.0 million as a result of obtaining physical possession. In addition, as of March 31, 2019, Northern Trust had loans with a carrying value of \$11.8 million for which formal foreclosure proceedings were in process.

Note 7 – Allowance for Credit Losses

The allowance for credit losses, which represents management's estimate of probable losses related to specific borrower relationships and inherent in the various loan and lease portfolios, undrawn commitments, and standby letters of credit, is determined by management through a disciplined credit review process. Northern Trust's accounting policies related to the estimation of the allowance for credit losses and the charging off of loans, leases and other extensions of credit deemed uncollectible are consistent across both loan and lease segments.

Loans, leases and other extensions of credit deemed uncollectible are charged to the allowance for credit losses. Subsequent recoveries, if any, are credited to the allowance. Determinations as to whether an uncollectible loan is charged-off or a specific allowance is established are based on management's assessment as to the level of certainty regarding the amount of loss.

The following table provides information regarding changes in the total allowance for credit losses by segment during the three months ended March 31, 2019 and 2018.

Table 48: Changes in the Allowance for Credit Losses

(In Millions)	Three Months Ended March 31,					
	2019			2018		
	Comme	Residual	Total	Comme	Residual	Total
Balance at Beginning of Period	\$78.7	\$ 59.5	\$138.2	\$80.8	\$ 73.0	\$153.8
Charge-Offs	(0.1)	(0.9)	(1.0)	(0.8)	(3.5)	(4.3)
Recoveries	0.4	1.8	2.2	0.6	0.7	1.3
Net (Charge-Offs) Recoveries	0.3	0.9	1.2	(0.2)	(2.8)	(3.0)
Provision for Credit Losses	(0.4)	0.4	—	(3.5)	0.5	(3.0)
Balance at End of Period	\$78.6	\$ 60.8	\$139.4	\$77.1	\$ 70.7	\$147.8

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Notes to Consolidated Financial Statements (unaudited) (continued)

The following table provides information regarding the recorded investments in loans and leases and the allowance for credit losses by segment as of March 31, 2019 and December 31, 2018.

Table 49: Recorded Investments in Loans and Leases

(In Millions)	March 31, 2019			December 31, 2018		
	Commercial	Personal	Total	Commercial	Personal	Total
Loans and Leases						
Specifically Evaluated for Impairment	\$11.7	\$ 111.6	\$ 123.3	\$15.0	\$ 101.2	\$ 116.2
Evaluated for Inherent Impairment	13,623.1	16,873.5	30,497.3	15,160.7	17,213.6	32,373.8
Total Loans and Leases	13,635.1	16,985.1	30,620.6	15,175.7	17,314.8	32,490.0
Allowance for Credit Losses on Credit Exposures						
Specifically Evaluated for Impairment	4.8	2.9	7.7	4.1	3.1	7.2
Evaluated for Inherent Impairment	53.3	53.5	106.8	53.5	51.9	105.4
Allowance Assigned to Loans and Leases	58.1	56.4	114.5	57.6	55.0	112.6
Allowance for Undrawn Exposures						
Commitments and Standby Letters of Credit	20.5	4.4	24.9	21.1	4.5	25.6
Total Allowance for Credit Losses	\$78.6	\$ 60.8	\$ 139.4	\$78.7	\$ 59.5	\$ 138.2

Note 8 – Lease Commitments

At March 31, 2019, Northern Trust was obligated under a number of non-cancelable operating leases, primarily for real estate. Certain leases contain rent escalation clauses based on market indices, renewal option clauses calling for increased rentals, and rental payments based on usage. There are no restrictions imposed by any lease agreement regarding the payment of dividends, debt financing or Northern Trust entering into further lease agreements.

The following table provides the components of lease cost for the three months ended March 31, 2019.

Table 50: Lease Cost Components

(In Millions)	Three Months Ended March 31, 2019
Operating Lease Cost	\$ 25.2
Variable Lease Cost	10.1
Sublease Income	(1.5)
Total Lease Cost	\$ 33.8

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Notes to Consolidated Financial Statements (unaudited) (continued)

The following table presents a maturity analysis of lease liabilities as of March 31, 2019.

Table 51: Maturity of Lease Liabilities

(In Millions)	Maturity of Lease Liabilities
2019 (excluding the three months ended March 31, 2019)	\$ 74.9
2020	96.6
2021	82.0
2022	66.6
2023	57.3
Later Years	207.0
Total Lease Payments	584.4
Less: Imputed Interest	(74.7)
Present Value of Lease Liabilities	\$ 509.7

As of March 31, 2019, Northern Trust has additional operating leases that have not yet commenced for office space which are expected to commence in late 2019 and late 2020 with lease terms of 9 and 15 years, respectively.

The location and amount of lease right-of-use assets and lease liabilities recorded in the consolidated balance sheet as of March 31, 2019 are presented below.

Table 52: Location and Amount of Lease Assets and Liabilities

(In Millions)	Location of Lease Assets and Liabilities in the Balance Sheet	March 31, 2019
Assets		
Operating Lease Right-of-Use Asset	Other Assets	\$ 460.4
Liabilities		
Operating Lease Liability	Other Liabilities	\$ 509.7

The weighted-average remaining lease term and weighted-average discount rate applied to leases as of March 31, 2019 were as follows:

Table 53: Weighted-Average Remaining Lease Term and Discount Rate

	March 31, 2019
Operating Leases	
Weighted-Average Remaining Lease Term	7.7 years
Weighted-Average Discount Rate	3.4%

The following table provides supplemental cash flow information related to leases for the three months ended March 31, 2019.

Table 54: Supplemental Cash Flow Information

(In Millions)	Three Months Ended March 31, 2019
Cash paid for amounts included in the measurement of lease liabilities	
Operating cash flows for operating leases	\$ 28.3
Right-of-use assets obtained in exchange for new operating lease liabilities	1.0

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Notes to Consolidated Financial Statements (unaudited) (continued)

Under the provisions of Accounting Standards Code (ASC) Topic 842, Northern Trust has elected not to restate comparative periods in the period of adoption as of March 31, 2019. Therefore, disclosure with respect to minimum annual lease commitments as of December 31, 2018, for all non-cancelable operating leases with a term of one year or more is provided in the table below, as required by ASC Topic 840.

Table 55: Minimum Lease Payments as of December 31, 2018

(In Millions)	Future Minimum Lease Payments
2019	\$ 98.8
2020	97.8
2021	85.9
2022	77.2
2023	67.7
Later Years	335.7
Total Minimum Lease Payments	763.1
Less: Sublease Rentals	(23.4)
Net Minimum Lease Payments	\$ 739.7

Operating lease rental expense, net of rental income, is recorded in occupancy expense and amounted to \$79.0 million in 2018, \$76.7 million in 2017, and \$76.1 million in 2016.

Note 9 – 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 Federal Home Loan Bank borrowings, as well as for other purposes, including support for securities settlement, primarily related to client activities, for potential Federal Reserve Bank discount window borrowings, and for derivative contracts. As of March 31, 2019, securities and loans totaling \$41.5 billion (\$32.4 billion of government-sponsored agency and other securities, \$768.8 million of obligations of states and political subdivisions and \$8.3 billion of loans) were pledged. This compares to \$39.6 billion (\$30.9 billion of government-sponsored agency and other securities, \$640.4 million of obligations of states and political subdivisions and \$8.1 billion of loans) at December 31, 2018. Collateral required for these purposes totaled \$9.0 billion and \$9.3 billion at March 31, 2019 and December 31, 2018, respectively. Included in the total pledged assets are available for sale debt securities with a total fair value of \$29.1 million and \$151.5 million, as of March 31, 2019 and December 31, 2018, respectively, which were pledged as collateral for agreements to repurchase securities sold transactions, and available for sale debt securities with a total fair value of \$26.5 million and \$29.0 million, as of March 31, 2019 and December 31, 2018, respectively, which were pledged as collateral for derivative contracts. The secured parties to these transactions have the right to repledge or sell the securities as it relates to \$29.2 million and \$151.5 million of the pledged collateral as of March 31, 2019 and December 31, 2018, respectively.

Northern Trust is not permitted, by contract or custom, to repledge or sell securities accepted as collateral under certain repurchase agreements. The total fair value of securities accepted as collateral was \$300.0 million as of March 31, 2019 and \$605.0 million as of December 31, 2018.

Northern Trust has the right to repledge or sell securities accepted as collateral under certain repurchase agreements. The fair value of these securities accepted as collateral was \$215.2 million as of March 31, 2019 and \$426.2 million as of December 31, 2018. There was no repledged or sold collateral at March 31, 2019 or December 31, 2018.

Northern Trust has the right to repledge or sell securities accepted as collateral under derivative contracts. The total fair value of securities accepted as collateral was \$30.4 million as of March 31, 2019 and \$15.3 million as of December 31, 2018. There was no repledged or sold collateral at March 31, 2019 or December 31, 2018.

Deposits maintained to meet Federal Reserve Bank reserve requirements averaged \$1.5 billion for the three months ended March 31, 2019 and \$1.8 billion for the three months ended March 31, 2018.

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Note 10 – Goodwill and Other Intangibles

The carrying amounts of goodwill and other intangibles assets, reflecting the effect of foreign exchange rates on non-U.S.-dollar-denominated balances, by reporting segment at March 31, 2019, and December 31, 2018, were as follows:

Table 56: Goodwill by Reporting Segment

(In Millions)	March 31, December 31,	
	2019	2018
Corporate & Institutional Services	\$ 611.9	\$ 598.2
Wealth Management	71.1	71.1
Total Goodwill	\$ 683.0	\$ 669.3

The gross carrying amount and accumulated amortization of other intangible assets subject to amortization as of March 31, 2019 and December 31, 2018, were as follows:

Table 57: Other Intangible Assets

(In Millions)	March 31, December 31,	
	2019	2018
Gross Carrying Amount	\$ 206.4	\$ 211.1
Less: Accumulated Amortization	74.0	72.5
Net Book Value	\$ 132.4	\$ 138.6

Other intangible assets consist primarily of the value of acquired client relationships and are included within other assets in the consolidated balance sheets. Amortization expense related to other intangible assets totaled \$4.2 million and \$4.5 million for the three months ended March 31, 2019 and 2018, respectively. Amortization for the remainder of 2019 and for the years 2020, 2021, 2022, and 2023 is estimated to be \$12.5 million, \$16.6 million, \$14.2 million, \$9.6 million, and \$9.4 million, respectively.

In the first quarter of 2019, Northern Trust completed the purchase accounting related to its acquisition of BEx LLC, a provider of foreign exchange software solutions. The purchase price recorded in connection with the closing of the acquisition totaled \$37.9 million. Goodwill and software intangible assets associated with the acquisition totaled \$12.5 million and \$25.0 million, respectively.

Note 11 – 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.

Effective January 1, 2019, Northern Trust implemented several enhancements to its FTP methodology, including the allocation of contingent liquidity charges to C&IS and Wealth Management client instruments and products. These methodology enhancements affect the results of each reporting segment. Due to the lack of historical information, prior-period segment results have not been revised to reflect the methodology enhancements.

Also beginning in 2019, all 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.

For reporting periods ended prior to January 1, 2019, income and expense associated with the wholesale funding activities and investment portfolios of the Corporation and its principal subsidiary, The Northern Trust Company (the Bank), as well as certain

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corporate-based expense, executive level compensation and nonrecurring items, were not allocated to C&IS and Wealth Management, and were reported in Treasury and Other.

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.

The following table reflects the earnings contributions and average assets of Northern Trust's reporting segments for the three-month periods ended March 31, 2019 and 2018.

Table 58: Results of Reporting Segments

Three Months Ended March 31, (\$ In Millions)	Corporate & Institutional Services		Wealth Management		Treasury and Other		Total Consolidated	
	2019	2018	2019	2018	2019	2018	2019	2018
Noninterest Income								
Trust, Investment and Other Servicing Fees	\$535.2	\$544.3	\$393.7	\$393.4	\$—	\$—	\$928.9	\$937.7
Foreign Exchange Trading Income	59.7	62.4	6.5	1.2	—	14.9	66.2	78.5
Other Noninterest Income	43.4	46.6	25.5	25.7	(5.1)	3.5	63.8	75.8
Net Interest Income*	234.8	229.4	195.0	198.8	—	(35.5)	429.8	392.7
Revenue*	873.1	882.7	620.7	619.1	(5.1)	(17.1)	1,488.7	1,484.7
Provision for Credit Losses	(1.1)	(3.9)	1.1	0.9	—	—	—	(3.0)
Noninterest Expense	648.0	585.6	379.9	365.7	0.8	44.0	1,028.7	995.3
Income before Income Taxes*	226.2	301.0	239.7	252.5	(5.9)	(61.1)	460.0	492.4
Provision for Income Taxes*	53.6	66.8	60.8	62.4	(1.5)	(18.4)	112.9	110.8
Net Income	\$172.6	\$234.2	\$178.9	\$190.1	\$(4.4)	\$(42.7)	\$347.1	\$381.6
Percentage of Consolidated Net Income	50	% 61	% 51	% 50	% (1)	% (11)	% 100	% 100
Average Assets	\$90,351.7	\$83,637.0	\$29,065.0	\$26,108.0	\$—	\$14,748.3	\$119,416.7	\$124,493.3

* Non-GAAP financial measures stated on a fully taxable equivalent basis (FTE). Total consolidated includes FTE adjustments of \$7.8 million for 2019 and \$8.7 million for 2018.

Further discussion of reporting segment results is provided within the “Reporting Segments” section of Management’s Discussion and Analysis of Financial Condition and Results of Operations.

Note 12 – 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, 2019, the Corporation had issued and outstanding 500,000 depositary shares, each representing a 1/100th ownership interest in a share of Series D Non-Cumulative Perpetual Preferred Stock (the “Series D Preferred Stock”) issued in August 2016. Equity related to Series D Preferred Stock as of March 31, 2019 and December 31, 2018 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 depositary 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 1st 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 1st day of January, April, July and October of each year, commencing on January 1, 2027. On January 22, 2019, the Corporation declared a cash dividend of \$2,300 per share of Series D Preferred Stock payable on April 1, 2019, to stockholders of record as of March 15, 2019.

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As of March 31, 2019, the Corporation also had issued and outstanding 16 million depositary shares, each representing 1/1000th ownership interest in a share of Series C Non-Cumulative Perpetual Preferred Stock (“Series C Preferred Stock”), issued in August 2014. Equity related to Series C Preferred Stock as of March 31, 2019 and December 31, 2018 was \$388.5 million. Series C Preferred Stock has no par value and has a liquidation preference of \$25,000 (equivalent to \$25 per depositary share).

Dividends on the Series C Preferred Stock, which are not mandatory, accrue and are 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, at a rate per annum equal to 5.85%. On January 22, 2019, the Corporation declared a cash dividend of \$365.625 per share of Series C Preferred Stock payable on April 1, 2019, to stockholders of record as of March 15, 2019.

Common Stock. During the three months ended March 31, 2019, the Corporation repurchased 2,850,152 shares of common stock, including 510,011 shares withheld related to share-based compensation, at a total cost of \$257.4 million (\$90.31 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 2018 Capital Plan, which was reviewed without objection by the Federal Reserve, the Corporation may repurchase up to \$272.2 million of common stock after March 31, 2019 through June 30, 2019.

Note 13 – Accumulated Other Comprehensive Income (Loss)

The following tables summarize the components of accumulated other comprehensive income (loss) (AOCI) at March 31, 2019 and 2018, and changes during the three-month periods then ended.

Table 59: Summary of Changes in Accumulated Other Comprehensive Income (Loss)

(In Millions)	Balance at March 31, 2019	Net Change	Balance at December 31, 2018
Net Unrealized Gains (Losses) on Debt Securities Available for Sale*	\$ (29.3)	\$ 85.6	\$ (114.9)
Net Unrealized Gains (Losses) on Cash Flow Hedges	(0.3)	(4.3)	4.0
Net Foreign Currency Adjustments	82.7	14.8	67.9
Net Pension and Other Postretirement Benefit Adjustments	(398.4)	12.3	(410.7)
Total	\$ (345.3)	\$ 108.4	\$ (453.7)

(In Millions)	Balance at March 31, 2018	Net Change	Reclassification of Certain Tax Effects from AOCI	Balance at December 31, 2017
Net Unrealized Gains (Losses) on Debt Securities Available for Sale	\$ (147.6)	\$ (55.0)	\$ (17.8)	\$ (74.8)
Net Unrealized Gains (Losses) on Cash Flow Hedges	1.7	(3.7)	0.9	4.5
Net Foreign Currency Adjustments	32.6	(13.1)	47.5	(1.8)
Net Pension and Other Postretirement Benefit Adjustments	(392.4)	5.7	(55.9)	(342.2)
Total	\$ (505.7)	\$ (66.1)	\$ (25.3)	\$ (414.3)

* Includes net unrealized gains on debt securities transferred from available for sale to held to maturity during the year ended December 31, 2018.

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Notes to Consolidated Financial Statements (unaudited) (continued)

Table 60: Details of Changes in Accumulated Other Comprehensive Income (Loss)

(In Millions)	Three Months Ended March 31,					
	2019		2018			
	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	\$ 115.3	\$ (29.9)	\$ 85.4	\$ (75.4)	\$ 20.4	\$ (55.0)
Reclassification Adjustment for (Gains) Losses Included in Net Income	0.2	—	0.2	—	—	—
Net Change	\$ 115.5	\$ (29.9)	\$ 85.6	\$ (75.4)	\$ 20.4	\$ (55.0)
Unrealized Gains (Losses) on Cash Flow Hedges						
Foreign Exchange Contracts	\$ 7.2	\$ (1.7)	\$ 5.5	\$ 13.0	\$ (3.2)	\$ 9.8
Interest Rate Contracts	0.6	(0.2)	0.4	(1.4)	0.4	(1.0)
Reclassification Adjustment for (Gains) Losses Included in Net Income	(13.6)	3.4	(10.2)	(16.6)	4.1	(12.5)
Net Change	\$ (5.8)	\$ 1.5	\$ (4.3)	\$ (5.0)	\$ 1.3	\$ (3.7)
Foreign Currency Adjustments						
Foreign Currency Translation Adjustments	\$ (6.5)	\$ 1.6	\$ (4.9)	\$ 44.6	\$ (2.8)	\$ 41.8
Long-Term Intra-Entity Foreign Currency Transaction Gains (Losses)	0.7	(0.2)	0.5	1.2	(0.3)	0.9
Net Investment Hedge Gains (Losses)	28.6	(9.4)	19.2	(74.3)	18.5	(55.8)
Net Change	\$ 22.8	\$ (8.0)	\$ 14.8	\$ (28.5)	\$ 15.4	\$ (13.1)
Pension and Other Postretirement Benefit Adjustments						
Net Actuarial Gain (Loss)	\$ 11.3	\$ (3.1)	\$ 8.2	\$ 10.1	\$ (2.5)	\$ 7.6
Reclassification Adjustment for (Gains) Losses Included in Net Income	5.4	(1.3)	4.1	9.1	(11.0)	(1.9)
Net Change	\$ 16.7	\$ (4.4)	\$ 12.3	\$ 19.2	\$ (13.5)	\$ 5.7

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Notes to Consolidated Financial Statements (unaudited) (continued)

The following table provides the location and before-tax amounts of reclassifications out of AOCI during the three months ended March 31, 2019.

Table 61: Reclassification Adjustment out of Accumulated Other Comprehensive Income

(In Millions)	Location of Reclassification Adjustments Recognized in Income	Amount of Reclassification Adjustments Recognized in Income Three Months Ended March 31, 2019
Debt Securities Available for Sale		
Realized (Gains) Losses on Debt Securities Available for Sale	Investment Security Gains (Losses), net	\$ 0.2
Realized (Gains) Losses on Cash Flow Hedges		
Foreign Exchange Contracts	Other Operating Income	\$ 0.6
	Interest Income	(14.4)
Interest Rate Contracts	Interest Expense	0.2
Total Realized (Gains) on Cash Flow Hedges		\$ (13.6)
Pension and Other Postretirement Benefit Adjustments		
Amortization of Net Actuarial Loss	Employee Benefits	\$ 5.5
Amortization of Prior Service Cost	Employee Benefits	(0.1)
Gross Reclassification Adjustment		\$ 5.4

(In Millions)	Location of Reclassification Adjustments Recognized in Income	Amount of Reclassification Adjustments Recognized in Income Three Months Ended March 31, 2018
Debt Securities Available for Sale		
Realized (Gains) Losses on Debt Securities Available for Sale	Investment Security Gains (Losses), net	\$ —
Realized (Gains) Losses on Cash Flow Hedges		
Foreign Exchange Contracts	Other Operating Income	\$ (2.4)
	Interest Income	(14.2)
Interest Rate Contracts	Interest Income	—
Total Realized (Gains) on Cash Flow Hedges		\$ (16.6)
Pension and Other Postretirement Benefit Adjustments		
Amortization of Net Actuarial Loss	Employee Benefits	\$ 9.2
Amortization of Prior Service Cost	Employee Benefits	(0.1)
Gross Reclassification Adjustment		\$ 9.1

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Notes to Consolidated Financial Statements (unaudited) (continued)

Note 14 – Net Income Per Common Share Computations

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

Table 62: Net Income per Common Share

(\$ In Millions Except Per Common Share Information)	Three Months Ended March 31,	
	2019	2018
Basic Net Income Per Common Share		
Average Number of Common Shares Outstanding	218,236,202	212,681,167
Net Income	\$347.1	\$ 381.6
Less: Dividends on Preferred Stock	17.3	17.3
Net Income Applicable to Common Stock	\$329.8	\$ 364.3
Less: Earnings Allocated to Participating Securities	4.3	5.2
Earnings Allocated to Common Shares Outstanding	\$325.5	\$ 359.1
Basic Net Income Per Common Share	\$1.49	\$ 1.59
Diluted Net Income Per Common Share		
Average Number of Common Shares Outstanding	218,236,202	212,681,167
Plus: Dilutive Effect of Share-based Compensation	1,033,413	1,366,352
Average Common and Potential Common Shares	219,270,215	215,047,519
Earnings Allocated to Common and Potential Common Shares	\$325.4	\$ 359.2
Diluted Net Income Per Common Share	\$1.48	\$ 1.58

Note: For the three months ended March 31, 2019, there were no common stock equivalents excluded in the computation of diluted net income per share. There were no common stock equivalents excluded in the computation of diluted net income per share for the three months ended March 31, 2018.

Note 15 – 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.

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Notes to Consolidated Financial Statements (unaudited) (continued)

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. Northern Trust has elected to apply the practical expedient for disclosure requirements allowed in ASU 2014-09 for performance obligations that are included in contracts with an original duration of less than one year.

The following table presents revenues disaggregated by major revenue source.

Table 63: Revenue Disaggregation

(In Millions)	Three Months Ended	
	March 31,	
	2019	2018
Noninterest Income		
Trust, Investment and Other Servicing Fees		
Custody and Fund Administration	\$397.5	\$395.9
Investment Management and Advisory	459.2	465.6
Securities Lending	22.8	26.2
Other	49.4	50.0
Total Trust, Investment and Other Servicing Fees	\$928.9	\$937.7
Other Noninterest Income		
Foreign Exchange Income	\$66.2	\$78.5
Treasury Management	11.7	14.0
Securities Commissions and Trading Income	23.3	27.2
Other Operating Income	29.0	34.8
Investment Security Losses, net	(0.2)	(0.2)
Total Other Noninterest Income	\$130.0	\$154.3
Total Noninterest Income	\$1,058.9	\$1,092.0

Trust, investment and other servicing fees and treasury management fees represent revenue from contracts with clients. 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. Trust, investment and other servicing fees and treasury management fees represent revenue from contracts with clients. For the three months ended March 31, 2018, revenue from contracts with clients also includes \$24.0 million of the \$27.2 million total securities commissions and trading income and \$11.3 million of the \$34.8 million total other operating income.

Receivables Balances. The table below represents receivables balances from contracts with clients, which are included in other assets in the consolidated balance sheets, at March 31, 2019 and December 31, 2018.

Table 64: Client Receivables

(In Millions)	March 31, December 31,	
	2019	2018
Trust Fees Receivable, net	\$ 818.4	\$ 742.5
Other	91.4	90.1
Total Client Receivables	\$ 909.8	\$ 832.6

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Notes to Consolidated Financial Statements (unaudited) (continued)

Note 16 – Net Interest Income

The components of net interest income were as follows:

Table 65: Net Interest Income

(In Millions)	Three Months Ended March 31,	
	2019	2018
Interest Income		
Loans and Leases	\$298.2	\$252.0
Securities — Taxable	277.5	177.8
— Non-Taxable	1.1	2.0
Interest-Bearing Due from and Deposits with Banks ⁽¹⁾	17.9	19.9
Federal Reserve and Other Central Bank Deposits and Other	68.1	54.2
Total Interest Income	\$662.8	\$505.9
Interest Expense		
Deposits	\$147.6	\$63.1
Federal Funds Purchased	13.4	5.3
Securities Sold Under Agreements to Repurchase	1.8	2.7
Other Borrowings	49.9	26.5
Senior Notes	15.9	11.8
Long-Term Debt	10.0	11.0
Floating Rate Capital Debt	2.2	1.5
Total Interest Expense	\$240.8	\$121.9
Net Interest Income	\$422.0	\$384.0

⁽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 17 – Income Taxes

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

The prior-year three-month provision for income taxes was \$102.1 million, representing an effective tax rate of 21.1%, and included a \$22.6 million benefit resulting from a change in accounting method regarding the timing of tax deductions for software development-related expenses, partially offset by a \$15.8 million net provision recorded in the prior-year three-month period representing adjustments to the initial estimated impact of the Tax Cuts and Jobs Act enacted in the fourth quarter of 2017.

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Notes to Consolidated Financial Statements (unaudited) (continued)

Note 18 – Pension and Postretirement Health Care

The following table sets forth the net periodic pension and postretirement benefit expense for Northern Trust's U.S. and non-U.S. pension plans, supplemental pension plan, and postretirement health care plan for the three months ended March 31, 2019 and 2018.

Table 66: Net Periodic Pension Expense (Benefit)

Net Periodic Pension Expense	Three Months	
U.S. Plan	Ended March 31,	
(In Millions)	2019	2018
Service Cost	\$10.4	\$10.4
Interest Cost	11.8	11.1
Expected Return on Plan Assets	(21.7)	(22.0)
Amortization		
Net Actuarial Loss	4.3	7.1
Prior Service Cost	(0.1)	(0.1)
Net Periodic Pension Expense	\$4.7	\$6.5
Net Periodic Pension Expense	Three Months	
Non-U.S. Plans	Ended March 31,	
(In Millions)	2019	2018
Service Cost	\$0.5	\$0.4
Interest Cost	1.0	1.0
Expected Return on Plan Assets	(1.0)	(1.1)
Settlement Expense	—	—
Net Actuarial Loss Amortization	0.1	0.3
Net Periodic Pension Expense	\$0.6	\$0.6
Net Periodic Pension Expense	Three Months	
Supplemental Plan	Ended March 31,	
(In Millions)	2019	2018
Service Cost	\$1.0	\$1.1
Interest Cost	1.5	1.3
Amortization		
Net Actuarial Loss	1.4	1.8
Prior Service Cost	—	—
Net Periodic Pension Expense	\$3.9	\$4.2
Net Periodic Postretirement Expense	Three Months	
Postretirement Health Care Plan	Ended March 31,	
(In Millions)	2019	2018
Service Cost	\$—	\$—
Interest Cost	0.3	0.3
Amortization		
Net Actuarial (Gain)	(0.3)	—

Prior Service Cost \$—\$—

Net Periodic Postretirement Expense \$—\$0.3

The components of net periodic pension expense are included in the line item “Employee Benefits” expense in the consolidated statements of income.

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Notes to Consolidated Financial Statements (unaudited) (continued)

There were no contributions to the U.S. pension plan during the three months ended March 31, 2019. There was a \$50 million contribution to the U.S. pension plan during the three months ended March 31, 2018.

Note 19 – 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 applicable employee retires after satisfying applicable age and service requirements.

The Corporation granted 798,669 stock units awards with a total grant-date fair value of \$73.4 million during the three months ended March 31, 2019, compared to 793,995 stock units awards with a grant-date fair value of \$82.6 million during the three months ended March 31, 2018. Compensation expense for the three months ended March 31, 2019 included \$21.2 million attributable to restricted stock units granted to retirement-eligible employees that were expensed in their entirety on the date of grant, compared to \$26.9 million in the prior-year quarter.

There were no non-qualified stock option grants in the three months ended March 31, 2019 and 2018.

The Corporation granted 211,269 performance stock units with a total grant-date fair value of \$19.6 million during the three months ended March 31, 2019, compared to 242,232 performance stock units with a total grant-date fair value of \$25.4 million during the three months ended March 31, 2018. Compensation expense for the three months ended March 31, 2019 included \$9.2 million attributable to performance stock units granted to retirement-eligible employees that were expensed in their entirety on the date of grant as there was no requisite service period associated with the grant. Compensation expense for the three months ended March 31, 2018 included \$4.7 million attributable to performance stock units granted to retirement-eligible employees that were expensed from grant date through the requisite service period, which ended on June 30, 2018.

Restricted stock unit award compensation expense for the three months ended March 31, 2019 and 2018 included \$3.3 million and \$2.7 million, respectively, attributable to restricted stock units vested in full and expense 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, 2019 and 2018.

Table 67: Total Compensation Expense for Share-Based Payment Arrangements

	Three Months Ended March 31,	
(In Millions)	2019	2018
Restricted Stock Unit Awards	\$39.2	\$46.7
Stock Options	0.5	0.8
Performance Stock Units	15.6	9.0
Total Share-Based Compensation Expense	55.3	56.5
Tax Benefits Recognized	\$13.7	\$14.0

Note 20 – 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.

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Notes to Consolidated Financial Statements (unaudited) (continued)

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 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. As of March 31, 2019 and December 31, 2018, the carrying amounts of these investments, which are included in loans and leases in the consolidated balance sheets, were \$56.6 million and \$56.8 million, 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, 2019 and December 31, 2018, the carrying amounts of these investments in community development projects that generate tax credits, included in other assets in the consolidated balance sheets, totaled \$589.5 million and \$602.4 million, respectively, of which \$537.8 million and \$549.8 million are VIEs as of March 31, 2019 and December 31, 2018, respectively. As of March 31, 2019 and December 31, 2018, liabilities related to unfunded commitments on investments in tax credit community development projects, included in other liabilities in the consolidated balance sheets, totaled \$302.1 million and \$321.0 million, respectively, of which \$263.6 million and \$279.5 million, related to undrawn commitments on VIEs as of March 31, 2019 and December 31, 2018, 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 \$16.4 million and \$14.7 million for the three months ended March 31, 2019 and 2018, 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, 2019, Northern Trust had \$25.0 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. As of December 31, 2018, Northern Trust had \$29.2 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 21 – 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.

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Notes to Consolidated Financial Statements (unaudited) (continued)

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 \$25.0 billion as of March 31, 2019 and December 31, 2018.

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 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 were \$2.5 billion as of March 31, 2019 and December 31, 2018.

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 Counterparty Risk Management 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, 2019 and December 31, 2018 subject to indemnification was \$142.6 billion and \$128.9 billion, respectively. Because of the credit quality of the borrowers and the requirement to collateralize fully 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, 2019 or December 31, 2018, 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, 2019, the Corporation has estimated the range of reasonably possible loss for these matters to be from zero to approximately \$25 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.

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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 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.

In the first quarter of 2018, Northern Trust received a document request from the U.S. Commodity Futures Trading Commission (CFTC), Division of Enforcement, seeking the production of documents related to the Bank's activities as a swap dealer provisionally registered with the CFTC. In addition, the National Futures Association (NFA) provided the Bank with a letter dated April 30, 2018, summarizing certain findings related to the Bank's swap dealer compliance program identified during a then-recently completed examination. Northern Trust is cooperating with both the NFA and CFTC and working to address and resolve certain findings related to these matters.

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, Visa deposited an additional \$600 million into the escrow account previously established with respect to the covered litigation. As a result, the rate at which Visa Class B common shares will convert into Visa Class A common shares was reduced. In September 2018, Visa announced that a proposed class settlement agreement covering damage claims but not injunctive relief claims regarding the covered litigation was reached, with Visa's share of the proposed settlement amount to be satisfied through funds previously deposited with the court and the \$600 million placed into escrow in June 2018. The agreement has been preliminarily approved by the district court, and, if final approval is granted, objecting parties may appeal. Further, individual merchants may opt out of the proposed settlement and pursue claims separately. For these and other reasons, 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, 2019 and December 31, 2018.

Note 22 – 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 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

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Notes to Consolidated Financial Statements (unaudited) (continued)

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. The following table shows the notional and fair values of all derivative financial instruments as of March 31, 2019 and December 31, 2018.

Table 68: Notional and Fair Values of Derivative Financial Instruments

(In Millions)	March 31, 2019			December 31, 2018		
	Notional Value	Fair Value Asset ¹	Liability ²	Notional Value	Fair Value Asset ¹	Liability ²
Derivatives Designated as Hedging under GAAP						
Interest Rate Contracts						
Fair Value Hedges	\$4,479.8	\$23.9	\$19.9	\$4,590.4	\$29.8	\$23.3
Cash Flow Hedges	600.0	0.2	0.9	600.0	0.2	1.2
Foreign Exchange Contracts						
Cash Flow Hedges	2,259.1	42.5	10.5	2,648.2	13.8	57.8
Net Investment Hedges	2,509.7	36.5	5.5	3,475.1	292.4	14.5
Total Derivatives Designated as Hedging under GAAP	\$9,848.6	\$103.1	\$36.8	\$11,313.7	\$336.2	\$96.8
Derivatives Not Designated as Hedging under GAAP						
Non-Designated Risk Management Derivatives						
Foreign Exchange Contracts	\$117.3	\$1.2	\$0.5	\$122.2	\$0.5	\$0.2
Other Financial Derivatives ³	559.8	—	35.9	483.4	1.3	32.8
Total Non-Designated Risk Management Derivatives	\$677.1	\$1.2	\$36.4	\$605.6	\$1.8	\$33.0
Client-Related and Trading Derivatives						
Foreign Exchange Contracts	\$286,240.1	\$1,561.8	\$1,474.0	\$281,864.4	\$2,159.4	\$2,190.0
Interest Rate Contracts	7,621.5	80.5	58.8	7,711.2	66.1	68.6
Total Client-Related and Trading Derivatives	\$293,861.6	\$1,642.3	\$1,532.8	\$289,575.6	\$2,225.5	\$2,258.6
Total Derivatives Not Designated as Hedging under GAAP	\$294,538.7	\$1,643.5	\$1,569.2	\$290,181.2	\$2,227.3	\$2,291.6
Total Gross Derivatives	\$304,387.3	\$1,746.6	\$1,606.0	\$301,494.9	\$2,563.5	\$2,388.4
Less: Netting ⁴		979.9	1,123.7		1,357.1	1,796.3
Total Derivative Financial Instruments		\$766.7	\$482.3		\$1,206.4	\$592.1

(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 and total return swap contracts.

(4) See further detail in Note 23 - Offsetting of Assets and Liabilities.

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Notes to Consolidated Financial Statements (unaudited) (continued)

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 (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" 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 months ended March 31, 2019 and 2018. 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 months ended March 31, 2019 and 2018, as a result of the discontinuance of forecasted transactions that were no longer probable of occurring. It is estimated that net losses of \$0.2 million and net gains of \$0.3 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 a net loss of \$0.8 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, 2019, 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. There was no ineffectiveness recognized in earnings for cash flow hedges during the three months ended March 31, 2018.

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Notes to Consolidated Financial Statements (unaudited) (continued)

The following tables provide fair value and cash flow hedge derivative gains and losses recognized in income during the three months ended March 31, 2019 and 2018.

Table 69: Location and Amount of Fair Value and Cash Flow Hedge Derivative Gains and Losses Recorded in Income

(In Millions)	Location and Amount of Derivative Gain/(Loss) Recognized in Income					
	Interest Income		Interest Expense		Other Operating Income	
	2019	2018	2019	2018	2019	2018
Three Months Ended March 31, Total amounts on the consolidated statements of income	\$662.8	\$505.9	\$240.8	\$121.9	\$29.0	\$34.8
Gains/(Losses) on fair value hedges recognized on Interest Rate Contracts						
Recognized on derivatives	(35.4)	54.3	28.5	(21.9)	—	—
Recognized on hedged items	35.4	(54.3)	(28.5)	21.9	—	—
Amounts related to interest settlements on derivatives	5.5	(3.7)	(1.6)	1.5	—	—
Total gain/(loss) recognized on fair value hedges	\$5.5	\$(3.7)	\$(1.6)	\$1.5	\$—	\$—
Gains/(Losses) on cash flow hedges recognized on Foreign Exchange Contracts						
Net gain/(loss) reclassified from AOCI to net income	\$14.4	\$14.2	\$—	\$—	\$(0.6)	\$2.4
Interest Rate Contracts						
Net gain/(loss) reclassified from AOCI to net income	(0.2)	—	—	—	—	—
Total gain/(loss) reclassified from AOCI to net income on cash flow hedges	\$14.2	\$14.2	\$—	\$—	\$(0.6)	\$2.4

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

Table 70: Hedged Items in Fair Value Hedges

(In Millions)	March 31, 2019		December 31, 2018	
	Carrying Value of the Hedged Items	Cumulative Hedge Accounting Basis Adjustment (1)	Carrying Value of the Hedged Items	Cumulative Hedge Accounting Basis Adjustment (1)
Available for Sale Debt Securities ⁽²⁾	\$3,759.5	\$ 60.5	\$3,831.6	\$ 99.4
Senior Notes and Long-Term Subordinated Debt	1,248.9	55.1	1,248.8	29.3
Total	\$5,008.4	\$ 115.6	\$5,080.4	\$ 128.7

(1) There are no amounts related to discontinued hedging relationships.

(2) 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. For net investment hedges, there was no ineffectiveness recorded during the three months ended March 31, 2018. Net investment hedge gains of \$28.6 million and losses of \$74.3 million were recognized in AOCI related to foreign exchange contracts for the three months ended March 31, 2019 and 2018, respectively.

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Notes to Consolidated Financial Statements (unaudited) (continued)

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, 2019 and 2018.

Table 71: Location and Amount of Gains and Losses Recorded in Income for Derivatives Not Designated as Hedging Under GAAP

(In Millions)	Location of Derivative Gain / (Loss) Recognized in Income	Amount of Derivative Gain / (Loss) Recognized in Income Three Months Ended March 31,	
		2019	2018
Non-designated risk management derivatives			
Foreign Exchange Contracts	Other Operating Income	\$0.9	\$4.0
Other Financial Derivatives ⁽¹⁾	Other Operating Income	(7.3)	(4.0)
Gains/(Losses) from non-designated risk management derivatives		\$(6.4)	\$—
Client-related and trading derivatives			
Foreign Exchange Contracts	Foreign Exchange Trading Income	\$66.2	\$78.5
Interest Rate Contracts	Security Commissions and Trading Income	1.5	1.7
Gains/(Losses) from client-related and trading derivatives		\$67.7	\$80.2
Total gains/(losses) from derivatives not designated as hedging under GAAP		\$61.3	\$80.2

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

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Notes to Consolidated Financial Statements (unaudited) (continued)

Note 23 – 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, 2019 and December 31, 2018.

Table 72: Offsetting of Derivative Assets and Securities Purchased Under Agreements to Resell

March 31, 2019

(In Millions)	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)	\$ 1,127.8	\$ 926.8	\$ 201.0	\$ 30.4	\$ 170.6
Interest Rate Swaps OTC	60.5	12.3	48.2	—	48.2
Interest Rate Swaps Exchange Cleared	44.2	40.8	3.4	—	3.4
Total Derivatives Subject to a Master Netting Arrangement	1,232.5	979.9	252.6	30.4	222.2
Total Derivatives Not Subject to a Master Netting Arrangement	514.1	—	514.1	—	514.1
Total Derivatives	1,746.6	979.9	766.7	30.4	736.3
Securities Purchased under Agreements to Resell ⁽²⁾	\$ 515.2	\$ —	\$ 515.2	\$ 515.2	\$ —

December 31, 2018

(In Millions)	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	\$ 1,902.3	\$ 1,308.8	\$ 593.5	\$ 12.7	\$ 580.8
Interest Rate Swaps OTC	71.6	22.6	49.0	—	49.0
Interest Rate Swaps Exchange Cleared	24.5	24.4	0.1	—	0.1
Other Financial Derivatives	1.3	1.3	—	—	—
Total Derivatives Subject to a Master Netting Arrangement	1,999.7	1,357.1	642.6	12.7	629.9
Total Derivatives Not Subject to a Master Netting Arrangement	563.8	—	563.8	2.7	561.1
Total Derivatives	2,563.5	1,357.1	1,206.4	15.4	1,191.0
Securities Purchased under Agreements to Resell ⁽³⁾	\$ 1,031.2	\$ —	\$ 1,031.2	\$ 1,031.2	\$ —

⁽¹⁾ Derivative assets are reported in other assets in the consolidated balance sheets. Other assets (excluding derivative assets) totaled \$5.3 billion and \$4.6 billion as of March 31, 2019 and December 31, 2018, respectively.

⁽²⁾ Including cash collateral received from counterparties.

Securities purchased under agreements to resell are reported in federal funds sold and securities purchased under

⁽³⁾ agreements to resell in the consolidated balance sheets. Federal funds sold totaled \$37.0 million and \$134.0 million as of March 31, 2019 and December 31, 2018, respectively.

Northern Trust did not possess any cash collateral that was not offset in the consolidated balance sheets that could

⁽⁴⁾ have been used to offset the net amounts presented in the consolidated balance sheets as of March 31, 2019 and December 31, 2018.

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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, 2019 and December 31, 2018.

Table 73: Offsetting of Derivative Liabilities and Securities Sold Under Agreements to Repurchase
March 31, 2019

(In Millions)	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	\$ 1,169.5	\$ 1,054.9	\$ 114.6	\$ 0.1	\$ 114.5
Interest Rate Swaps OTC	38.8	27.8	11.0	—	11.0
Interest Rate Swaps Exchange Cleared	40.8	40.8	—	—	—
Other Financial Derivatives	35.9	0.2	35.7	—	35.7
Total Derivatives Subject to a Master Netting Arrangement	1,285.0	1,123.7	161.3	0.1	161.2
Total Derivatives Not Subject to a Master Netting Arrangement	321.0	—	321.0	—	321.0
Total Derivatives	1,606.0	1,123.7	482.3	0.1	482.2
Securities Sold under Agreements to Repurchase	\$ 39.7	\$ —	\$ 39.7	\$ 39.7	\$ —

(In Millions)	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	\$ 1,821.0	\$ 1,751.7	\$ 69.3	\$ —	\$ 69.3
Interest Rate Swaps OTC	68.8	19.0	49.8	—	49.8
Interest Rate Swaps Exchange Cleared	24.4	24.4	—	—	—
Other Financial Derivatives	32.8	1.2	31.6	—	31.6
Total Derivatives Subject to a Master Netting Arrangement	1,947.0	1,796.3	150.7	—	150.7
Total Derivatives Not Subject to a Master Netting Arrangement	441.4	—	441.4	—	441.4
Total Derivatives	2,388.4	1,796.3	592.1	—	592.1
Securities Sold under Agreements to Repurchase	\$ 168.3	\$ —	\$ 168.3	\$ 168.3	\$ —

Derivative liabilities are reported in other liabilities in the consolidated balance sheets. Other liabilities (excluding (1) derivative liabilities) totaled \$3.1 billion and \$2.5 billion as of March 31, 2019 and December 31, 2018, respectively.

(2) Including cash collateral deposited with counterparties.

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, 2019 and December 31, 2018.

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.

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Notes to Consolidated Financial Statements (unaudited) (continued)

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 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, equity prices or other underlying exposures 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 \$69.0 million and \$67.9 million, respectively, as of March 31, 2019, and \$27.6 million and \$91.5 million, respectively, as of December 31, 2018, 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 \$130.2 million and \$324.1 million at March 31, 2019 and December 31, 2018, respectively. Cash collateral amounts deposited with derivative counterparties on those dates included \$124.2 million and \$316.5 million, respectively, posted against these liabilities, resulting in a net maximum amount of termination payments that could have been required at March 31, 2019 and December 31, 2018, of \$6.0 million and \$7.6 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, 2019, 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, 2019, 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.

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PART II — OTHER INFORMATION

Item 1. Legal Proceedings

The information presented under the caption “Legal Proceedings” in “Note 21 — Contingent Liabilities” included under Part I, Item 1 of this Form 10-Q is incorporated herein by reference.

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, 2019.

Table 74: 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, 2019	882,492	\$ 87.07	882,492	19,518,379
February 1 - 28, 2019	653,205	91.21	653,205	18,865,174
March 1 - 31, 2019	804,444	91.70	804,444	18,060,730
Total (First Quarter)	2,340,141	\$ 89.82	2,340,141	18,060,730

⁽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

A list of exhibits to this Form 10-Q is set forth on the Exhibit Index immediately preceding such exhibits and is incorporated herein by reference.

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SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

NORTHERN TRUST CORPORATION

(Registrant)

Date: April 29, 2019 By: /s/ S. Biff Bowman

S. Biff Bowman

Executive Vice President and

Chief Financial Officer

(Duly Authorized Officer and Principal Financial Officer)

Date: April 29, 2019 By: /s/ Aileen B. Blake

Aileen B. Blake

Executive Vice President and Controller

(Principal Accounting Officer)

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EXHIBIT INDEX

Exhibit
Number Description

3.1	<u>By-laws of Northern Trust Corporation, as amended through February 19, 2019 (incorporated by reference to Exhibit 3.1 to the Corporation’s Current Report on Form 8-K filed February 19, 2019)</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	<u>Form of 2019 Performance Stock Unit Terms and Conditions</u>
10.2	<u>Form of 2019 Stock Unit Terms and Conditions</u>
10.3	<u>Northern Partners Incentive Plan, as amended and restated on February 18, 2019</u>
31.1	<u>Rule 13a-14(a)/15d-14(a) Certification of CEO Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</u>
31.2	<u>Rule 13a-14(a)/15d-14(a) Certification of CFO Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</u>
32	<u>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</u>
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, 2019, formatted in Extensible Business Reporting Language (XBRL): (1) the Consolidated Balance Sheets as of March 31, 2019 and December 31, 2018, (2) the Consolidated Statements of Income for the three months ended March 31, 2019 and 2018, (3) the Consolidated Statements of Comprehensive Income for the three months ended March 31, 2019 and 2018, (4) the Consolidated Statements of Changes in Stockholders’ Equity for the three months ended March 31, 2019 and 2018, (5) the Consolidated Statements of Cash Flows for the three months ended March 31, 2019 and 2018, and (6) Notes to Consolidated Financial Statements
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