NORTHERN TRUST CORP
Form 10-Q
October 26, 2017
Table of Contents

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

FORM 10-Q

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

For the Quarterly Period Ended September 30, 2017

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 incorporation or organization)	(I.R.S. Employer Identification No.)
50 South LaSalle Street Chicago, Illinois	60603
(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 x No ¨

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x 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. (Check one):

Large accelerated filer x	Accelerated filer ¨
Non-accelerated filer ¨ (Do not check if a smaller reporting company)	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 x

227,421,128 Shares – $1.66 2/3 Par Value

(Shares of Common Stock Outstanding on September 30, 2017)

Table of Contents

NORTHERN TRUST CORPORATION
QUARTERLY REPORT ON FORM 10-Q
FOR THE QUARTERLY PERIOD ENDED SEPTEMBER 30, 2017
TABLE OF CONTENTS

	Page
Consolidated Financial Highlights (unaudited)	1
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	3
Item 1: Consolidated Financial Statements (unaudited)	33
Consolidated Balance Sheets	33
Consolidated Statements of Income	34
Consolidated Statements of Comprehensive Income	34
Consolidated Statements of Changes in Stockholders’ Equity	35
Consolidated Statements of Cash Flows	36
Notes to Consolidated Financial Statements	37
Item 4: Controls and Procedures	82
Part II – Other Information	
Item 1: Legal Proceedings	82
Item 2: Unregistered Sales of Equity Securities and Use of Proceeds	82
Item 6: Exhibits	82
Signatures	83

Table of Contents

CONSOLIDATED FINANCIAL HIGHLIGHTS
(UNAUDITED)

	Three Months Ended September 30,			Nine Months Ended September 30,		
CONDENSED INCOME STATEMENTS (In Millions)	2017	2016	% Change [1]	2017	2016	% Change [1]
Noninterest Income	$991.0	$910.6	9 %	$2,901.6	$2,809.8	3 %
Net Interest Income	354.2	303.1	17	1,049.2	910.6	15
Provision for Credit Losses	(7.0)	(3.0)	134	(15.0)	(4.0)	N/M
Noninterest Expense	935.6	843.0	11	2,767.5	2,596.8	7
Income before Income Taxes	416.6	373.7	11	1,198.3	1,127.6	6
Provision for Income Taxes	118.2	116.1	2	355.9	361.6	(2)
Net Income	$298.4	$257.6	16 %	$842.4	$766.0	10 %
PER COMMON SHARE						
Net Income — Basic	$1.21	$1.09	11 %	$3.43	$3.23	6 %
— Diluted	1.20	1.08	11	3.41	3.21	6
Cash Dividends Declared Per Common Share	0.42	0.38	11	1.18	1.10	7
Book Value — End of Period (EOP)	40.82	38.41	6	40.82	38.41	6
Market Price — EOP	91.93	67.99	35	91.93	67.99	35

SELECTED BALANCE SHEET DATA (In Millions)

	September 30, 2017	December 31, 2016	% Change [1]
End of Period:			
Assets	$131,400.2	$123,926.9	6 %
Earning Assets	122,565.9	115,446.4	6
Deposits	105,810.6	101,651.7	4
Stockholders' Equity	10,165.2	9,770.4	4

	Three Months Ended September 30,			Nine Months Ended September 30,		
	2017	2016	% Change [1]	2017	2016	% Change [1]
Average Balances:						
Assets	$121,159.4	$116,382.5	4 %	$118,696.0	$114,909.9	3 %
Earning Assets	112,485.0	107,843.8	4	110,460.7	106,363.7	4
Deposits	97,112.0	93,773.9	4	96,269.6	93,287.9	3
Stockholders' Equity	10,040.2	9,230.6	9	9,936.8	8,906.0	12

CLIENT ASSETS (In Billions)	September 30, 2017	December 31, 2016	% Change [1]
Assets Under Custody/Administration [2]	$9,696.0	$8,541.3	14 %
Assets Under Custody	7,753.8	6,720.5	15
Assets Under Management	1,125.1	942.4	19

(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.

1

Table of Contents

SELECTED RATIOS AND METRICS

	Three Months Ended September 30, 2017	Three Months Ended September 30, 2016	Nine Months Ended September 30, 2017	Nine Months Ended September 30, 2016
Financial Ratios:				
Return on Average Common Equity	12.2%	11.7%	11.8%	11.9%
Return on Average Assets	0.98	0.88	0.95	0.89
Dividend Payout Ratio	35.0	35.2	34.6	34.3
Net Interest Margin [1]	1.29	1.14	1.31	1.17

	September 30, 2017 Advanced Approach	September 30, 2017 Standardized Approach	December 31, 2016 Advanced Approach	December 31, 2016 Standardized Approach
Capital Ratios:				
Northern Trust Corporation				
Common Equity Tier 1	13.3%	12.3%	12.4%	11.8%
Tier 1	14.6	13.4	13.7	12.9
Total	16.4	15.4	15.1	14.5
Tier 1 Leverage	8.0	8.0	8.0	8.0
Supplementary Leverage	6.9	N/A	6.8	N/A
The Northern Trust Company				
Common Equity Tier 1	13.5%	12.2%	12.4%	11.5%
Tier 1	13.5	12.2	12.4	11.5
Total	15.1	13.9	14.0	13.3
Tier 1 Leverage	7.2	7.2	7.0	7.0
Supplementary Leverage	6.2	N/A	6.0	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 28.

Table of Contents

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

THIRD QUARTER CONSOLIDATED RESULTS OF OPERATIONS

General

Northern Trust Corporation (the Corporation) is a financial holding company that is a leading provider of asset servicing, fund administration, asset management, fiduciary and banking solutions for corporations, institutions, families and individuals worldwide. 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 term "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 $1.20 in the current quarter, up from $1.08 in the third quarter of 2016. Net income was $298.4 million in the current quarter as compared to $257.6 million in the prior-year quarter. Annualized return on average common equity was 12.2% in the current quarter and 11.7% in the prior-year quarter. The annualized return on average assets was 0.98% in the current quarter as compared to 0.88% in the prior-year quarter.

Revenue of $1.35 billion in the current quarter was up $131.5 million, or 11%, from $1.21 billion in the prior-year quarter.

Noninterest income increased $80.4 million, or 9%, to $991.0 million from $910.6 million in the prior-year quarter, primarily reflecting higher trust, investment and other servicing fees.

Net interest income increased 17% to $354.2 million in the current quarter as compared to $303.1 million in the prior-year quarter, primarily the result of a higher net interest margin and an increase in average earning assets.

The provision for credit losses was a credit of $7.0 million in the current quarter, as compared to a credit of $3.0 million in the prior-year quarter.

Noninterest expense totaled $935.6 million in the current quarter, up $92.6 million, or 11%, from $843.0 million in the prior-year quarter, primarily attributable to higher compensation, other operating expense, equipment and software, and outside services expense.

Table of Contents

THIRD 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 September 30, 2017	2016	Change	
Trust, Investment and Other Servicing Fees	$867.9	$788.3	$79.6	10 %
Foreign Exchange Trading Income	49.1	53.6	(4.5)	(8)
Treasury Management Fees	13.2	15.0	(1.8)	(12)
Security Commissions and Trading Income	21.2	20.4	0.8	4
Other Operating Income	40.0	33.1	6.9	21
Investment Security (Losses) Gains, net	(0.4)	0.2	(0.6)	N/M
Total Noninterest Income	$991.0	$910.6	$80.4	9 %

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-based fees are calculated on asset values that are a month or quarter in arrears. For a further discussion of trust, investment and other servicing fees and how they are derived, refer to the “Reporting Segments” section.

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 2: Assets Under Custody / Administration

Assets Under Custody / Administration ($ In Billions)	September 30, 2017	June 30, 2017	September 30, 2016	Change Q3-17/Q2-17	Change Q3-17/Q3-16
Corporate & Institutional	$ 9,062.8	$8,690.8	$ 7,951.7	4 %	14 %
Wealth Management	633.2	603.4	544.0	5	16
Total Assets Under Custody / Administration	$ 9,696.0	$9,294.2	$ 8,495.7	4 %	14 %

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

Table 3: Assets Under Custody

Assets Under Custody ($ In Billions)	September 30, 2017	June 30, 2017	September 30, 2016	Change Q3-17/Q2-17	Change Q3-17/Q3-16
Corporate & Institutional	$ 7,130.9	$6,786.3	$ 6,173.6	5 %	16 %
Wealth Management	622.9	593.3	533.2	5	17
Total Assets Under Custody	$ 7,753.8	$7,379.6	$ 6,706.8	5 %	16 %

The 16% increase in consolidated assets under custody from $6.71 trillion as of September 30, 2016 to $7.75 trillion as of September 30, 2017 primarily reflected the impact of favorable markets and new business.

Table of Contents

THIRD QUARTER CONSOLIDATED RESULTS OF OPERATIONS (continued)

Noninterest Income (continued)

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

Table 4: Allocations of Assets Under Custody

	September 30, 2017			June 30, 2017			September 30, 2016		
Assets Under Custody	C&IS	WM	Total	C&IS	WM	Total	C&IS	WM	Total
Equities	45%	57%	46%	45%	56%	46%	43%	55%	44%
Fixed Income	38	20	36	38	20	37	39	23	38
Cash and Other Assets	17	23	18	17	24	17	18	22	18

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

Table 5: Assets Under Management

Assets Under Management ($ In Billions)	September 30, 2017	June 30, 2017	September 30, 2016	Change Q3-17/Q2-17	Change Q3-17/Q3-16
Corporate & Institutional	$ 840.7	$762.7	$ 703.6	10 %	19 %
Wealth Management	284.4	266.1	242.2	7	17
Total Assets Under Management	$ 1,125.1	$1,028.8	$ 945.8	9 %	19 %

The 19% increase in consolidated assets under management from $945.8 billion at September 30, 2016 to $1.13 trillion as of September 30, 2017 was primarily due to new business and favorable equity markets.

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

Table 6: Assets Under Management by Investment Type

($ In Billions)	September 30, 2017	June 30, 2017	September 30, 2016
Equities	$ 572.5	$531.3	$ 479.3
Fixed Income	178.3	169.5	162.8
Cash and Other Assets	212.3	197.0	189.8
Securities Lending Collateral	162.0	131.0	113.9
Total Assets Under Management	$ 1,125.1	$1,028.8	$ 945.8

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

Table 7: Allocations of Assets Under Management

	September 30, 2017			June 30, 2017			September 30, 2016		
Assets Under Management	C&IS	WM	Total	C&IS	WM	Total	C&IS	WM	Total
Equities	51%	51%	51%	52%	49%	52%	52%	47%	51%
Fixed Income	13	25	16	13	26	16	13	29	17
Cash and Other Assets	17	24	19	18	25	19	19	24	20
Securities Lending Collateral	19	—	14	17	—	13	16	—	12

For the twelve months ended September 30, 2017, the S&P 500 index increased 16.2%, the MSCI EAFE index (USD) increased 16.0%, and the MSCI EAFE index (local currency) increased 15.9%.

Table of Contents
THIRD QUARTER CONSOLIDATED RESULTS OF OPERATIONS (continued)
Noninterest Income (continued)

The following table presents activity in consolidated assets under management by investment type.
Table 8: Activity in Consolidated Assets Under Management by Investment Type

($ In Billions)	Three Months Ended September 30, 2017	June 30, 2017	March 31, 2017	December 31, 2016	September 30, 2016
Beginning Balance of AUM	$1,028.8	$1,001.3	$942.4	$ 945.8	$ 906.2
Inflows by Investment Type					
Equity	51.2	36.3	41.6	44.5	27.2
Fixed Income	19.8	11.6	13.7	16.2	13.1
Cash & Other Assets	101.6	98.2	91.8	95.7	109.5
Securities Lending Collateral	45.5	24.9	29.6	24.8	27.1
Total Inflows	218.1	171.0	176.7	181.2	176.9
Outflows by Investment Type					
Equity	(41.0)	(38.6)	(38.4)	(50.0)	(26.6)
Fixed Income	(13.0)	(10.5)	(13.0)	(14.1)	(8.8)
Cash & Other Assets	(83.0)	(99.5)	(89.7)	(98.4)	(100.2)
Securities Lending Collateral	(14.4)	(17.5)	(18.0)	(26.8)	(21.4)
Total Outflows	(151.4)	(166.1)	(159.1)	(189.3)	(157.0)
Net Inflows / (Outflows)	66.7	4.9	17.6	(8.1)	19.9
Market Performance, Currency & Other					
Market Performance & Other	26.6	18.2	38.9	—	—
Currency	3.0	4.4	2.4	—	—
Total Market Performance, Currency & Other	29.6	22.6	41.3	4.7	19.7
Ending Balance of AUM	$1,125.1	$1,028.8	$1,001.3	$ 942.4	$ 945.8

Foreign exchange trading income totaled $49.1 million in the current quarter, down $4.5 million, or 8%, compared to $53.6 million in the prior-year quarter. The decrease generally reflected lower currency volatility as compared to the prior-year quarter.

Other operating income totaled $40.0 million in the current quarter, up $6.9 million, or 21%, compared to $33.1 million in the prior-year quarter, reflecting $5.4 million of impairment charges and loss on sales related to a non-strategic loan and lease portfolio in the prior-year quarter as well as increases in other income. The components of other operating income are provided below.
Table 9: Other Operating Income

Other Operating Income	Three Months Ended September

($ In Millions)	30, 2017	2016	Change	
Loan Service Fees	$12.7	$14.0	$(1.3)	(9)%
Banking Service Fees	12.6	13.6	(1.0)	(7)
Other Income	14.7	5.5	9.2	170
Total Other Operating Income	$40.0	$33.1	$6.9	21 %

6

Table of Contents
THIRD 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 10: Average Consolidated Balance Sheets with Analysis of Net Interest Income

(Interest and Rate on a Fully Taxable Equivalent Basis)	NORTHERN TRUST CORPORATION THIRD QUARTER 2017			2016		
($ In Millions)	Interest	Average Balance	Rate [5]	Interest	Average Balance	Rate [5]
Average Earning Assets						
Federal Reserve and Other Central Bank Deposits	$44.9	$25,182.9	0.71 %	$21.8	$20,829.6	0.42 %
Interest-Bearing Due from and Deposits with Banks [1]	16.0	7,145.8	0.88	15.4	8,232.2	0.74
Federal Funds Sold and Securities Purchased under Agreements to Resell	7.8	1,945.8	1.58	4.4	1,613.2	1.08
Securities						
U.S. Government	22.1	6,002.2	1.46	19.9	7,292.5	1.08
Obligations of States and Political Subdivisions	3.0	845.3	1.41	3.3	734.7	1.80
Government Sponsored Agency	65.4	17,974.7	1.45	38.8	17,583.7	0.88
Other [2]	64.2	19,920.1	1.28	48.5	17,647.8	1.09
Total Securities	154.7	44,742.3	1.37	110.5	43,258.7	1.02
Loans and Leases [3]	242.4	33,468.2	2.87	204.1	33,910.1	2.39
Total Earning Assets	465.8	112,485.0	1.64	356.2	107,843.8	1.31
Allowance for Credit Losses Assigned to Loans and Leases	—	(155.1)	—	—	(192.9)	—
Cash and Due from Banks and Other Central Bank Deposits [4]	—	2,666.8	—	—	1,933.8	—
Buildings and Equipment	—	467.3	—	—	441.3	—
Client Security Settlement Receivables	—	917.0	—	—	1,200.7	—
Goodwill	—	523.9	—	—	525.5	—
Other Assets	—	4,254.5	—	—	4,630.3	—
Total Assets	$—	$121,159.4	— %	$—	$116,382.5	— %
Average Source of Funds						
Deposits						
Savings, Money Market and Other	$7.3	$15,617.1	0.19 %	$3.2	$15,025.7	0.08 %
Savings Certificates and Other Time	2.4	1,255.1	0.75	2.1	1,450.3	0.58
Non-U.S. Offices — Interest-Bearing	45.4	58,503.4	0.31	14.7	51,468.6	0.11
Total Interest-Bearing Deposits	55.1	75,375.6	0.29	20.0	67,944.6	0.12
Short-Term Borrowings	20.3	7,264.5	1.11	6.6	6,961.0	0.38
Senior Notes	11.5	1,497.0	3.11	11.8	1,496.3	3.11
Long-Term Debt	11.3	1,672.5	2.68	6.8	1,406.9	1.91
Floating Rate Capital Debt	1.4	277.5	1.87	0.9	277.4	1.24
Total Interest-Related Funds	99.6	86,087.1	0.46	46.1	78,086.2	0.23
Interest Rate Spread	—	—	1.18	—	—	1.08
Demand and Other Noninterest-Bearing Deposits	—	21,736.4	—	—	25,829.3	—
Other Liabilities	—	3,295.7	—	—	3,236.4	—
Stockholders' Equity	—	10,040.2	—	—	9,230.6	—
Total Liabilities and Stockholders' Equity	$—	$121,159.4	— %	$—	$116,382.5	— %
Net Interest Income/Margin (FTE Adjusted)	$366.2	$—	1.29 %	$310.1	$—	1.14 %

Net Interest Income/Margin (Unadjusted)	$354.2	$—	1.25 %	$303.1	$—	1.12 %

7

Table of Contents

THIRD QUARTER CONSOLIDATED RESULTS OF OPERATIONS (continued)

Net Interest Income (continued)

ANALYSIS OF NET INTEREST INCOME CHANGES DUE TO VOLUME AND RATE

	Three Months Ended September 30, 2017/2016 Change Due To		
(In Millions)	Average Balance	Rate	Total
Earning Assets (FTE)	$19.2	$90.4	$109.6
Interest-Related Funds	5.2	48.3	53.5
Net Interest Income (FTE)	$14.0	$42.1	$56.1

(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.

(2) Other securities include certain community development investments and Federal Home Loan Bank and Federal Reserve stock, which are classified in other assets in the consolidated balance sheets as of September 30, 2017 and 2016.

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

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

(5) 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.

Notes: 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 38.1% and 37.8% for the three months ended September 30, 2017 and 2016, respectively. Total taxable equivalent interest adjustments amounted to $12.0 million and $7.0 million for the three months ended September 30, 2017 and 2016, respectively. A reconciliation of net interest income and net interest margin on a GAAP basis to net interest income and net interest margin on an FTE basis (each of which is a non-GAAP financial measure) is provided on page 28.

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 $366.2 million in the current quarter, up $56.1 million, or 18%, compared to $310.1 million in the prior-year quarter. The increase was primarily the result of a higher net interest margin and an increase in average earning assets. Average earning assets for the current quarter were $112.5 billion, up $4.7 billion, or 4%, from $107.8 billion in the prior-year quarter, primarily resulting from higher levels of short-term interest bearing deposits and securities, partially offset by a reduction in loans and leases. Earning asset growth was funded primarily by higher levels of interest-bearing deposits, partially offset by lower demand and other non-interest-bearing deposits.

The net interest margin on an FTE basis increased to 1.29% in the current quarter from 1.14% in the prior-year quarter primarily due to higher short-term interest rates, partially offset by 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 28.

Federal Reserve and other central bank deposits averaged $25.2 billion, up $4.4 billion, or 21%, from $20.8 billion in the prior-year quarter. Average securities were $44.7 billion, up $1.4 billion, or 3%, from $43.3 billion in the prior-year quarter and include certain community development investments, Federal Home Loan Bank stock, and Federal Reserve stock of $276.1 million, $139.7 million and $53.1 million, respectively, which are recorded in other assets in the consolidated balance sheets.

Loans and leases averaged $33.5 billion, down $441.9 million, or 1%, from $33.9 billion in the prior-year quarter, primarily reflecting lower levels of residential real estate loans and commercial real estate loans, partially offset by increases in private client and commercial and institutional loans. Residential real estate loans averaged $7.6 billion, down $1.1 billion, or 13%, from $8.7 billion for the prior-year quarter. Commercial real estate loans averaged $3.6 billion, down $377.0 million, or 9%, from $4.0 billion for the prior-year quarter. Private client loans averaged $10.6 billion, up $651.0 million, or 7%, from $9.9 billion for the prior-year quarter. Commercial and institutional loans averaged $9.8 billion, up $368.6 million, or 4%, from $9.5 billion for the prior-year quarter.

Table of Contents

THIRD QUARTER CONSOLIDATED RESULTS OF OPERATIONS (continued)

Net Interest Income (continued)

Northern Trust utilizes a diverse mix of funding sources. Total interest-bearing deposits averaged $75.4 billion in the current quarter, compared to $67.9 billion in the prior-year quarter, an increase of $7.5 billion. Other interest-bearing funds averaged $10.7 billion in the current quarter, compared to $10.1 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 utilized to fund earning assets decreased $3.4 billion, or 11%, to $26.4 billion in the current quarter from $29.8 billion in the prior-year quarter, primarily resulting from lower levels of demand and other noninterest bearing deposits and cash and due from banks, partially offset by increases in stockholders' equity attributable to the issuance of Series D Non-Cumulative Perpetual Preferred Stock in August 2016 and earnings.

Provision for Credit Losses

The provision for credit losses was a credit of $7.0 million in the current quarter, as compared to a credit of $3.0 million in the prior-year quarter. The credit provision in the current quarter was primarily driven by reductions in undrawn loan commitments and standby letters of credit as well as improved credit quality in the commercial real estate portfolio each resulting in a reduction in the inherent allowance. Net recoveries in the current quarter of $1.6 million, resulting from recoveries of $5.1 million and charge-offs of $3.5 million, also contributed to the current quarter credit provision. The prior-year quarter included $0.8 million of net recoveries, resulting from $3.8 million of recoveries and $3.0 million of charge-offs. Nonperforming assets of $145.5 million decreased 20% from $181.0 million in the prior-year quarter. Residential real estate, commercial, and commercial real estate loans accounted for 88%, 6%, and 6%, respectively, of total nonperforming loans and leases at September 30, 2017. For additional discussion of the provision and allowance for credit losses, refer to the "Asset Quality" section beginning on page 22.

Noninterest Expense

The components of noninterest expense are provided below.

Table 11: Noninterest Expense

Noninterest Expense	Three Months Ended September 30,			
($ In Millions)	2017	2016	Change	
Compensation	$418.3	$382.1	$36.2	9 %
Employee Benefits	74.8	73.2	1.6	2
Outside Services	172.7	157.6	15.1	10
Equipment and Software	130.5	114.5	16.0	14
Occupancy	47.3	44.2	3.1	7
Other Operating Expense	92.0	71.4	20.6	29
Total Noninterest Expense	$935.6	$843.0	$92.6	11%

Compensation expense, the largest component of noninterest expense, totaled $418.3 million in the current quarter, up $36.2 million, or 9%, compared to $382.1 million in the prior-year quarter, reflecting severance and related charges of $6.0 million in the current quarter as well as increases due to base pay adjustments, staff growth, and higher cash-based incentive accruals.

Employee benefits expense totaled $74.8 million in the current quarter, up 2% compared to $73.2 million in the prior-year quarter, including severance and related charges of $0.6 million in the current quarter as well as increases in payroll taxes and retirement plan expenses, partially offset by lower medical costs.

Outside services expense totaled $172.7 million in the current quarter, up $15.1 million, or 10%, compared to $157.6 million in the prior-year quarter, reflecting outplacement charges associated with severance activity of $0.4 million as well as higher consulting services, sub-custodian expenses, market data, and sub-advisor costs.

Equipment and software expense totaled $130.5 million in the current quarter, up $16.0 million, or 14%, compared to $114.5 million in the prior-year quarter, primarily reflecting increased software amortization, computer maintenance and rental costs, and software support costs.

Occupancy expense totaled $47.3 million in the current quarter, up 7% compared to $44.2 million in the prior-year quarter, primarily due to accelerated depreciation expense related to a previously announced facility exit.

Table of Contents

THIRD QUARTER CONSOLIDATED RESULTS OF OPERATIONS (continued)

Noninterest Expense (continued)

Other operating expense totaled $92.0 million in the current quarter, up $20.6 million, or 29%, from $71.4 million in the prior-year quarter, primarily driven by the timing of the Northern Trust-sponsored PGA TOUR golf tournament and increases in various other expenses. Additionally, other operating expense in the prior-year quarter included a $3.5 million charge in connection with the settlement of the remaining securities lending litigation.

The components of other operating expense are provided below.

Table 12: Other Operating Expense

Other Operating Expense	Three Months Ended September 30,			
($ In Millions)	2017	2016	Change	
Business Promotion	$36.5	$19.2	$17.3	91 %
Staff Related	10.2	11.5	(1.3)	(12)
FDIC Insurance Premiums	9.1	9.5	(0.4)	(3)
Other Intangibles Amortization	2.3	2.0	0.3	21
Other Expenses	33.9	29.2	4.7	16
Total Other Operating Expense	$92.0	$71.4	$20.6	29

Provision for Income Taxes

Income tax expense for the three months ended September 30, 2017 was $118.2 million, representing an effective tax rate of 28.4%, compared to $116.1 million in the prior-year quarter, representing an effective tax rate of 31.1%. The increase in the provision for income taxes compared to the prior-year quarter was primarily due to an increase in income before income taxes compared to the prior-year quarter, and an increase of $4.3 million related to an increase in the Illinois state deferred income tax reserve resulting from an increase in the Illinois income tax rate, partially offset by Federal and State research tax credits of $17.6 million recognized in the current quarter due to the completion of a recent study of the Corporation’s technology spend between 2013 and 2016.

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. 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, are not allocated to C&IS and Wealth Management, and are reported in Northern Trust’s third reporting segment, Treasury and Other, in the following pages.

Table of Contents
REPORTING SEGMENTS (continued)

The following tables reflect the earnings contributions and average assets of Northern Trust's reporting segments for the three- and nine- month periods ended September 30, 2017 and 2016. Reporting segment financial information, presented on an internal management-reporting basis, is determined by accounting systems that are used to allocate revenue and expense related to each segment and incorporates processes for allocating assets, liabilities, equity and the applicable interest income and expense.

Table 13: Results of Reporting Segments

Three Months Ended September 30,	Corporate & Institutional Services		Wealth Management		Treasury and Other		Total Consolidated	
($ In Millions)	2017	2016	2017	2016	2017	2016	2017	2016
Noninterest Income								
Trust, Investment and Other Servicing Fees	$501.1	$450.8	$366.8	$337.5	$—	$—	$867.9	$788.3
Foreign Exchange Trading Income	47.2	55.2	0.7	0.9	1.2	(2.5)	49.1	53.6
Other Noninterest Income	43.8	41.5	25.2	26.3	5.0	0.9	74.0	68.7
Net Interest Income*	194.0	138.2	186.6	164.1	(14.4)	7.8	366.2	310.1
Revenue*	786.1	685.7	579.3	528.8	(8.2)	6.2	1,357.2	1,220.7
Provision for Credit Losses	0.8	4.0	(7.8)	(7.0)	—	—	(7.0)	(3.0)
Noninterest Expense	542.1	487.8	348.8	318.0	44.7	37.2	935.6	843.0
Income before Income Taxes*	243.2	193.9	238.3	217.8	(52.9)	(31.0)	428.6	380.7
Provision for Income Taxes*	78.4	61.8	90.3	82.3	(38.5)	(21.0)	130.2	123.1
Net Income	$164.8	$132.1	$148.0	$135.5	$(14.4)	$(10.0)	$298.4	$257.6
Percentage of Consolidated Net Income	55%	51%	50%	53%	(5)%	(4)%	100%	100%
Average Assets	$82,250.9	$75,696.5	$26,463.0	$26,601.7	$12,445.5	$14,084.3	$121,159.4	$116,382.5

* Non-GAAP financial measures stated on a fully taxable equivalent basis (FTE). Total consolidated includes FTE adjustments of $12.0 million for 2017 and $7.0 million for 2016. A reconciliation of total consolidated revenue, net interest income and net interest margin on a GAAP basis to revenue, net interest income and net interest margin on an FTE basis (each of which is a non-GAAP financial measure) is provided on page 28.

Nine Months Ended September 30,	Corporate & Institutional Services		Wealth Management		Treasury and Other		Total Consolidated	
($ In Millions)	2017	2016	2017	2016	2017	2016	2017	2016
Noninterest Income								
Trust, Investment and Other Servicing Fees	$1,451.1	$1,331.1	$1,073.2	$982.6	$—	$—	$2,524.3	$2,313.7
Foreign Exchange Trading Income	146.9	169.1	2.4	7.0	(2.2)	2.4	147.1	178.5
Other Noninterest Income	132.4	113.0	77.4	79.8	20.4	124.8	230.2	317.6
Net Interest Income*	536.5	417.8	545.4	482.8	(2.9)	30.1	1,079.0	930.7
Revenue*	2,266.9	2,031.0	1,698.4	1,552.2	15.3	157.3	3,980.6	3,740.5
Provision for Credit Losses	(1.6)	—	(13.4)	(4.0)	—	—	(15.0)	(4.0)
Noninterest Expense	1,598.5	1,519.9	1,046.0	975.2	123.0	101.7	2,767.5	2,596.8
Income before Income Taxes*	670.0	511.1	665.8	581.0	(107.7)	55.6	1,228.1	1,147.7
Provision for Income Taxes*	213.0	158.0	251.4	219.1	(78.7)	4.6	385.7	381.7
Net Income	$457.0	$353.1	$414.4	$361.9	$(29.0)	$51.0	$842.4	$766.0
Percentage of Consolidated Net Income	54%	46%	49%	47%	(3)%	7%	100%	100%
Average Assets	$80,229.1	$75,589.0	$26,648.7	$26,525.6	$11,818.2	$12,795.3	$118,696.0	$114,909.9

* Non-GAAP financial measures stated on a fully taxable equivalent basis (FTE). Total consolidated includes FTE adjustments of $29.8 million for 2017 and $20.1 million for 2016. A reconciliation of total consolidated revenue, net interest income and net interest margin on a GAAP basis to revenue, net interest income and net interest margin on an FTE basis (each of which is a non-GAAP financial measure) is provided on page 28.

Table of Contents
REPORTING SEGMENTS (continued)
Corporate & Institutional Services

C&IS net income totaled $164.8 million in the current quarter compared to $132.1 million in the prior-year quarter, an increase of $32.7 million, or 25%. Noninterest income was $592.1 million in the current quarter, up $44.6 million, or 8%, from $547.5 million in the prior-year quarter, reflecting higher trust, investment and other servicing fees, partially offset by lower foreign exchange trading income. The following table provides a summary of C&IS trust, investment and other servicing fees.

Table 14: C&IS Trust, Investment and Other Servicing Fees

($ In Millions)	Three Months Ended September 30, 2017	2016	Change	
Custody and Fund Administration	$338.1	$299.4	$38.7	13 %
Investment Management	104.3	94.4	9.9	10
Securities Lending	22.8	23.1	(0.3)	(1)
Other	35.9	33.9	2.0	6
Total C&IS Trust, Investment and Other Servicing Fees	$501.1	$450.8	$50.3	11 %

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 quarter-end or month-end values, values at the beginning of each quarter or average values for a month or quarter. The fund administration fees that are asset-value-related are priced using month-end, quarter-end, or average daily balances. Investment management fees, which are based generally on client assets under management, are based primarily on market values throughout a period.

Custody and fund administration fees increased $38.7 million, or 13%, from the prior-year quarter, primarily due to new business, favorable equity markets, and the favorable impact of movements in foreign exchange rates. Investment management fees increased $9.9 million, or 10%, primarily due to higher market performance and new business. Securities lending fees were relatively unchanged, as lower spreads and fee splits were partially offset by increased loan volumes in the current quarter. Other fees increased 6%, primarily due to new business.

Foreign exchange trading income totaled $47.2 million in the current quarter, a decrease of $8.0 million, or 14%, from $55.2 million in the prior-year quarter. The decrease generally reflected lower currency volatility as compared to the prior-year quarter.

Other noninterest income in C&IS totaled $43.8 million in the current quarter, up 6%, from $41.5 million in the prior-year quarter, primarily due to impairment charges recorded in the prior-year quarter associated with the loss on sales related to a non-strategic loan and lease portfolio.

Net interest income stated on an FTE basis was $194.0 million in the current quarter, up $55.8 million, or 40%, from $138.2 million in the prior-year quarter. The increase in net interest income was primarily attributable to an increase in the net interest margin and higher levels of earning assets. The net interest margin increased to 1.01% from 0.79% in the prior-year quarter, primarily reflecting higher short-term interest rates, partially offset by a balance sheet mix shift. The average earning assets totaled $76.4 billion, up from $69.2 billion in the prior-year quarter. 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 $54.1 billion in the current quarter, up from $45.2 billion in the prior-year quarter.

The provision for credit losses was a provision of $0.8 million in the current quarter, compared with a provision of $4.0 million in the prior-year quarter. The current quarter provision reflected an increase in the inherent reserve requirement. The prior-year quarter provision reflected a specific reserve requirement, partially offset by improvement in credit quality.

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 $542.1 million in the current quarter, up $54.3 million, or 11%, from $487.8 million in the prior-year quarter, reflecting severance and related charges of $2.0 million, as well as higher indirect expense allocations, compensation expenses, and outside services expenses.

Table of Contents
REPORTING SEGMENTS (continued)
Wealth Management

Wealth Management net income was $148.0 million in the current quarter, up $12.5 million, or 9%, from $135.5 million in the prior-year quarter. Noninterest income was $392.7 million, up $28.0 million, or 8%, from $364.7 million in the prior-year quarter, primarily reflecting higher trust, investment and other servicing fees. Trust, investment and other servicing fees in Wealth Management totaled $366.8 million in the current quarter, increasing $29.3 million, or 9%, from $337.5 million in the prior-year quarter. The following table provides a summary of Wealth Management trust, investment and other servicing fees.

Table 15: Wealth Management Trust, Investment and Other Servicing Fees

	Three Months Ended September 30,			
($ In Millions)	2017	2016	Change	
Central	$145.4	$135.6	$9.8	7 %
East	90.2	85.1	5.1	6
West	73.7	68.0	5.7	8
Global Family Office	57.5	48.8	8.7	18
Total Wealth Management Trust, Investment and Other Servicing Fees	$366.8	$337.5	$29.3	9 %

Wealth Management fee income is calculated primarily based on market values. The increase in Wealth Management fees across the regions was primarily attributable to favorable equity markets and new business. The 18% increase in Global Family Office fees was primarily attributable to new business and favorable equity markets.

Other noninterest income of $25.2 million in the current quarter was down slightly from $26.3 million in the prior-year quarter, primarily reflecting a decrease in various other operating income categories.

Net interest income stated on an FTE basis was $186.6 million in the current quarter, up $22.5 million, or 14%, from $164.1 million in the prior-year quarter, primarily reflecting an increase in the net interest margin. The net interest margin increased to 2.82% from 2.47% in the prior-year quarter. Average earning assets decreased $174.0 million to $26.2 billion from the prior-year quarter's $26.4 billion. Earning assets and funding sources were primarily comprised of loans and domestic retail interest-bearing deposits, respectively.

The provision for credit losses was a credit of $7.8 million in the current quarter, compared with a credit provision of $7.0 million in the prior-year quarter. The current quarter provision reflected reductions in undrawn loan commitments and standby letters of credit as well as improved credit quality resulting in a reduction in the inherent allowance. The prior-year quarter provision reflected improvement in credit quality.

Total noninterest expense, which includes the direct expense of the reporting segment, indirect expense allocations for product and operating support and indirect expense allocations for certain corporate support services, totaled $348.8 million in the current quarter, compared to $318.0 million in the prior-year quarter, an increase of $30.8 million, or 10%, reflecting current quarter severance and related charges of $5.0 million, as well as higher indirect expense allocations, compensation expense, and other operating expenses.

Treasury and Other

Treasury and Other includes income and expense associated with the wholesale funding activities and the investment portfolios of the Corporation and the Bank, and certain corporate-based expenses, executive-level compensation and nonrecurring items not allocated to C&IS and Wealth Management.

Treasury and Other noninterest income increased $7.8 million, from negative $1.6 million in the prior-year quarter to $6.2 million in the current quarter, primarily due to higher foreign exchange trading income and other operating income.

Net interest income decreased $22.2 million, from $7.8 million in the prior-year quarter to net interest expense of $14.4 million in the current quarter, primarily due to a decline in the net interest margin driven by higher short-term interest rates. Average earning assets decreased $2.4 billion to $9.9 billion from $12.3 billion in the prior-year quarter.

Noninterest expense totaled $44.7 million in the current quarter, up $7.5 million, or 20%, from $37.2 million in the prior-year quarter, primarily reflecting higher general overhead costs, including compensation expense, equipment and software expense,

13

Table of Contents
REPORTING SEGMENTS (continued)
Treasury and Other (continued)

and business promotion, advertising, and marketing expense, partially offset by higher indirect expense allocations to C&IS and Wealth Management as compared to the prior-year quarter.
The provision for income taxes was a benefit of $38.5 million in the current quarter compared to a $21.0 million benefit in the prior-year quarter, primarily due to Federal and State research tax credits of $17.6 million recognized in the current quarter due to the completion of a recent study of the Corporation's technology spend between 2013 and 2016, partially offset by an increase of $4.3 million related to an increase in the Illinois state deferred income tax reserve resulting from an increase in the Illinois income tax rate and an decrease in income before income taxes compared to the prior quarter.
NINE-MONTH CONSOLIDATED RESULTS OF OPERATIONS
Overview
Net income per diluted common share was $3.41 for the nine months ended September 30, 2017, and $3.21 in the comparable prior-year period. Net income totaled $842.4 million, up $76.4 million, or 10%, compared to $766.0 million in the prior-year period. The performance in the current period produced an annualized return on average common equity of 11.8%, compared to 11.9% in the prior-year period. The annualized return on average assets was 0.95% in the current period compared to 0.89% in the prior-year period.
Revenue for the nine months ended September 30, 2017 totaled $3.95 billion, up $230.4 million, or 6%, as compared to $3.72 billion in the prior-year period.
Noninterest income was $2.90 billion, up $91.8 million, or 3%, from $2.81 billion in the prior-year period, primarily driven by increased trust, investment, and other servicing fees, partially offset by lower other operating income and foreign exchange trading income. The prior-year period included the sale of 1.1 million Visa Inc. Class B common shares, net of the valuation adjustment to existing swap agreements, totaling $118.2 million, partially offset by impairment charges and the loss on sale related to the decision to exit a portion of a non-strategic loan and lease portfolio of $14.1 million and impairment charges related to the residual value of certain aircraft of $4.8 million.

Net interest income totaled $1.05 billion, up $138.6 million, or 15%, as compared to $910.6 million in the prior-year period, due to a higher net interest margin and an increase in earning assets. Additionally, the prior-year period included a pre-tax charge of $2.7 million related to the residual value of certain aircraft and rail cars.

The provision for credit losses was a credit of $15.0 million in the current period, as compared to a credit of $4.0 million in the prior-year period.

Noninterest expense totaled $2.77 billion in the current period, up $170.7 million, or 7%, from $2.60 billion in the prior-year period, primarily attributable to higher compensation, equipment and software, outside services, partially offset by lower other operating expense. The current period included expense charges of $29.8 million associated with severance and related activities. The prior-year period included a pre-tax charge in connection with an agreement to settle certain securities lending litigation of $46.5 million, charges related to contractual modifications associated with existing C&IS clients of $18.6 million, and severance, other personnel and related charges of $17.5 million.

Table of Contents

NINE-MONTH CONSOLIDATED RESULTS OF OPERATIONS (continued)

Noninterest Income

The components of noninterest income are provided below.

Table 16: Nine Months Ended September 30 Noninterest Income

Noninterest Income	Nine Months Ended September 30,			
($ In Millions)	2017	2016	Change	
Trust, Investment and Other Servicing Fees	$2,524.3	$2,313.7	$210.6	9 %
Foreign Exchange Trading Income	147.1	178.5	(31.4)	(18)
Treasury Management Fees	42.8	47.2	(4.4)	(9)
Security Commissions and Trading Income	65.8	59.9	5.9	10
Other Operating Income	122.7	212.4	(89.7)	(42)
Investment Security Losses, net	(1.1)	(1.9)	0.8	(41)
Total Noninterest Income	$2,901.6	$2,809.8	$91.8	3 %

As illustrated in the following table, trust, investment and other servicing fees from C&IS increased $120.0 million, or 9%, totaling $1.45 billion, compared to $1.33 billion a year ago.

Table 17: Nine Months Ended September 30 C&IS Trust, Investment and Other Servicing Fees

C&IS Trust, Investment and Other Servicing Fees	Nine Months Ended September 30,			
($ In Millions)	2017	2016	Change	
Custody and Fund Administration	$973.1	$879.1	$94.0	11 %
Investment Management	297.1	277.7	19.4	7
Securities Lending	71.2	72.5	(1.3)	(2)
Other	109.7	101.8	7.9	8
Total	$1,451.1	$1,331.1	$120.0	9 %

Custody and fund administration fees, the largest component of C&IS fees, increased 11%, primarily driven by new business and favorable equity markets, partially offset by the unfavorable impact of movements in foreign exchange rates. C&IS investment management fees increased 7%, primarily due to the favorable impact of equity markets and lower money market mutual fund fee waivers. There were no C&IS money market mutual fund fee waivers in the current period compared to $1.9 million in the prior-year period. Other fees in C&IS increased 8%, primarily due to new business.

As illustrated in the following table, trust, investment and other servicing fees from Wealth Management totaled $1.07 billion, up $90.6 million, or 9%, from $982.6 million a year ago.

Table 18: Nine Months Ended September 30 Wealth Management Trust, Investment and Other Servicing Fees

	Nine Months Ended September 30,			
($ In Millions)	2017	2016	Change	
Wealth Management Trust, Investment and Other Servicing Fees				
Central	$425.9	$390.2	$35.7	9 %
East	263.7	250.6	13.1	5
West	216.7	199.4	17.3	9
Global Family Office	166.9	142.4	24.5	17
Total	$1,073.2	$982.6	$90.6	9 %

The increase in Wealth Management fees across the regions was primarily attributable to favorable equity markets, new business, and lower money market mutual fund fee waivers in the current period. The 17% increase in Global Family Office fees was primarily attributable to new business and favorable equity markets. Money market mutual fund fee waivers in Wealth Management totaled $0.7 million in the current period compared with $6.2 million in the prior-year period.

Table of Contents

NINE-MONTH CONSOLIDATED RESULTS OF OPERATIONS (continued)

Noninterest Income (continued)

Foreign exchange trading income decreased $31.4 million, or 18%, and totaled $147.1 million compared with $178.5 million in the prior-year period. The decrease was attributable to lower currency volatility compared to the prior-year period.

Other operating income decreased $89.7 million, or 42%, to $122.7 million compared with $212.4 million in the prior-year period. The components of other operating income are provided below.

Table 19: Nine Months Ended September 30 Other Operating Income

Other Operating Income ($ In Millions)	Nine Months Ended September 30, 2017	2016	Change	
Loan Service Fees	$38.4	$42.2	$(3.8)	(9)%
Banking Service Fees	37.5	38.8	(1.3)	(3)%
Other Income	46.8	131.4	(84.6)	(64)
Total Other Operating Income	$122.7	$212.4	$(89.7)	(42)%

The prior-year period other income included the gain on the sale of 1.1 million Visa Inc. Class B common shares, net of the valuation adjustment to existing swap agreements, totaling $118.2 million, offset by impairment charges and the loss on sale related to the decision to exit a portion of a non-strategic loan and lease portfolio, as well as impairment charges related to the residual value of certain aircraft and rail cars of $18.9 million. The decrease in other income due to these prior-year items was partially offset by net gains on hedging activity and increases in various other income categories.

Table of Contents

NINE-MONTH 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 20: Nine Months Ended September 30 Average Consolidated Balance Sheets with Analysis of Net Interest Income

(Interest and Rate on a Fully Taxable Equivalent Basis)	NORTHERN TRUST CORPORATION Nine Months Ended September 30, 2017			2016		
($ In Millions)	Interest	Average Balance	Rate [5]	Interest	Average Balance	Rate [5]
Average Earning Assets						
Federal Reserve and Other Central Bank Deposits	$108.4	$23,198.9	0.62 %	$71.4	$20,553.5	0.46 %
Interest-Bearing Due from and Deposits with Banks [1]	45.0	7,163.0	0.84	49.4	9,036.0	0.73
Federal Funds Sold and Securities Purchased under Agreements to Resell	21.7	2,005.4	1.45	12.4	1,707.0	0.97
Securities						
U.S. Government	67.1	6,542.2	1.37	56.0	6,890.8	1.08
Obligations of States and Political Subdivisions	10.0	920.8	1.45	7.5	465.6	2.16
Government Sponsored Agency	196.0	17,887.4	1.47	123.0	17,232.9	0.95
Other [2]	178.0	19,066.8	1.25	136.0	16,358.8	1.11
Total Securities	451.1	44,417.2	1.36	322.5	40,948.1	1.05
Loans and Leases [3]	684.9	33,676.2	2.72	610.3	34,119.1	2.39
Total Earning Assets	1,311.1	110,460.7	1.59	1,066.0	106,363.7	1.34
Allowance for Credit Losses Assigned to Loans and Leases	—	(159.4)	—	—	(193.9)	—
Cash and Due from Banks and Other Central Bank Deposits [4]	—	2,496.9	—	—	2,072.9	—
Buildings and Equipment	—	466.1	—	—	442.4	—
Client Security Settlement Receivables	—	858.9	—	—	1,178.2	—
Goodwill	—	521.7	—	—	526.6	—
Other Assets	—	4,051.1	—	—	4,520.0	—
Total Assets	$—	$118,696.0	— %	$—	$114,909.9	— %
Average Source of Funds						
Deposits						
Savings, Money Market and Other	$15.2	$15,433.9	0.13 %	$8.7	$15,144.3	0.08 %
Savings Certificates and Other Time	7.0	1,301.8	0.72	5.9	1,438.4	0.55
Non-U.S. Offices — Interest-Bearing	101.5	55,892.8	0.24	48.8	50,452.8	0.13
Total Interest-Bearing Deposits	123.7	72,628.5	0.23	63.4	67,035.5	0.13
Short-Term Borrowings	41.5	6,117.7	0.91	14.9	6,249.3	0.32
Senior Notes	35.0	1,496.9	3.14	35.2	1,496.6	3.14
Long-Term Debt	28.3	1,512.4	2.50	19.3	1,403.1	1.83
Floating Rate Capital Debt	3.6	277.4	1.71	2.5	277.4	1.20
Total Interest-Related Funds	232.1	82,032.9	0.38	135.3	76,461.9	0.24
Interest Rate Spread	—	—	1.21	—	—	1.10
Demand and Other Noninterest-Bearing Deposits	—	23,641.1	—	—	26,252.4	—
Other Liabilities	—	3,085.2	—	—	3,289.6	—
Stockholders' Equity	—	9,936.8	—	—	8,906.0	—

Total Liabilities and Stockholders' Equity	$—	$118,696.0	— %	$—	$114,909.9	— %
Net Interest Income/Margin (FTE Adjusted)	$1,079.0	$—	1.31 %	$930.7	$—	1.17 %
Net Interest Income/Margin (Unadjusted)	$1,049.2	$—	1.27 %	$910.6	$—	1.14 %

17

Table of Contents

NINE-MONTH CONSOLIDATED RESULTS OF OPERATIONS (continued)

Net Interest Income (continued)

ANALYSIS OF NET INTEREST INCOME CHANGES
DUE TO VOLUME AND RATE

(In Millions)	Nine Months Ended September 30, 2017/2016 Change Due To Average Balance	Rate	Total
Earning Assets (FTE)	$34.9	$210.2	$245.1
Interest-Related Funds	11.3	85.5	96.8
Net Interest Income (FTE)	$23.6	$124.7	$148.3

(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.

(2) Other securities include certain community development investments and Federal Home Loan Bank and Federal Reserve stock, which are classified in other assets in the consolidated balance sheets as of September 30, 2017 and 2016.

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

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

(5) 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.

Notes: 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 38.1% and 37.8% for the nine months ended September 30, 2017 and 2016, respectively. Total taxable equivalent interest adjustments amounted to $29.8 million and $20.1 million for the nine months ended September 30, 2017 and 2016, respectively. A reconciliation of net interest income and net interest margin on a GAAP basis to net interest income and net interest margin on an FTE basis (each of which is a non-GAAP financial measure) is provided on page 28.

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, stated on an FTE basis, totaled $1.08 billion, an increase of $148.3 million, or 16%, from $930.7 million reported in the prior-year period. The increase is the result of higher net interest margin and an increase in earning assets. Additionally, the prior-year period included a charge of $2.7 million related to the residual value of certain aircraft and rail cars. Average earning assets were $110.5 billion, up $4.1 billion, or 4%, from $106.4 billion in the prior-year period, primarily attributable to higher levels of securities and short-term interest bearing deposits, partially offset by a reduction in loans and leases. The net interest margin, on an FTE basis, increased to 1.31% from 1.17% in the prior-year period.

Provision for Credit Losses

The provision for credit losses was a credit of $15.0 million in the current-year period, compared to a credit of $4.0 million in the prior-year period. The credit provision in the current period was primarily driven by improved credit quality as well as reductions in outstanding loans and undrawn loan commitments and standby letters of credit that resulted in a reduction in the inherent allowance. Net charge-offs in the current-year period totaled $3.6 million resulting from $13.2 million of charge-offs and $9.6 million of recoveries, compared to net charge-offs of $4.3 million in the prior-year period resulting from $13.2 million of charge-offs and $8.9 million of recoveries. Residential real estate loans continued to reflect weakness relative to the overall portfolio, accounting for 88% and 71% of total nonperforming loans and leases at September 30, 2017 and 2016, respectively. Loan balances within the residential real estate, commercial real estate, and non-U.S. portfolios decreased in the current period, while loan balances in the private client portfolio increased. For a fuller discussion of the consolidated allowance and provision for credit losses refer to the "Asset Quality" section beginning on page 22.

Table of Contents

NINE-MONTH CONSOLIDATED RESULTS OF OPERATIONS (continued)

Noninterest Expense

Noninterest expense totaled $2.77 billion for the current period, up $170.7 million, or 7%, compared to $2.60 billion in the prior-year period. The components of noninterest expense are provided below.

Table 21: Nine Months Ended September 30 Noninterest Expense

Noninterest Expense	Nine Months Ended September 30,			
($ In Millions)	2017	2016	Change	
Compensation	$1,276.6	$1,150.4	$126.2	11 %
Employee Benefits	228.2	216.0	12.2	6
Outside Services	492.8	466.5	26.3	6
Equipment and Software	391.5	346.7	44.8	13
Occupancy	139.0	130.4	8.6	7
Other Operating Expense	239.4	286.8	(47.4)	(16)
Total Noninterest Expense	$2,767.5	$2,596.8	$170.7	7 %

Compensation expense, the largest component of noninterest expense, totaled $1.28 billion, up $126.2 million, or 11%, from $1.15 billion in the prior-year, reflecting severance and related charges of $25.5 million in the current period, compared to $13.0 million in the prior-year period, as well as increases due to higher salary expense driven by base pay adjustments and staff growth, higher long-term performance-based incentive compensation, and higher cash-based incentive accruals.

Employee benefits expense of $228.2 million was up $12.2 million, or 6%, from $216.0 million in the prior-year period, reflecting severance and related charges of $3.1 million in the current period, compared to severance and related charges of $1.5 million in the prior-year period, as well as higher payroll taxes and retirement plan expenses.

Outside services expense equaled $492.8 million, up $26.3 million, or 6%, from $466.5 million in the prior-year period, reflecting outplacement charges associated with severance activity of $1.2 million in the current period, compared to outplacement charges associated with severance activity of $0.7 million in the prior period, as well as increases in technical services and sub-custodian expense.

Equipment and software expense totaled $391.5 million, up $44.8 million, or 13%, from $346.7 million in the prior-year period, reflecting increased software amortization, software support, and computer maintenance and rental costs.

Occupancy expense equaled $139.0 million, up $8.6 million, or 7%, from $130.4 million in the prior-year period, reflecting higher rent expense as well as accelerated depreciation related to a previously announced facility exit.

Other operating expense totaled $239.4 million, down $47.4 million, or 16%, from $286.8 million in the prior-year period. The components of other operating expense are provided below.

Table 22: Nine Months Ended September 30 Other Operating Expense

Other Operating Expense	Nine Months Ended September 30,			
($ In Millions)	2017	2016	Change	
Business Promotion	$72.5	$67.2	$5.3	8 %
Staff Related	31.6	33.3	(1.7)	(5)
FDIC Insurance Premiums	26.1	22.8	3.3	15
Other Intangibles Amortization	7.0	6.3	0.7	12
Other Expenses	102.2	157.2	(55.0)	(35)
Total Other Operating Expense	$239.4	$286.8	$(47.4)	(16)%

Other operating expense in the prior-year period included a pre-tax charge in connection with an agreement to settle certain securities lending litigation of $46.5 million, charges related to contractual modifications associated with existing C&IS clients of $18.6 million, other personnel charges of $2.3 million. The decrease in other expenses due to these prior-year charges was partially offset

19

Table of Contents

NINE-MONTH CONSOLIDATED RESULTS OF OPERATIONS (continued)

Noninterest Expense (continued)

by increased expenses related to the Northern Trust-sponsored PGA TOUR golf tournament, charges associated with account servicing activities, and FDIC deposit protection expenses.

Provision for Income Taxes

Income tax expense for the nine months ended September 30, 2017 was $355.9 million, representing an effective tax rate of 29.7%. The provision for income taxes was $361.6 million for the nine months ended September 30, 2016, representing an effective tax rate of 32.1%. The decrease in the provision for income taxes compared to the prior-year period was primarily due to the Federal and State research tax credits of $17.6 million recognized in the current period due to the completion of a recent study of the Corporation's technology spend between 2013 and 2016, as well as the increased income tax benefit derived from increased vesting of restricted stock units and stock option exercises in the current period compared to the prior-year period, partially offset by increased income before income taxes and a $4.3 million charge related to an increase in the Illinois state deferred income tax reserve resulting from an increase in the Illinois income tax rate. The provision for income tax expense for the nine months ended September 30, 2017 and September 30, 2016 includes a benefit of $25.9 million and $12.3 million, respectively, related to excess tax benefits resulting from the vesting of restricted stock units and stock option exercises.

CONSOLIDATED BALANCE SHEETS

Total assets were $131.4 billion and $123.9 billion at September 30, 2017 and December 31, 2016, respectively, and averaged $121.2 billion in the current quarter compared with $116.4 billion in the quarter ended September 30, 2016. 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 $33.3 billion and $33.8 billion at September 30, 2017 and December 31, 2016, respectively, and averaged $33.5 billion in the current quarter, down 1% from $33.9 billion in the quarter ended September 30, 2016. 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 $45.2 billion and $44.9 billion at September 30, 2017 and December 31, 2016, respectively, and averaged $44.7 billion for the current quarter, up 3% from $43.3 billion in the quarter ended September 30, 2016. 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 totaled $44.0 billion and $36.7 billion at September 30, 2017 and December 31, 2016, respectively, and averaged $34.3 billion in the current quarter, up 12% from $30.7 billion in the quarter ended September 30, 2016, primarily reflecting increased Federal Reserve and other central bank deposits, partially offset by decreased interest-bearing due from and deposits with banks. Interest-bearing client deposits at September 30, 2017 and December 31, 2016, totaled $79.5 billion and $71.5 billion, respectively, and averaged $75.4 billion in the current quarter compared to $67.9 billion in the quarter ended September 30, 2016. Noninterest-bearing client deposits at September 30, 2017 and December 31, 2016 totaled $26.3 billion and $30.2 billion, respectively, and averaged $21.7 billion in the current quarter, down 16% from $25.8 billion in the quarter ended September 30, 2016. Total stockholders' equity at September 30, 2017, was $10.2 billion compared to $9.8 billion at December 31, 2016, and averaged $10.0 billion for the current quarter, up 9% from $9.2 billion for the quarter ended September 30, 2016. The increase in average stockholders' equity compared to the prior-year quarter was primarily attributable to earnings and the issuance of preferred stock, partially offset by the repurchase of common stock pursuant to the Corporation's share repurchase program and dividend declarations.

During the three and nine months ended September 30, 2017, the Corporation declared cash dividends totaling $97.3 million and $275.7 million to common stockholders, and cash dividends totaling $17.3 million and $43.9 million to preferred stockholders, respectively. During the three and nine months ended September 30, 2017, the Corporation repurchased 1,411,696 shares of common stock, including 43,871 shares withheld related to share-based compensation, at a total cost of $124.8 million ($88.43 average price per share) and 3,983,690 shares of common stock, including 459,082 shares withheld related to share-based compensation, at a total cost of $352.5 million ($88.50 average price per share), respectively.

20

Table of Contents

CAPITAL RATIOS

The capital ratios of Northern Trust and its principal subsidiary, The Northern Trust Company, remained strong at September 30, 2017, 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 23: Regulatory Capital Ratios

	September 30, 2017		June 30, 2017		September 30, 2016	
Capital Ratios — Northern Trust Corporation	Advanced Approach	Standardized Approach	Advanced Approach	Standardized Approach	Advanced Approach	Standardized Approach
Common Equity Tier 1	13.3%	12.3%	13.2%	12.3%	11.8%	11.2%
Tier 1	14.6%	13.4%	14.5%	13.5%	13.1%	12.3%
Total	16.4%	15.4%	16.5%	15.6%	14.5%	14.0%
Tier 1 Leverage	8.0%	8.0%	8.1%	8.1%	7.9%	7.9%
Supplementary Leverage	6.9%	N/A	7.0%	N/A	6.6%	N/A

	September 30, 2017		June 30, 2017		September 30, 2016	
Capital Ratios — The Northern Trust Company	Advanced Approach	Standardized Approach	Advanced Approach	Standardized Approach	Advanced Approach	Standardized Approach
Common Equity Tier 1	13.5%	12.2%	13.3%	12.1%	12.0%	11.1%
Tier 1	13.5%	12.2%	13.3%	12.1%	12.0%	11.1%
Total	15.1%	13.9%	14.9%	13.9%	13.6%	12.9%
Tier 1 Leverage	7.2%	7.2%	7.2%	7.2%	7.0%	7.0%
Supplementary Leverage	6.2%	N/A	6.2%	N/A	5.9%	N/A

STATEMENTS OF CASH FLOWS

Net cash provided by operating activities of $869.7 million for the nine months ended September 30, 2017, was primarily attributable to period earnings, net collateral deposited with derivative counterparties, and the impact of non-cash charges such as amortization of computer software, partially offset by net changes in other operating activities primarily due to a decrease in accounts payable. For the nine months ended September 30, 2016, net cash provided by operating activities of $671.5 million was primarily attributable to period earnings, partially offset by net collateral deposited with counterparties.

Net cash used in investing activities of $6.0 billion for the nine months ended September 30, 2017, was primarily attributable to increased levels of Federal Reserve and other central bank deposits and interest-bearing deposits with banks, offset by lower levels of loans and leases as well as net proceeds from sale, maturity and redemption of securities available for sale. For the nine months ended September 30, 2016, net cash used in investing activities of $5.3 billion was primarily attributable to net purchases of securities available for sale and held to maturity, partially offset by a reduction in interest-bearing deposits with banks and Federal Reserve and other central bank deposits.

Net cash provided by financing activities of $4.8 billion for the nine months ended September 30, 2017, was primarily attributable to increased levels of total deposits, federal funds purchased, short-term other borrowings, and the proceeds from the issuance of fixed-to-floating rate subordinated notes, partially offset by the repurchase of common stock pursuant to the Corporation's share repurchase program, and cash dividends paid to common and preferred stockholders. The increase in total deposits was attributable to higher levels of interest-bearing and non-interest bearing non-U.S. office client deposits. For the nine months ended September 30, 2016, net cash provided by financing activities of $2.8 billion was primarily attributable to higher levels of total deposits and the issuance of the Series D preferred stock, partially offset by the repurchase of common stock pursuant to the Corporation's share repurchase program and cash dividends paid to common stockholders. The increase in total deposits was attributable to higher levels of demand and other noninterest-bearing client deposits.

21

Table of Contents

ASSET QUALITY

Securities Portfolio

Northern Trust maintains a high quality securities portfolio, with 81% of the combined available for sale, held to maturity, and trading account portfolios at September 30, 2017, 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, asset-backed securities, negotiable certificates of deposit, obligations of states and political subdivisions, auction rate securities and other securities, of which as a percentage of the total securities portfolio, 10% was rated double-A, 3% was rated below double-A, and 6% was not rated by Standard and Poor's or Moody's Investors Service (primarily negotiable certificates of deposits of banks and non-U.S. sovereign securities whose long term ratings are at least A).

Net unrealized losses within the investment securities portfolio totaled $56.4 million at September 30, 2017, compared to net unrealized losses of $68.1 million as of December 31, 2016. Net unrealized losses as of September 30, 2017 were comprised of $103.3 million and $159.7 million of gross unrealized gains and losses, respectively. Of the unrealized losses on securities at September 30, 2017, the largest component was $61.7 million of government sponsored agency securities which were primarily attributable to changes in market rates since purchase. $37.3 million of unrealized losses 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, $16.6 million of the unrealized losses related to corporate debt securities, primarily reflecting widened credit spreads and higher market rates since purchase. As of September 30, 2017, 37% of the corporate debt portfolio was backed by guarantees provided by U.S. and non-U.S. governmental entities.

For the nine months ended September 30, 2017, charges of $0.1 million were recorded relating to the other-than-temporary impairment (OTTI) of certain CRA eligible securities. There were $2.4 million OTTI losses for the nine months ended September 30, 2016. 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.

Table of Contents
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.
Effective for the period ended June 30, 2017, the Corporation implemented a change in the classification of certain nonperforming loans and leases to enhance the consistency of its reporting across various regulatory regimes. As a result, prior-period balances below have been adjusted to conform with current-period presentation. These adjustments generally reflect reclassification of nonperforming loans and leases from the commercial and institutional class to the residential real estate class. There was no impact on total nonperforming loans and leases previously reported.
Table 24: Nonperforming Assets

($ In Millions)	September 30, 2017	June 30, 2017	September 30, 2016
Nonperforming Loans and Leases			
Commercial			
Commercial and Institutional	$ 8.8	$21.6	$ 36.7
Commercial Real Estate	8.3	8.6	11.8
Total Commercial	17.1	30.2	48.5
Personal			
Residential Real Estate	120.1	128.7	122.6
Private Client	0.1	0.1	2.2
Total Personal	120.2	128.8	124.8
Total Nonperforming Loans and Leases	137.3	159.0	173.3
Other Real Estate Owned	8.2	7.7	7.7
Total Nonperforming Assets	145.5	166.7	181.0
90 Day Past Due Loans Still Accruing	$ 8.7	$64.6	$ 12.5
Nonperforming Loans and Leases to Total Loans and Leases	0.41 %	0.47 %	0.52 %
Coverage of Loan and Lease Allowance to Nonperforming Loans and Leases	1.1 x	1.0 x	1.1 x

Nonperforming assets of $145.5 million as of September 30, 2017, primarily reflected decreases within the commercial and institutional and commercial real estate portfolios as a result of payments and charge-offs, partially offset by new nonperforming assets as compared to the prior year. 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.

23

Table of Contents

ASSET QUALITY (continued)

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.

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.

The provision for credit losses was a credit of $7.0 million in the current quarter, compared to a credit of $3.0 million in the prior-year quarter. Net recoveries were $1.6 million, resulting from $5.1 million of recoveries and $3.5 million of charge-offs, compared to $0.8 million of net recoveries in the prior-year quarter, resulting from $3.8 million of recoveries and $3.0 million of charge-offs. Residential real estate loans accounted for 88% and 71% of total nonperforming loans and leases at September 30, 2017 and 2016, respectively.

Note 7 to the consolidated financial statements includes a table that details the changes in the allowance for credit losses during the three and nine months ended September 30, 2017 and 2016 due to charge-offs, recoveries and provisions for credit losses.

Table of Contents
ASSET QUALITY (continued)
Provision and Allowance for Credit Losses (continued)

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 25: Allocation of the Allowance for Credit Losses

($ In Millions)	September 30, 2017		June 30, 2017		September 30, 2016	
	Allowance Amount	Percent of Loans to Total Loans	Allowance Amount	Percent of Loans to Total Loans	Allowance Amount	Percent of Loans to Total Loans
Specific Allowance	$8.6	— %	$8.7	— %	$9.1	— %
Allocated Inherent Allowance						
Commercial						
Commercial and Institutional	33.4	28	33.7	27	35.9	27
Commercial Real Estate	53.6	11	58.7	11	72.1	12
Lease Financing, net	0.3	1	—	1	0.4	1
Non-U.S.	—	5	—	6	—	4
Other	1.1	1	1.1	1	—	1
Total Commercial	88.4	46	93.5	46	108.4	45
Personal						
Residential Real Estate	64.2	22	63.8	23	85.3	25
Private Client	9.9	32	10.7	31	19.8	30
Other	2.3	—	2.1	—	2.3	—
Total Personal	76.4	54	76.6	54	107.4	55
Total Allocated Inherent Allowance	$164.8	100 %	$170.1	100 %	$215.8	100 %
Total Allowance for Credit Losses	$173.4		$178.8		$224.9	
Allowance Assigned to						
Loans and Leases	$150.3		$153.8		$191.0	
Undrawn Commitments and Standby Letters of Credit	23.1		25.0		33.9	
Total Allowance for Credit Losses	$173.4		$178.8		$224.9	
Allowance Assigned to Loans and Leases to Total Loans and Leases	0.45 %		0.46 %		0.57 %	

25

Table of Contents

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. Simulation of NII provides management with a short-term view of the impact of interest rate changes on NII. Simulation of MVE 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 regularly measures the risk of loss associated with foreign currency positions using a Value-at-Risk (VaR) model. 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, 2016.

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, balance sheet changes, 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; therefore, there could be a change in NII sensitivity to the extent that actual behavior differs from that assumed. The following key assumptions are incorporated into the simulation:

- the balance sheet size and mix generally 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 products such as securities (the assumed reinvestment of which is determined by management's strategies);
- non-maturity deposits, of which some recent increases are assumed to be temporary in nature; and long-term fixed rate borrowings, which upon maturity are replaced with overnight wholesale instruments;
- 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;
- non-maturity deposit pricing and lives are projected based on Northern Trust's actual historical patterns and management judgment, depending upon the availability of historical data and current pricing strategies; 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 movements in interest rates relative to forward rates. Each rate movement is assumed to occur gradually over a one-year period. Given the low level of interest rates, the simulation of NII for rates 100 and 200 basis points lower would not provide meaningful results.

Table 26: Net Interest Income Sensitivity

($ 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	$	21
200 Basis Points	38	

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

Table of Contents
MARKET RISK MANAGEMENT (continued)

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; therefore, there could be a change in MVE sensitivity to the extent that actual behavior differs from the incorporated 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 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 long 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 from current market implied forward rates. Given the low level of interest rates and assumed interest rate floors as rates approach zero, the simulation of MVE for rates 100 or 200 basis points lower would not provide meaningful results.

Table 27: Market Value of Equity Sensitivity as of September 30, 2017

($ In Millions)	Increase/(Decrease) Estimated Impact on Market Value of Equity
Increase in Interest Rates Above Market Implied Forward Rates	
100 Basis Points	$ 267
200 Basis Points	280

The MVE simulations do not incorporate any management actions that may be used to mitigate negative consequences of actual interest rate movements. For that reason and others, they do not reflect the likely actual results but serve as conservative 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.

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-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.

Table of Contents

MARKET RISK MANAGEMENT (continued)

The table below presents the levels of total regulatory VaR and its subcomponents for global foreign currency in the years 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 28: Foreign Currency Value-At-Risk

	Total VaR (Spot and Forward)		Foreign Exchange Spot VaR		Foreign Exchange Forward VaR	
($ In Millions)	September 30, 2017	June 30, 2017	September 30, 2017	June 30, 2017	September 30, 2017	June 30, 2017
High	$ 0.9	$ 1.2	$ 0.3	$ 0.4	$ 0.9	$ 1.2
Low	0.2	0.3	—	—	0.2	0.3
Average	0.5	0.8	0.1	0.1	0.4	0.7
Quarter-End	0.3	0.5	0.2	—	0.3	0.5

RECONCILIATION OF CERTAIN REPORTED ITEMS TO FULLY TAXABLE EQUIVALENTS

The tables below present reconciliations 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 29: Reconciliation of Reported Revenue and Net Interest Income to Fully Taxable Equivalent

	Three Months Ended					
	September 30, 2017			September 30, 2016		
($ In Millions)	Reported	FTE Adj.	FTE	Reported	FTE Adj.	FTE
Interest Income	$453.8	$ 12.0	$465.8	$349.2	$ 7.0	$356.2
Interest Expense	99.6	—	99.6	46.1	—	46.1
Net Interest Income	$354.2	$ 12.0	$366.2	$303.1	$ 7.0	$310.1
Net Interest Margin	1.25 %		1.29 %	1.12 %		1.14 %
Revenue	$1,345.2	$ 12.0	$1,357.2	1,213.7	7.0	1,220.7

	Nine Months Ended					
	September 30, 2017			September 30, 2016		
($ In Millions)	Reported	FTE Adj.	FTE	Reported	FTE Adj.	FTE
Interest Income	$1,281.3	$ 29.8	$1,311.1	$1,045.9	$ 20.1	$1,066.0
Interest Expense	232.1	—	232.1	135.3	—	135.3
Net Interest Income	$1,049.2	$ 29.8	$1,079.0	$910.6	$ 20.1	$930.7
Net Interest Margin	1.27 %		1.31 %	1.14 %		1.17 %
Revenue	$3,950.8	$ 29.8	$3,980.6	$3,720.4	$ 20.1	$3,740.5

RECENT ACCOUNTING PRONOUNCEMENTS AND DEVELOPMENTS

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2014-09, “Revenue from Contracts with Customers (Topic 606)” (ASU 2014-09). ASU 2014-09 is a converged standard between the FASB and the International Accounting Standards Board (IASB) that provides a single comprehensive revenue recognition model for all contracts with customers across transactions and industries. The primary objective of ASU 2014-09 is revenue recognition that represents the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. ASU 2014-09 is effective for interim and annual reporting periods beginning after December 15, 2017. Northern Trust plans to adopt ASU 2014-09 as of January 1, 2018 using the modified retrospective method.

Table of Contents

RECENT ACCOUNTING PRONOUNCEMENTS AND DEVELOPMENTS (continued)

In 2016, Northern Trust focused efforts on its assessment project as well as an extensive contract review, covering services offered in each of its respective locations throughout the world. Northern Trust recognizes the majority of its revenues “over time” under current policy and expects to continue this practice upon adoption of ASU 2014-09. ASU 2014-09 is not expected to require significant changes to revenue-related information technology applications. Northern Trust is currently developing detailed disclosures required by ASU 2014-09. Further, Northern Trust assessed the extent of changes to the control environment and is in the process of designing additional controls around contract inception and initial contract analysis. Northern Trust is substantially complete with its implementation project but will continue to evaluate certain aspects of ASU 2014-09 such as agent vs. principal considerations. ASU 2014-09 is not expected to impact significantly Northern Trust’s consolidated financial condition or results of operations.

In January 2016, the FASB issued ASU No. 2016-01, “Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities” (ASU 2016-01). ASU 2016-01 requires equity investments (except those accounted for under the equity method or those that result in consolidation) to be measured at fair value with changes in fair value recognized in net income unless a policy election is made for investments without readily determinable fair values. Additionally, ASU 2016-01 requires public entities to use the exit price notion when measuring the fair value of financial instruments for measurement purposes and eliminates the requirement to disclose the method(s) and significant assumptions used to estimate the fair value of financial instruments measured at amortized cost on the balance sheet. Furthermore, it requires separate presentation of financial assets and financial liabilities by measurement category and form of financial asset on the balance sheet or the accompanying notes to the financial statements. ASU 2016-01 is effective for interim and annual periods beginning after December 15, 2017. Although Northern Trust is currently assessing the impact of ASU 2016-01, it is not expected to impact significantly Northern Trust’s consolidated financial condition or results of operations.

In February 2016, the FASB issued 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 in the statement of financial position a liability to make lease payments, known as the lease liability, and a right-of-use asset representing its right to use the underlying asset over the lease term. ASU 2016-02 is effective for interim and annual reporting periods beginning after December 15, 2018, although early adoption is permitted. Northern Trust is currently establishing an overall governance structure and a detailed project plan for its implementation efforts, along with defining the future operating model for lease accounting and administration. Further, Northern Trust is completing its inventory of leases within the scope of ASU 2016-02 and continues to assess the impact of adoption of ASU 2016-02.

In June 2016, the FASB issued 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 has established a working group across various functions, an overall governance structure, and is currently finalizing a detailed project plan for its implementation efforts. Further, Northern Trust is assessing its current inventory of underlying credit models and the suitability of these models for the overall expected loss impairment model under ASU 2016-13. Northern Trust continues to evaluate specific application issues and the overall impact of the adoption of ASU 2016-13.

In March 2017, the FASB issued ASU No. 2017-08, “Receivables-Nonrefundable Fees and Other Costs (Subtopic 310-20): Premium Amortization on Purchased Callable Securities” (ASU 2017-08), which 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. ASU 2017-08 is effective for interim and annual reporting periods beginning after December 15, 2018, although early adoption is permitted. Northern Trust is currently assessing the impact of adoption of ASU 2017-08.

Table of Contents
RECENT ACCOUNTING PRONOUNCEMENTS AND DEVELOPMENTS (continued)

In August 2017, the FASB issued ASU No. 2017-12, “Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities” (ASU 2017-12). The main provisions of ASU 2017-12 better align an entity’s risk management activities and financial reporting for hedging relationships through changes to both the designation and measurement guidance for qualifying hedging relationships. ASU 2017-12 eliminates the requirement to separately measure and report hedge ineffectiveness and generally requires the entire change in the fair value of a hedging instrument to be presented in the same income statement line as the hedged item. Further, ASU 2017-12 eases certain documentation and assessment requirements and modifies the accounting for components excluded from the assessment of hedge effectiveness. ASU 2017-12 is effective for interim and annual reporting periods beginning after December 15, 2018, although early adoption is permitted. Northern Trust is currently assessing the impact of adoption of ASU 2017-12.

Table of Contents

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, including related to technology and regulatory initiatives; contingent liabilities; acquisitions; strategies; industry trends; and expectations regarding the impact of recent legislation and accounting pronouncements. 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, whether in the United States, Europe, the Middle East, Asia or other regions;
- 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 cyber-security or data security breach risks, 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;
- 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 changes that may affect leverage limits and risk-based capital and liquidity requirements, require financial institutions to pay higher assessments, expose financial institutions to certain liabilities of their subsidiary depository institutions, or restrict or increase the regulation of certain activities carried on by 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;
- 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 referendum held in the United Kingdom in which voters approved a departure from the European Union, commonly referred to as “Brexit,” and any 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;

Table of Contents
FORWARD-LOOKING STATEMENTS (continued)

- Northern Trust's ability to address the complex needs of a global client base and manage compliance with legal, tax, regulatory and other requirements;
- Northern Trust's ability to maintain a product mix that achieves acceptable margins;
- Northern Trust's ability to continue to generate investment results that satisfy clients and to develop an array of investment products;
- Northern Trust's success in recruiting and retaining the necessary personnel to support business growth and expansion and maintain sufficient expertise to support increasingly complex products and services;
- Northern Trust's success in implementing its expense management initiatives;
- uncertainties inherent in Northern Trust's assumptions concerning its pension plan, including discount rates and expected contributions, returns and payouts;
- Northern Trust's success in improving 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, 2016, 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 the 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.

Table of Contents

Item 1. Consolidated Financial Statements (unaudited)

CONSOLIDATED BALANCE SHEETS NORTHERN TRUST CORPORATION

(In Millions Except Share Information)	September 30, 2017 (Unaudited)	December 31, 2016
Assets		
Cash and Due from Banks	$5,262.9	$5,332.0
Federal Reserve and Other Central Bank Deposits	34,060.7	26,674.2
Interest-Bearing Deposits with Banks	5,684.4	4,800.6
Federal Funds Sold and Securities Purchased under Agreements to Resell	1,670.8	1,974.3
Securities		
Available for Sale	33,844.9	35,579.8
Held to Maturity (Fair value of $10,778.7 and $8,905.1)	10,811.0	8,921.1
Trading Account	0.8	0.3
Total Securities	44,656.7	44,501.2
Loans and Leases		
Commercial	15,203.8	15,666.7
Personal	18,132.3	18,155.4
Total Loans and Leases (Net of unearned income of $36.3 and $41.2)	33,336.1	33,822.1
Allowance for Credit Losses Assigned to Loans and Leases	(150.3)	(161.0)
Buildings and Equipment	462.5	466.6
Client Security Settlement Receivables	1,274.0	1,043.7
Goodwill	526.5	519.4
Other Assets	4,615.9	4,953.8
Total Assets	$131,400.2	$123,926.9
Liabilities		
Deposits		
Demand and Other Noninterest-Bearing	$17,402.9	$22,190.4
Savings, Money Market and Other Interest-Bearing	16,042.2	16,509.0
Savings Certificates and Other Time	1,227.4	1,331.7
Non U.S. Offices — Noninterest-Bearing	8,897.0	7,972.5
— Interest-Bearing	62,241.1	53,648.1
Total Deposits	105,810.6	101,651.7
Federal Funds Purchased	2,142.2	204.8
Securities Sold Under Agreements to Repurchase	523.9	473.7
Other Borrowings	6,052.3	5,109.5
Senior Notes	1,497.1	1,496.6
Long-Term Debt	1,663.4	1,330.9
Floating Rate Capital Debt	277.5	277.4
Other Liabilities	3,268.0	3,611.9
Total Liabilities	121,235.0	114,156.5
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 227,421,128 and 228,605,485	408.6	408.6
Additional Paid-In Capital	1,037.5	1,035.8

Retained Earnings	9,431.2	8,908.4
Accumulated Other Comprehensive Loss	(335.1)	(370.0)
Treasury Stock (17,750,396 and 16,566,039 shares, at cost)	(1,259.0)	(1,094.4)
Total Stockholders’ Equity	10,165.2	9,770.4
Total Liabilities and Stockholders’ Equity	$131,400.2	$123,926.9

See accompanying notes to the consolidated financial statements.

Table of Contents

CONSOLIDATED STATEMENTS OF INCOME (UNAUDITED) NORTHERN TRUST CORPORATION

(In Millions Except Share Information)	Three Months Ended September 30, 2017	2016	Nine Months Ended September 30, 2017	2016
Noninterest Income				
Trust, Investment and Other Servicing Fees	$867.9	$ 788.3	$2,524.3	$ 2,313.7
Foreign Exchange Trading Income	49.1	53.6	147.1	178.5
Treasury Management Fees	13.2	15.0	42.8	47.2
Security Commissions and Trading Income	21.2	20.4	65.8	59.9
Other Operating Income	40.0	33.1	122.7	212.4
Investment Security Gains (Losses), net (Note)	(0.4)	0.2	(1.1)	(1.9)
Total Noninterest Income	991.0	910.6	2,901.6	2,809.8
Net Interest Income				
Interest Income	453.8	349.2	1,281.3	1,045.9
Interest Expense	99.6	46.1	232.1	135.3
Net Interest Income	354.2	303.1	1,049.2	910.6
Provision for Credit Losses	(7.0)	(3.0)	(15.0)	(4.0)
Net Interest Income after Provision for Credit Losses	361.2	306.1	1,064.2	914.6
Noninterest Expense				
Compensation	418.3	382.1	1,276.6	1,150.4
Employee Benefits	74.8	73.2	228.2	216.0
Outside Services	172.7	157.6	492.8	466.5
Equipment and Software	130.5	114.5	391.5	346.7
Occupancy	47.3	44.2	139.0	130.4
Other Operating Expense	92.0	71.4	239.4	286.8
Total Noninterest Expense	935.6	843.0	2,767.5	2,596.8
Income before Income Taxes	416.6	373.7	1,198.3	1,127.6
Provision for Income Taxes	118.2	116.1	355.9	361.6
Net Income	$298.4	$ 257.6	$842.4	$ 766.0
Preferred Stock Dividends	17.3	5.9	43.9	17.6
Net Income Applicable to Common Stock	$281.1	$ 251.7	$798.5	$ 748.4
Per Common Share				
Net Income — Basic	$1.21	$ 1.09	$3.43	$ 3.23
— Diluted	1.20	1.08	3.41	3.21
Average Number of Common Shares Outstanding — Basic	228,010,826	226,540,086	228,751,804	227,561,218
— Diluted	229,313,645	228,055,195	230,189,289	229,040,618

Note: Changes in Other-Than-Temporary-Impairment (OTTI) Losses	$—	$ —	$(0.1)	$ (2.4)
Other Security Gains (Losses), net	(0.4)	0.2	(1.0)	0.5
Investment Security Gains (Losses), net	$(0.4)	$ 0.2	$(1.1)	$ (1.9)

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (UNAUDITED) NORTHERN TRUST CORPORATION

	Three Months Ended	Nine Months Ended

	September 30,		September 30,	
(In Millions)	2017	2016	2017	2016
Net Income	$298.4	$257.6	$842.4	$766.0
Other Comprehensive Income (Loss) (Net of Tax and Reclassifications)				
Net Unrealized (Losses) Gains on Securities Available for Sale	(2.2)	(13.9)	18.7	94.3
Net Unrealized (Losses) Gains on Cash Flow Hedges	(1.9)	—	(4.9)	6.6
Foreign Currency Translation Adjustments	3.6	(9.5)	10.5	0.7
Pension and Other Postretirement Benefit Adjustments	4.3	3.3	10.6	11.4
Other Comprehensive Income	3.8	(20.1)	34.9	113.0
Comprehensive Income	$302.2	$237.5	$877.3	$879.0

See accompanying notes to the consolidated financial statements.

Table of Contents

CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY
(UNAUDITED)

NORTHERN TRUST CORPORATION

	Nine Months Ended September 30,	
(In Millions)	2017	2016
Preferred Stock		
Series C, Balance at January 1 and September 30	$388.5	$388.5
Series D, Balance at January 1 and September 30	$493.5	$493.5
Balance at September 30	882.0	882.0
Common Stock		
Balance at January 1 and September 30	408.6	408.6
Additional Paid-in Capital		
Balance at January 1	1,035.8	1,072.3
Treasury Stock Transactions — Stock Options and Awards	(104.8)	(91.8)
Stock Options and Awards — Amortization	106.5	67.1
Stock Options and Awards — Tax Benefit	—	(9.0)
Balance at September 30	1,037.5	1,038.6
Retained Earnings		
Balance at January 1	8,908.4	8,242.8
Net Income	842.4	766.0
Dividends Declared — Common Stock	(275.7)	(255.1)
Dividends Declared — Preferred Stock	(43.9)	(17.6)
Balance at September 30	9,431.2	8,736.1
Accumulated Other Comprehensive Income (Loss)		
Balance at January 1	(370.0)	(372.7)
Net Unrealized Gains on Securities Available for Sale	18.7	94.3
Net Unrealized Gains (Losses) on Cash Flow Hedges	(4.9)	6.6
Foreign Currency Translation Adjustments	10.5	0.7
Pension and Other Postretirement Benefit Adjustments	10.6	11.4
Balance at September 30	(335.1)	(259.7)
Treasury Stock		
Balance at January 1	(1,094.4)	(1,033.6)
Stock Options and Awards	187.9	153.9
Stock Purchased	(352.5)	(346.1)
Balance at September 30	(1,259.0)	(1,225.8)
Total Stockholders' Equity at September 30	$10,165.2	$9,579.8

See accompanying notes to the consolidated financial statements.

Table of Contents

CONSOLIDATED STATEMENTS OF CASH FLOWS (UNAUDITED) NORTHERN TRUST CORPORATION

	Nine Months Ended September 30,	
(In Millions)	2017	2016
Cash Flows from Operating Activities:		
Net Income	$842.4	$766.0
Adjustments to Reconcile Net Income to Net Cash Provided by Operating Activities:		
Investment Security Losses, net	1.1	1.9
Amortization and Accretion of Securities and Unearned Income, net	88.6	65.6
Provision for Credit Losses	(15.0)	(4.0)
Depreciation on Buildings and Equipment	73.8	66.8
Amortization of Computer Software	230.4	203.6
Amortization of Intangibles	7.0	6.3
Pension Plan Contributions	(11.5)	(9.1)
Change in Receivables	(135.1)	(80.5)
Change in Interest Payable	16.5	0.7
Change in Collateral With Derivative Counterparties, net	534.8	(330.1)
Other Operating Activities, net	(763.3)	(15.7)
Net Cash Provided by Operating Activities	869.7	671.5
Cash Flows from Investing Activities:		
Net Change in Federal Funds Sold and Securities Purchased under Agreements to Resell	336.3	(445.2)
Change in Interest-Bearing Deposits with Banks	(535.6)	1,136.3
Net Change in Federal Reserve and Other Central Bank Deposits	(6,472.3)	789.7
Purchases of Securities — Held to Maturity	(7,346.3)	(5,757.3)
Proceeds from Maturity and Redemption of Securities — Held to Maturity	7,180.1	1,991.6
Purchases of Securities — Available for Sale	(6,937.6)	(11,081.1)
Proceeds from Sale, Maturity and Redemption of Securities — Available for Sale	7,607.7	7,548.0
Change in Loans and Leases	710.7	(239.3)
Purchases of Buildings and Equipment	(63.7)	(58.0)
Purchases and Development of Computer Software	(288.2)	(250.4)
Change in Client Security Settlement Receivables	(220.4)	173.8
Acquisition of a Subsidiary, Net of Cash Received	—	(16.9)
Other Investing Activities, net	63.6	956.1
Net Cash Used in Investing Activities	(5,965.7)	(5,252.7)
Cash Flows from Financing Activities:		
Change in Deposits	2,082.4	3,149.2
Change in Federal Funds Purchased	1,937.3	27.0
Change in Securities Sold under Agreements to Repurchase	50.4	(244.8)
Change in Short-Term Other Borrowings	966.4	(41.9)
Proceeds from Senior Notes and Long-Term Debt	350.0	—
Repayments of Senior Notes and Long-Term Debt	(7.0)	(4.2)
Proceeds from Issuance of Preferred Stock - Series D	—	493.5
Treasury Stock Purchased	(352.5)	(346.1)
Net Proceeds from Stock Options	83.1	62.0
Cash Dividends Paid on Common Stock	(261.2)	(246.9)
Cash Dividends Paid on Preferred Stock	(32.4)	(17.6)

Other Financing Activities, net	0.1	(8.7)
Net Cash Provided by Financing Activities	4,816.6	2,821.5
Effect of Foreign Currency Exchange Rates on Cash	210.3	233.9
Decrease in Cash and Due from Banks	(69.1)	(1,525.8)
Cash and Due from Banks at Beginning of Year	5,332.0	6,418.5
Cash and Due from Banks at End of Period	$5,262.9	$4,892.7
Supplemental Disclosures of Cash Flow Information:		
Interest Paid	$215.2	$134.1
Income Taxes Paid	348.9	596.9
Transfers from Loans to OREO	7.2	12.0

See accompanying notes to the consolidated financial statements.

Table of Contents
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, 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 September 30, 2017 and 2016, 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 by 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, 2016.
Note 2 – Recent Accounting Pronouncements
On January 1, 2017, the Corporation adopted ASU 2016-05, “Derivatives and Hedging (Topic 815): Effects of Derivative Contract Novations on Existing Hedge Accounting Relationships (a consensus of the Emerging Issues Task Force)” (ASU 2016-05). ASU 2016-05 clarifies that a change in the counterparty to a derivative instrument that has been designated as the hedging instrument under Topic 815, does not, in and of itself, require dedesignation of that hedging relationship provided all other hedge accounting criteria continue to be met. Upon adoption of ASU 2016-05, the Corporation did not dedesignate any hedging relationships due to change in counterparty and therefore there was no impact to its consolidated financial condition or results of operations.
On January 1, 2017, the Corporation adopted ASU 2016-06, “Derivatives and Hedging (Topic 815): Contingent Put and Call Options in Debt Instruments (a consensus of the Emerging Issues Task Force)” (ASU 2016-06). The amendments in ASU 2016-06 clarify what steps are required when assessing whether the economic characteristics and risks of call (put) options are clearly and closely related to the economic characteristics and risks of their debt hosts, which is one of the criteria for bifurcating an embedded derivative. The Corporation currently applies the approach for analyzing potential embedded derivative instruments in debt instruments detailed in ASU 2016-06 and therefore upon adoption there was no impact to its consolidated financial condition or results of operations.
On January 1, 2017, the Corporation adopted ASU 2016-07, “Investments - Equity Method and Joint Ventures (Topic 323), Simplifying the Transition to the Equity Method of Accounting” (ASU 2016-07), which requires that when an investment qualifies for use of the equity method as a result of an increase in the level of ownership interest or degree of influence, the equity method investor add the cost of acquiring the additional interest in the investee to the current basis of the investor’s previously held interest and adopt the equity method of accounting as of the date the investment becomes qualified for equity method accounting. Upon adoption of ASU 2016-07, the Corporation did not hold an interest in an investee that subsequently qualified for the use of the equity method and therefore there was no impact to the Corporation’s consolidated financial condition or results of operations.
On January 1, 2017, the Corporation adopted ASU 2016-17, “Consolidation (Topic 810): Interests Held through Related Parties That Are under Common Control” (ASU 2016-17). Under ASU 2016-17, a single decision maker evaluating whether it is the primary beneficiary of a variable interest entity will consider its indirect interests held by related parties that are under common control on a proportionate basis. Upon adoption of ASU 2016-17, there was no impact to the Corporation’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 nine months ended September 30, 2017 or the year ended December 31, 2016.

Table of Contents

Level 1 — Quoted, active market prices for identical assets or liabilities.
Northern Trust's Level 1 assets are comprised of available for sale investments in U.S. treasury securities.
Level 2 — Observable inputs other than Level 1 prices, such as quoted active market prices for similar assets or liabilities, quoted prices for identical or similar assets in inactive markets, and model-derived valuations in which all significant inputs are observable in active markets.
Northern Trust's Level 2 assets include available for sale and trading account 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 September 30, 2017, Northern Trust's available for sale securities portfolio included 1,428 Level 2 securities with an aggregate market value of $28.1 billion. All 1,428 securities were valued by external pricing vendors. As of December 31, 2016, Northern Trust's available for sale securities portfolio included 1,409 Level 2 securities with an aggregate market value of $28.1 billion. All 1,409 securities were valued by external pricing vendors. Trading account securities, which totaled $0.8 million and $0.3 million as of September 30, 2017 and December 31, 2016, respectively, were all valued using external pricing vendors.
Level 2 assets and liabilities also include derivative contracts which are valued internally using widely accepted income-based models that incorporate inputs readily observable in actively quoted markets and reflect the contractual terms of the contracts. Observable inputs include foreign exchange rates and interest rates for foreign exchange contracts; 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 assets consist of auction rate securities purchased in 2008 from Northern Trust clients. To estimate the fair value of auction rate securities, Northern Trust uses external pricing vendors that incorporate transaction details and market- based inputs such as past auction results, trades and bids. The significant unobservable inputs used in the fair value measurement are the prices of the securities supported by little market activity and for which trading is limited.
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 19 — "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.

38

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

The following presents the fair values of, and the valuation techniques, significant unobservable inputs, and quantitative information used to develop significant unobservable inputs for, Northern Trust’s Level 3 assets and liabilities as of September 30, 2017 and December 31, 2016.

Table 30: Level 3 Significant Unobservable Inputs

	September 30, 2017			
Financial Instrument	Fair Value	Valuation Technique	Unobservable Inputs	Range of Inputs
Auction Rate Securities	$4.1 million	Comparables	Price	$87 – 99
Swaps Related to Sale of Certain Visa Class B Common Shares	$27.7 million	Discounted Cash Flow	Visa Class A Appreciation	7.0 % – 11.0%
			Conversion Rate	1.63x – 1.65x
			Expected Duration	1.5 – 4.0 years

	December 31, 2016			
Financial Instrument	Fair Value	Valuation Technique	Unobservable Inputs	Range of Inputs
Auction Rate Securities	$4.7 million	Comparables	Price	$84 – 99
Swap Related to Sale of Certain Visa Class B Common Shares	$25.2 million	Discounted Cash Flow	Visa Class A Appreciation	7.0 % – 11.0%
			Conversion Rate	1.63x – 1.65x
			Expected Duration	1.5 – 4.5 years

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

The following tables present assets and liabilities measured at fair value on a recurring basis as of September 30, 2017 and December 31, 2016, segregated by fair value hierarchy level.

Table 31: Recurring Basis Hierarchy Leveling

(In Millions)	Level 1	Level 2	Level 3	Netting	Assets/Liabilities at Fair Value
September 30, 2017					
Securities					
Available for Sale					
U.S. Government	$5,744.4	$—	$ —	$—	$ 5,744.4
Obligations of States and Political Subdivisions	—	765.9	—	—	765.9
Government Sponsored Agency	—	18,082.8	—	—	18,082.8
Non-U.S. Government	—	138.7	—	—	138.7
Corporate Debt	—	3,181.3	—	—	3,181.3
Covered Bonds	—	832.1	—	—	832.1
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	—	2,202.8	—	—	2,202.8
Other Asset-Backed	—	2,394.3	—	—	2,394.3
Auction Rate	—	—	4.1	—	4.1
Commercial Mortgage-Backed	—	466.5	—	—	466.5
Other	—	32.0	—	—	32.0
Total Available for Sale	5,744.4	28,096.4	4.1	—	33,844.9
Trading Account	—	0.8	—	—	0.8
Total Available for Sale and Trading Securities	5,744.4	28,097.2	4.1	—	33,845.7
Other Assets					
Derivative Assets					
Foreign Exchange Contracts	—	3,100.1	—	—	3,100.1
Interest Rate Contracts	—	117.1	—	—	117.1
Total Derivative Assets	—	3,217.2	—	(2,373.5)	843.7
Other Liabilities					
Derivative Liabilities					
Foreign Exchange Contracts	—	3,168.6	—	—	3,168.6
Interest Rate Contracts	—	84.1	—	—	84.1
Other Financial Derivatives (1)	—	—	27.7	—	27.7
Total Derivative Liabilities	$—	$3,252.7	$ 27.7	$(2,089.8)	$ 1,190.6

Note: Northern Trust has elected to net derivative assets and liabilities when legally enforceable master netting arrangements or similar agreements exist between Northern Trust and the counterparty. As of September 30, 2017, derivative assets and liabilities shown above also include reductions of $617.9 million and $334.2 million, respectively, as a result of cash collateral received from and deposited with derivative counterparties.

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

Table of Contents

Notes to Consolidated Financial Statements (unaudited) (continued)

(In Millions)	Level 1	Level 2	Level 3	Netting	Assets/Liabilities at Fair Value
December 31, 2016					
Securities					
Available for Sale					
U.S. Government	$7,522.6	$—	$ —	$—	$ 7,522.6
Obligations of States and Political Subdivisions	—	885.2	—	—	885.2
Government Sponsored Agency	—	17,892.8	—	—	17,892.8
Non-U.S. Government	—	417.9	—	—	417.9
Corporate Debt	—	3,765.2	—	—	3,765.2
Covered Bonds	—	1,143.9	—	—	1,143.9
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	—	1,340.7	—	—	1,340.7
Other Asset-Backed	—	2,085.1	—	—	2,085.1
Auction Rate	—	—	4.7	—	4.7
Commercial Mortgage-Backed	—	471.6	—	—	471.6
Other	—	50.1	—	—	50.1
Total Available for Sale	7,522.6	28,052.5	4.7	—	35,579.8
Trading Account	—	0.3	—	—	0.3
Total Available for Sale and Trading Securities	7,522.6	28,052.8	4.7	—	35,580.1
Other Assets					
Derivative Assets					
Foreign Exchange Contracts	—	3,609.6	—	—	3,609.6
Interest Rate Contracts	—	247.2	—	—	247.2
Total Derivative Assets	—	3,856.8	—	(2,170.4)	1,686.4
Other Liabilities					
Derivative Liabilities					
Foreign Exchange Contracts	—	3,242.9	—	—	3,242.9
Interest Rate Contracts	—	108.0	—	—	108.0
Other Financial Derivatives [1]	—	—	25.2	—	25.2
Total Derivative Liabilities	$—	$3,350.9	$ 25.2	$(2,431.2)	$ 944.9

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, 2016, derivative assets and liabilities shown above also include reductions of $461.3 million and $722.1 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.

41

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

The following tables present the changes in Level 3 assets and liabilities for the three and nine months ended September 30, 2017 and 2016.

Table 32: Changes in Level 3 Assets

Level 3 Assets (In Millions)	Auction Rate Securities	
Three Months Ended September 30,	2017	2016
Fair Value at July 1	$4.1	$6.1
Total Gains (Losses):		
Included in Earnings	—	—
Included in Other Comprehensive Income [1]	—	(0.1)
Purchases, Issues, Sales, and Settlements		
Sales	—	—
Settlements	—	(0.2)
Fair Value at September 30	$4.1	$5.8

Nine Months Ended September 30,	2017	2016
Fair Value at January 1	$4.7	$17.1
Total Gains (Losses):		
Included in Earnings	—	—
Included in Other Comprehensive Income [1]	—	(0.7)
Purchases, Issues, Sales, and Settlements		
Sales	—	(10.1)
Settlements	(0.6)	(0.5)
Fair Value at September 30	$4.1	$5.8

(1) Unrealized gains (losses) are included in net unrealized gains (losses) on securities available for sale in the consolidated statements of comprehensive income.

Table 33: Changes in Level 3 Liabilities

Level 3 Liabilities (In Millions)	Swaps Related to Sale of Certain Visa Class B Common Shares	
Three Months Ended September 30,	2017	2016
Fair Value at July 1	$ 25.9	$ 28.7
Total (Gains) Losses:		
Included in Earnings [1]	4.0	2.3
Purchases, Issues, Sales, and Settlements		
Purchases	—	—
Settlements	(2.2)	(1.5)
Fair Value at September 30	$ 27.7	$ 29.5

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

Nine Months Ended September 30,	2017	2016
Fair Value at January 1	$25.2	$10.8
Total (Gains) Losses:		
Included in Earnings [1]	8.4	6.9
Purchases, Issues, Sales, and Settlements		
Purchases	—	14.9
Settlements	(5.9)	(3.1)
Fair Value at September 30	$27.7	$29.5

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

During the nine months ended September 30, 2017 and 2016, there were no transfers into or out of Level 3 assets or 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 disclose separately these subsequent fair value measurements and to classify them under the fair value hierarchy.

Assets measured at fair value on a nonrecurring basis at September 30, 2017 and 2016, 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 $12.6 million and $1.4 million, respectively, at September 30, 2017, and $6.7 million and $1.8 million, respectively, at September 30, 2016. Assets measured at fair value on a nonrecurring basis reflect management's judgment as to realizable value.

The following table provides the fair value of, and the valuation technique, significant unobservable inputs and quantitative information used to develop the significant unobservable inputs for, Northern Trust's Level 3 assets that were measured at fair value on a nonrecurring basis as of September 30, 2017 and December 31, 2016.

Table 34: Level 3 Nonrecurring Basis Significant Unobservable Inputs

	September 30, 2017			
Financial Instrument	Fair Value	Valuation Technique	Unobservable Input	Range of Discounts Applied
Loans	$12.6 million	Market Approach	Discount to reflect realizable value	15.0%-25.0%
OREO	$1.4 million	Market Approach	Discount to reflect realizable value	15.0%-20.0%

	December 31, 2016			
Financial Instrument	Fair Value	Valuation Technique	Unobservable Input	Range of Discounts Applied
Loans	$6.7 million	Market Approach	Discount to reflect realizable value	15.0%-25.0%
OREO	$0.7 million	Market Approach	Discount to reflect realizable value	15.0%-20.0%

Fair Value of Financial Instruments. GAAP requires disclosure of the estimated fair value of certain financial instruments and the methods and significant assumptions used to estimate fair value. It excludes from this requirement nonfinancial assets and liabilities, as well as a wide range of franchise, relationship and intangible values that add value to Northern Trust. Accordingly, the required fair value disclosures provide only a partial estimate of the fair value of Northern Trust. Financial instruments recorded

Table of Contents

at fair value in Northern Trust's consolidated balance sheets are discussed above. The following methods and assumptions were used in estimating the fair values of financial instruments that are not carried at fair value.

Held to Maturity Securities. The fair values of held to maturity securities, excluding U.S. Treasury securities, were obtained from external pricing vendors, or in limited cases internally, using widely accepted models which are based on an income approach (discounted cash flow) that incorporates current market yield curves. The fair values of U.S. Treasury securities were determined using quoted, active market prices for identical securities.

Loans (excluding lease receivables). The fair value of the loan portfolio was estimated using an income approach (discounted cash flow) that incorporates current market rates offered by Northern Trust as of the date of the consolidated financial statements. The fair values of all loans were adjusted to reflect current assessments of loan collectability. Loans held for sale are recorded at the lower of cost or fair value.

Federal Reserve and Federal Home Loan Bank Stock. The fair values of Federal Reserve and Federal Home Loan Bank stock are equal to their carrying values which represent redemption value.

Community Development Investments. The fair values of these instruments were estimated using an income approach (discounted cash flow) that incorporates current market rates.

Employee Benefit and Deferred Compensation. These assets include U.S. Treasury securities and investments in mutual and collective trust funds held to fund certain supplemental employee benefit obligations and deferred compensation plans. Fair values of U.S. Treasury securities were determined using quoted, active market prices for identical securities. The fair values of investments in mutual and collective trust funds were valued at the funds' net asset values based on a market approach.

Savings Certificates and Other Time Deposits. The fair values of these instruments were estimated using an income approach (discounted cash flow) that incorporates market interest rates currently offered by Northern Trust for deposits with similar maturities.

Senior Notes, Subordinated Debt, and Floating Rate Capital Debt. Fair values were determined using a market approach based on quoted market prices, when available. If quoted market prices were not available, fair values were based on quoted market prices for comparable instruments.

Federal Home Loan Bank Borrowings. The fair values of these instruments were estimated using an income approach (discounted cash flow) that incorporates market interest rates available to Northern Trust.

Loan Commitments. The fair values of loan commitments represent the estimated costs to terminate or otherwise settle the obligations with a third party adjusted for any related allowance for credit losses.

Standby Letters of Credit. The fair values of standby letters of credit are measured as the amount of unamortized fees on these instruments, inclusive of the related allowance for credit losses. Fees are determined by applying basis points to the principal amounts of the letters of credit.

Financial Instruments Valued at Carrying Value. Due to their short maturity, the carrying values of certain financial instruments approximated their fair values. These financial instruments include: cash and due from banks; federal funds sold and securities purchased under agreements to resell; interest-bearing deposits with banks; Federal Reserve and other central bank deposits; client security settlement receivables; non-U.S. offices interest-bearing deposits; federal funds purchased; securities sold under agreements to repurchase; and other borrowings (includes term federal funds purchased and other short-term borrowings). The fair values of demand, noninterest-bearing, savings, and money market deposits represent the amounts payable on demand as of the reporting date, although such deposits are typically priced at a premium in banking industry consolidations.

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

The following tables summarize the fair values of all financial instruments.
Table 35: Fair Value of Financial Instruments

(In Millions)	September 30, 2017				
	Book Value	Total Fair Value	Fair Value Level 1	Level 2	Level 3
Assets					
Cash and Due from Banks	$5,262.9	$5,262.9	$5,262.9	$—	$ —
Federal Reserve and Other Central Bank Deposits	34,060.7	34,060.7	—	34,060.7	—
Interest-Bearing Deposits with Banks	5,684.4	5,684.4	—	5,684.4	—
Federal Funds Sold and Resell Agreements	1,670.8	1,670.8	—	1,670.8	—
Securities					
Available for Sale (Note)	33,844.9	33,844.9	5,744.4	28,096.4	4.1
Held to Maturity	10,811.0	10,778.7	23.9	10,754.8	—
Trading Account	0.8	0.8	—	0.8	—
Loans (excluding Leases)					
Held for Investment	32,950.3	33,077.6	—	—	33,077.6
Held for Sale	—	—	—	—	—
Client Security Settlement Receivables	1,274.0	1,274.0	—	1,274.0	—
Other Assets					
Federal Reserve and Federal Home Loan Bank Stock	248.1	248.1	—	248.1	—
Community Development Investments	333.8	345.0	—	345.0	—
Employee Benefit and Deferred Compensation	180.3	180.7	118.0	62.7	—
Liabilities					
Deposits					
Demand, Noninterest-Bearing, Savings, Money Market and Other Interest-Bearing	$42,342.1	$42,342.1	$42,342.1	$—	$ —
Savings Certificates and Other Time	1,227.4	1,229.2	—	1,229.2	—
Non U.S. Offices Interest-Bearing	62,241.1	62,241.1	—	62,241.1	—
Federal Funds Purchased	2,142.2	2,142.2	—	2,142.2	—
Securities Sold under Agreements to Repurchase	523.9	523.9	—	523.9	—
Other Borrowings	6,052.3	6,053.3	—	6,053.3	—
Senior Notes	1,497.1	1,541.4	—	1,541.4	—
Long Term Debt (excluding Leases)					
Subordinated Debt	1,647.3	1,657.8	—	1,657.8	—
Floating Rate Capital Debt	277.5	259.3	—	259.3	—
Other Liabilities					
Standby Letters of Credit	34.9	34.9	—	—	34.9
Loan Commitments	29.6	29.6	—	—	29.6
Derivative Instruments					
Asset/Liability Management					
Foreign Exchange Contracts					
Assets	$52.7	$52.7	$—	$52.7	$ —
Liabilities	166.3	166.3	—	166.3	—
Interest Rate Contracts					
Assets	35.6	35.6	—	35.6	—
Liabilities	16.8	16.8	—	16.8	—
Other Financial Derivatives					

Liabilities [1]	27.7	27.7	—	—	27.7
Client-Related and Trading					
Foreign Exchange Contracts					
Assets	3,047.4	3,047.4	—	3,047.4	—
Liabilities	3,002.2	3,002.2	—	3,002.2	—
Interest Rate Contracts					
Assets	81.5	81.5	—	81.5	—
Liabilities	67.3	67.3	—	67.3	—

Note: Refer to the table located on page 40 for the disaggregation of available for sale securities.

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

Table of Contents

Notes to Consolidated Financial Statements (unaudited) (continued)

(In Millions)	December 31, 2016				
	Book Value	Total Fair Value	Fair Value Level 1	Level 2	Level 3
Assets					
Cash and Due from Banks	$5,332.0	$5,332.0	$5,332.0	$ —	$ —
Federal Reserve and Other Central Bank Deposits	26,674.2	26,674.2	—	26,674.2	—
Interest-Bearing Deposits with Banks	4,800.6	4,800.6	—	4,800.6	—
Federal Funds Sold and Resell Agreements	1,974.3	1,974.3	—	1,974.3	—
Securities					
Available for Sale (Note)	35,579.8	35,579.8	7,522.6	28,052.5	4.7
Held to Maturity	8,921.1	8,905.1	15.0	8,890.1	—
Trading Account	0.3	0.3	—	0.3	—
Loans (excluding Leases)					
Held for Investment	33,354.1	33,471.3	—	—	33,471.3
Held for Sale	13.4	13.4	—	—	13.4
Client Security Settlement Receivables	1,043.7	1,043.7	—	1,043.7	—
Other Assets					
Federal Reserve and Federal Home Loan Bank Stock	203.1	203.1	—	203.1	—
Community Development Investments	218.9	215.5	—	215.5	—
Employee Benefit and Deferred Compensation	166.2	162.5	107.2	55.3	—
Liabilities					
Deposits					
Demand, Noninterest-Bearing, Savings, Money Market and Other Interest-Bearing	$46,671.9	$46,671.9	$46,671.9	$ —	$ —
Savings Certificates and Other Time	1,331.7	1,337.5	—	1,337.5	—
Non U.S. Offices Interest-Bearing	53,648.1	53,648.1	—	53,648.1	—
Federal Funds Purchased	204.8	204.8	—	204.8	—
Securities Sold under Agreements to Repurchase	473.7	473.7	—	473.7	—
Other Borrowings	5,109.5	5,113.4	—	5,113.4	—
Senior Notes	1,496.6	1,535.5	—	1,535.5	—
Long Term Debt (excluding Leases)					
Subordinated Debt	1,307.9	1,316.0	—	1,316.0	—
Floating Rate Capital Debt	277.4	251.0	—	251.0	—
Other Liabilities					
Standby Letters of Credit	37.2	37.2	—	—	37.2
Loan Commitments	41.2	41.2	—	—	41.2
Derivative Instruments					
Asset/Liability Management					
Foreign Exchange Contracts					
Assets	$335.4	$335.4	$—	$ 335.4	$ —
Liabilities	21.2	21.2	—	21.2	—
Interest Rate Contracts					
Assets	160.2	160.2	—	160.2	—
Liabilities	22.8	22.8	—	22.8	—
Other Financial Derivatives					
Liabilities [1]	25.2	25.2	—	—	25.2
Client-Related and Trading					

Foreign Exchange Contracts					
Assets	3,274.2	3,274.2	—	3,274.2	—
Liabilities	3,221.7	3,221.7	—	3,221.7	—
Interest Rate Contracts					
Assets	87.0	87.0	—	87.0	—
Liabilities	85.2	85.2	—	85.2	—

Note: Refer to the table located on page 41 for the disaggregation of available for sale securities.

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

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

Note 4 – Securities
The following tables provide the amortized cost and fair values of securities at September 30, 2017 and December 31, 2016.
Table 36: Reconciliation of Amortized Cost to Fair Value of Securities Available for Sale

Securities Available for Sale	September 30, 2017			
(In Millions)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. Government	$5,731.6	$24.2	$11.4	$5,744.4
Obligations of States and Political Subdivisions	766.3	0.3	0.7	765.9
Government Sponsored Agency	18,101.4	43.1	61.7	18,082.8
Non-U.S. Government	139.9	—	1.2	138.7
Corporate Debt	3,194.3	3.6	16.6	3,181.3
Covered Bonds	833.5	1.5	2.9	832.1
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	2,202.6	4.0	3.8	2,202.8
Other Asset-Backed	2,394.0	2.4	2.1	2,394.3
Auction Rate	4.4	—	0.3	4.1
Commercial Mortgage-Backed	469.0	—	2.5	466.5
Other	32.0	—	—	32.0
Total	$33,869.0	$79.1	$103.2	$33,844.9

Securities Available for Sale	December 31, 2016			
(In Millions)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. Government	$7,514.5	$22.4	$14.3	$7,522.6
Obligations of States and Political Subdivisions	890.8	—	5.6	885.2
Government Sponsored Agency	17,914.1	49.3	70.6	17,892.8
Non-U.S. Government	420.0	—	2.1	417.9
Corporate Debt	3,787.4	2.6	24.8	3,765.2
Covered Bonds	1,148.6	0.8	5.5	1,143.9
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	1,343.6	0.9	3.8	1,340.7
Other Asset-Backed	2,083.7	2.7	1.3	2,085.1
Auction Rate	5.0	—	0.3	4.7
Commercial Mortgage-Backed	474.1	—	2.5	471.6
Other	50.1	—	—	50.1
Total	$35,631.9	$78.7	$130.8	$35,579.8

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

Table 37: Reconciliation of Amortized Cost to Fair Value of Securities Held to Maturity

Securities Held to Maturity	September 30, 2017			
	Amortized Cost	Gross Unrealized		Fair Value
(In Millions)		Gains	Losses	
U.S Government	$23.9	$—	$—	$23.9
Obligations of States and Political Subdivisions	44.8	2.0	—	46.8
Government Sponsored Agency	6.3	0.4	—	6.7
Corporate Debt	327.1	0.8	—	327.9
Covered Bonds	2,777.4	13.1	3.5	2,787.0
Non-U.S. Government	3,609.2	1.5	8.1	3,602.6
Certificates of Deposit	153.4	—	0.1	153.3
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	2,650.4	5.7	6.8	2,649.3
Other Asset-Backed	1,030.4	0.7	0.7	1,030.4
Other	188.1	—	37.3	150.8
Total	$10,811.0	$24.2	$56.5	$10,778.7

Securities Held to Maturity	December 31, 2016			
	Amortized Cost	Gross Unrealized		Fair Value
(In Millions)		Gains	Losses	
U.S Government	$15.0	$—	$—	$15.0
Obligations of States and Political Subdivisions	63.6	2.7	—	66.3
Government Sponsored Agency	7.4	0.5	—	7.9
Corporate Debt	231.2	0.2	0.4	231.0
Covered Bonds	2,051.6	10.1	3.7	2,058.0
Non-U.S. Government	3,517.5	4.9	2.3	3,520.1
Certificates of Deposit	606.0	0.2	0.1	606.1
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	2,154.7	10.5	2.8	2,162.4
Other Asset-Backed	143.4	0.1	—	143.5
Other	130.7	—	35.9	94.8
Total	$8,921.1	$29.2	$45.2	$8,905.1

Securities held to maturity consist of debt securities that management intends to, and Northern Trust has the ability to, hold until maturity. During the three months ended September 30, 2017, approximately $1.0 billion of securities reflected in Other Asset-Backed, Covered Bonds, Sub-Sovereign, Supranational and Non-U.S. Agency Bonds, and Corporate Debt were transferred from available for sale to held to maturity.

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

The following table provides the remaining maturity of securities as of September 30, 2017.
Table 38: Remaining Maturity of Securities Available for Sale and Held to Maturity

(In Millions)	September 30, 2017 Amortized Cost	Fair Value
Available for Sale		
Due in One Year or Less	$6,343.8	$6,337.3
Due After One Year Through Five Years	20,521.1	20,506.8
Due After Five Years Through Ten Years	6,105.8	6,108.4
Due After Ten Years	898.3	892.4
Total	33,869.0	33,844.9
Held to Maturity		
Due in One Year or Less	3,355.6	3,357.6
Due After One Year Through Five Years	6,995.0	6,991.9
Due After Five Years Through Ten Years	399.5	393.3
Due After Ten Years	60.9	35.9
Total	$10,811.0	$10,778.7

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 $0.4 million were recognized in the three months ended September 30, 2017. Net investment security gains of $0.2 million were recognized in the three months ended September 30, 2016. Gross proceeds from the sale of securities during the three months ended September 30, 2017 and 2016 were $398.8 million and $217.2 million, respectively.

There were $1.1 million of net investment security losses recognized in the nine months ended September 30, 2017, which include $0.1 million of charges related to the OTTI of certain CRA-eligible held to maturity securities. Net investment security losses of $1.9 million were recognized in the nine months ended September 30, 2016, which include $2.4 million of charges related to the OTTI of certain CRA-eligible held to maturity securities. For the nine months ended September 30, 2017, proceeds of $1.9 billion were received from the sale of securities, resulting in gross realized gains and losses of $0.2 million and $1.3 million, respectively. For the nine months ended September 30, 2016, proceeds of $740.8 million were received from the sale of securities, resulting in gross realized gains of $0.5 million.

Table of Contents

Notes to Consolidated Financial Statements (unaudited) (continued)

Securities with Unrealized Losses. The following tables provide information regarding securities that had been in a continuous unrealized loss position for less than twelve months and for twelve months or longer as of September 30, 2017 and December 31, 2016.

Table 39: Securities with Unrealized Losses

Securities with Unrealized Losses as of September 30, 2017	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	$2,109.7	$ 9.4	$99.9	$ 2.0	$2,209.6	$ 11.4
Obligations of States and Political Subdivisions	586.9	0.7	—	—	586.9	0.7
Government Sponsored Agency	7,032.9	46.4	2,808.3	15.3	9,841.2	61.7
Non-U.S. Government	2,972.5	9.3	—	—	2,972.5	9.3
Corporate Debt	1,229.9	5.2	941.7	11.4	2,171.6	16.6
Covered Bonds	1,069.8	6.4	—	—	1,069.8	6.4
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	2,350.6	9.8	309.2	0.8	2,659.8	10.6
Other Asset-Backed	1,347.3	2.8	—	—	1,347.3	2.8
Certificates of Deposit	61.1	0.1	—	—	61.1	0.1
Auction Rate	—	—	3.7	0.3	3.7	0.3
Commercial Mortgage-Backed	466.5	2.5	—	—	466.5	2.5
Other	98.4	17.7	53.2	19.6	151.6	37.3
Total	$19,325.6	$ 110.3	$4,216.0	$ 49.4	$23,541.6	$ 159.7

Securities with Unrealized Losses as of December 31, 2016	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	$1,603.0	$ 14.3	$—	$ —	$1,603.0	$ 14.3
Obligations of States and Political Subdivisions	865.3	5.6	—	—	865.3	5.6
Government Sponsored Agency	8,252.5	58.5	2,121.0	12.1	10,373.5	70.6
Non-U.S. Government	2,957.1	4.4	—	—	2,957.1	4.4
Corporate Debt	1,601.7	11.2	1,054.4	14.0	2,656.1	25.2
Covered Bonds	809.0	8.6	138.9	0.6	947.9	9.2
Sub-Sovereign, Supranational and Non-U.S. Agency Bonds	1,136.1	5.7	249.1	0.9	1,385.2	6.6
Other Asset-Backed	584.3	1.3	—	—	584.3	1.3
Certificates of Deposit	81.4	0.1	—	—	81.4	0.1
Auction Rate	0.4	0.1	4.3	0.2	4.7	0.3
Commercial Mortgage-Backed	471.5	2.5	—	—	471.5	2.5
Other	50.5	17.9	59.7	18.0	110.2	35.9
Total	$18,412.8	$ 130.2	$3,627.4	$ 45.8	$22,040.2	$ 176.0

As of September 30, 2017, 1,130 securities with a combined fair value of $23.5 billion were in an unrealized loss position, with their unrealized losses totaling $159.7 million. Unrealized losses of $61.7 million related to government sponsored agency securities are primarily attributable to changes in market interest rates since their purchase. Unrealized losses of $16.6 million within corporate debt securities primarily reflect higher market rates since purchase; 37% of the corporate debt portfolio is backed by guarantees provided by U.S. and non-U.S. governmental entities.

The majority of the $37.3 million of unrealized losses in securities classified as “other” at September 30, 2017, related to 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. Unrealized losses of $0.3 million

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

related to auction rate securities primarily reflected reduced market liquidity as a majority of auctions continued to fail, preventing holders from liquidating their investments at par. The remaining unrealized losses on Northern Trust's securities portfolio as of September 30, 2017, were attributable to changes in overall market interest rates, increased credit spreads or reduced market liquidity. As of September 30, 2017, 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.

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 was 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.

There were no OTTI losses recognized during the three-month periods ended September 30, 2017 and 2016, related to CRA-eligible mortgage-backed securities. There were $0.1 million and $2.4 million of OTTI losses recognized in the nine months ended September 30, 2017 and 2016, respectively, related to CRA-eligible mortgage-backed securities.

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 40: Cumulative Credit-Related Losses on Securities

	Three Months Ended September 30,		Nine Months Ended September 30,	
(In Millions)	2017	2016	2017	2016
Cumulative Credit-Related Losses on Securities Held — Beginning of Period	$3.5	$7.6	$3.4	$5.2
Plus: Losses on Newly Identified Impairments	—	—	—	0.3
Additional Losses on Previously Identified Impairments	—	—	0.1	2.1
Less: Current and Prior Period Losses on Securities Sold During the Period	—	—	—	—
Cumulative Credit-Related Losses on Securities Held — End of Period	$3.5	$7.6	$3.5	$7.6

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.

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

The following table provides information regarding repurchase agreements that are accounted for as secured borrowings as of September 30, 2017.

Table 41: Repurchase Agreements Accounted for as Secured Borrowings

(In Millions)	September 30, 2017 Remaining Contractual Maturity of the Agreements
Repurchase Agreements	Overnight and Continuous
U.S. Treasury and Agency Securities	$ 523.9
Total Borrowings	$ 523.9
Gross Amount of Recognized Liabilities for Repurchase Agreements in Note 21	$ 523.9
Amounts related to agreements not included in Note 21	$ —

Note 6 – Loans and Leases

Effective for the period ended June 30, 2017, the Corporation implemented a change in the classification of certain loans and leases to enhance the consistency of its reporting across various regulatory regimes. As a result, prior-period loan and lease balances below have been adjusted to conform with current-period presentation. These adjustments generally reflect reclassification of loans and leases from the commercial and institutional class to the residential real estate class. There was no impact on total loans and leases previously reported. The previously reported allowance for credit losses remains unadjusted, as the impact of the reclassification on the allowance was immaterial.

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

Table 42: Loans and Leases

(In Millions)	September 30, 2017	December 31, 2016
Commercial		
Commercial and Institutional	$ 9,246.4	$ 9,287.4
Commercial Real Estate	3,605.9	4,002.5
Non-U.S.	1,650.8	1,877.8
Lease Financing, net	235.7	293.9
Other	465.0	205.1
Total Commercial	15,203.8	15,666.7
Personal		
Private Client	10,678.7	10,052.0
Residential Real Estate	7,394.9	8,077.5
Other	58.7	25.9
Total Personal	18,132.3	18,155.4
Total Loans and Leases	33,336.1	33,822.1
Allowance for Credit Losses Assigned to Loans and Leases	(150.3)	(161.0)
Net Loans and Leases	$ 33,185.8	$ 33,661.1

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 September 30, 2017 and December 31, 2016, equity credit lines totaled $1.0 billion and $1.2 billion, respectively, and equity credit lines for which first liens were held by Northern Trust represented 92% and 91% of the total equity credit lines as of September 30, 2017 and December 31, 2016, 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 $1.3 billion at September 30, 2017, and $1.4 billion at December 31, 2016.

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

Demand deposits reclassified as loan balances totaled $154.5 million and $88.1 million at September 30, 2017 and December 31, 2016, respectively. There were no loans classified as held for sale as of September 30, 2017. Loans classified as held for sale totaled $13.4 million as of December 31, 2016. Leases classified as held for sale totaled $32.6 million as of September 30, 2017 and $43.0 million as of December 31, 2016, respectively, related to the decision to exit a non-strategic loan and lease portfolio.

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.

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.

Notes to Consolidated Financial Statements (unaudited) (continued)

Loan and lease segment and class balances as of September 30, 2017 and December 31, 2016 are provided below, segregated by borrower ratings into "1 to 3," "4 to 5" and "6 to 9" (watch list), categories.

Table 43: Borrower Ratings

(In Millions)	September 30, 2017 1 to 3 Category	4 to 5 Category	6 to 9 Category (Watch List)	Total	December 31, 2016 1 to 3 Category	4 to 5 Category	6 to 9 Category (Watch List)	Total
Commercial								
Commercial and Institutional	$6,032.2	$3,106.9	$ 107.3	$9,246.4	$6,187.2	$3,013.9	$ 86.3	$9,287.4
Commercial Real Estate	1,304.0	2,282.5	19.4	3,605.9	1,825.7	2,134.8	42.0	4,002.5
Non-U.S.	705.8	943.2	1.8	1,650.8	602.8	1,273.5	1.5	1,877.8
Lease Financing, net	194.2	41.5	—	235.7	214.3	79.6	—	293.9
Other	332.8	132.2	—	465.0	135.5	67.9	1.7	205.1
Total Commercial	8,569.0	6,506.3	128.5	15,203.8	8,965.5	6,569.7	131.5	15,666.7
Personal								
Private Client	6,572.6	4,096.4	9.7	10,678.7	6,373.2	3,668.4	10.4	10,052.0
Residential Real Estate	2,645.1	4,442.3	307.5	7,394.9	2,723.8	5,008.5	345.2	8,077.5
Other	42.0	16.7	—	58.7	17.1	8.5	0.3	25.9
Total Personal	9,259.7	8,555.4	317.2	18,132.3	9,114.1	8,685.4	355.9	18,155.4
Total Loans and Leases	$17,828.7	$15,061.7	$ 445.7	$33,336.1	$18,079.6	$15,255.1	$ 487.4	$33,822.1

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

Loans and leases in the "4 to 5" category are expected to exhibit moderate to acceptable probabilities of default and are characterized by borrowers with less financial flexibility than those in the "1 to 3" category. Cash flows and capital levels are generally sufficient to allow for borrowers to meet current requirements, but have reduced cushion in adverse down cycle scenarios. 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

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

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.

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 tables provide 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 September 30, 2017 and December 31, 2016.

Table 44: Delinquency Status

September 30, 2017

(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	$9,229.0	$ 3.2	$ 3.4	$ 2.0	$9,237.6	$ 8.8	$ 9,246.4
Commercial Real Estate	3,597.1	0.5	—	—	3,597.6	8.3	3,605.9
Non-U.S.	1,650.8	—	—	—	1,650.8	—	1,650.8
Lease Financing, net	235.7	—	—	—	235.7	—	235.7
Other	465.0	—	—	—	465.0	—	465.0
Total Commercial	15,177.6	3.7	3.4	2.0	15,186.7	17.1	15,203.8
Personal							
Private Client	10,644.8	25.4	6.8	1.6	10,678.6	0.1	10,678.7
Residential Real Estate	7,260.7	4.0	5.0	5.1	7,274.8	120.1	7,394.9
Other	58.7	—	—	—	58.7	—	58.7
Total Personal	17,964.2	29.4	11.8	6.7	18,012.1	120.2	18,132.3
Total Loans and Leases	$33,141.8	$ 33.1	$ 15.2	$ 8.7	$33,198.8	$ 137.3	$ 33,336.1
	Other Real Estate Owned					$ 8.2	
	Total Nonperforming Assets					$ 145.5	

December 31, 2016

(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	$9,269.8	$ 5.3	$ 1.9	$ 1.2	$9,278.2	$ 9.2	$ 9,287.4
Commercial Real Estate	3,974.4	10.9	1.0	4.6	3,990.9	11.6	4,002.5
Non-U.S.	1,877.7	0.1	—	—	1,877.8	—	1,877.8
Lease Financing, net	293.9	—	—	—	293.9	—	293.9
Other	205.1	—	—	—	205.1	—	205.1
Total Commercial	15,620.9	16.3	2.9	5.8	15,645.9	20.8	15,666.7
Personal							
Private Client	9,988.7	40.8	8.5	13.7	10,051.7	0.3	10,052.0
Residential Real Estate	7,875.9	44.5	6.5	11.5	7,938.4	139.1	8,077.5
Other	25.9	—	—	—	25.9	—	25.9
Total Personal	17,890.5	85.3	15.0	25.2	18,016.0	139.4	18,155.4
Total Loans and Leases	$33,511.4	$ 101.6	$ 17.9	$ 31.0	$33,661.9	$ 160.2	$ 33,822.1
	Other Real Estate Owned					$ 5.2	

Total Nonperforming Assets	$	165.4

Table of Contents

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, non-U.S., lease financing, and commercial-other classes relate to the borrower’s ability to perform under the terms of the obligation as measured through the 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.

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

The following tables provide information related to impaired loans by segment and class.
Table 45: Impaired Loans as of the Period End

(In Millions)	As of September 30, 2017 Recorded Investment	Unpaid Principal Balance	Specific Allowance	As of December 31, 2016 Recorded Investment	Unpaid Principal Balance	Specific Allowance
With No Related Specific Allowance						
Commercial and Institutional	$3.7	$ 4.5	$ —	$7.9	$ 8.7	$ —
Commercial Real Estate	6.6	8.4	—	14.7	18.6	—
Private Client	—	—	—	0.3	0.3	—
Residential Real Estate	95.5	129.9	—	125.5	164.3	—
With a Related Specific Allowance						
Commercial and Institutional	4.1	8.2	3.3	—	—	—
Commercial Real Estate	2.8	2.8	0.7	—	—	—
Residential Real Estate	14.2	14.8	4.6	7.7	7.9	2.1
Total						
Commercial	17.2	23.9	4.0	22.6	27.3	—
Personal	109.7	144.7	4.6	133.5	172.5	2.1
Total	$126.9	$ 168.6	$ 8.6	$156.1	$ 199.8	$ 2.1

(In Millions)	Three Months Ended September 30, 2017 Average Recorded Investment	Interest Income Recognized	2016 Average Recorded Investment	Interest Income Recognized	Nine Months Ended September 30, 2017 Average Recorded Investment	Interest Income Recognized	2016 Average Recorded Investment	Interest Income Recognized
With No Related Specific Allowance								
Commercial and Institutional	$5.1	$ —	$10.6	$ —	$7.9	$ —	$6.1	$ —
Commercial Real Estate	7.1	—	17.5	0.2	10.2	0.1	17.4	0.3
Lease Financing, net	—	—	—	—	—	—	0.6	0.1
Private Client	0.1	—	2.3	—	0.1	—	1.3	—
Residential Real Estate	92.7	0.2	116.7	0.4	109.2	1.1	121.0	1.4
With a Related Specific Allowance								
Commercial and Institutional	5.8	—	6.7	—	7.9	—	7.2	—
Commercial Real Estate	2.8	—	—	—	2.5	—	—	—
Lease Financing, net	—	—	1.4	—	—	—	1.4	—
Residential Real Estate	16.7	—	1.6	—	17.9	—	1.5	—
Total								
Commercial	20.8	—	36.2	0.2	28.5	0.1	32.7	0.4
Personal	109.5	0.2	120.6	0.4	127.2	1.1	123.8	1.4
Total	$130.3	$ 0.2	$156.8	$ 0.6	$155.7	$ 1.2	$156.5	$ 1.8

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 $2.2 million and $2.1 million, respectively, for the three months ended September 30, 2017 and 2016, and $7.0 million and $6.3 million, respectively for the nine months ended September 30, 2017 and 2016.

There were $4.6 million and $2.3 million of aggregate undrawn loan commitments and standby letters of credit at September 30, 2017 and December 31, 2016, respectively, issued to borrowers whose loans were classified as nonperforming or impaired.

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

Troubled Debt Restructurings (TDRs). Included within impaired loans were $74.5 million and $85.2 million of nonperforming TDRs, and $26.9 million and $42.4 million of performing TDRs as of September 30, 2017 and December 31, 2016, 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 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 tables provide, by segment and class, the number of loans and leases modified in TDRs during the three- and nine- month periods ended September 30, 2017 and 2016, and the recorded investments and unpaid principal balances as of September 30, 2017 and 2016.

Table 46: Modified Troubled Debt Restructurings

($ In Millions)	Three Months Ended September 30, 2017			Nine Months Ended September 30, 2017		
	Number of Loans and Leases	Recorded Investment	Unpaid Principal Balance	Number of Loans and Leases	Recorded Investment	Unpaid Principal Balance
Commercial						
Commercial and Institutional	2	$ —	$ 1.0	2	$ —	$ 1.0
Commercial Real Estate	—	—	—	1	1.3	1.3
Total Commercial	2	—	1.0	3	1.3	2.3
Personal						
Private Client	—	—	—	1	—	0.1
Residential Real Estate	21	8.0	8.3	57	20.0	20.6
Total Personal	21	8.0	8.3	58	20.0	20.7
Total Loans and Leases	23	$ 8.0	$ 9.3	61	$ 21.3	$ 23.0

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

($ In Millions)	Three Months Ended September 30, 2016			Nine Months Ended September 30, 2016		
	Number of Loans and Leases	Recorded Investment	Unpaid Principal Balance	Number of Loans and Leases	Recorded Investment	Unpaid Principal Balance
Commercial						
Commercial and Institutional	1	$ 0.1	$ 0.1	5	$ 4.1	$ 6.2
Commercial Real Estate	1	1.4	1.4	7	8.7	11.0
Total Commercial	2	1.5	1.5	12	12.8	17.2
Personal						
Private Client	1	0.1	0.1	2	2.1	2.1
Residential Real Estate	16	6.2	6.5	60	14.8	16.1
Total Personal	17	6.3	6.6	62	16.9	18.2
Total Loans and Leases	19	$ 7.8	$ 8.1	74	$ 29.7	$ 35.4

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

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

During the three and nine months ended September 30, 2017, the majority of TDR modifications of loans within residential real estate were extension of term, other modifications, deferred principal, and interest rate concessions. During the three and nine months ended September 30, 2017, the majority of TDR modifications within commercial real estate was other modifications. During the three and nine months ended September 30, 2016, the majority of TDR modifications of loans within residential real estate were deferred principal, extension of term, interest rate concessions, and other modifications. During the three and nine months ended September 30, 2016, the majority of TDR modifications within the commercial and institutional and commercial real estate classes were extension of term and other modifications.

Table of Contents

There was one loan modified in a TDR during the twelve months ended June 30, 2017, which subsequently became nonperforming during the three and nine months ended September 30, 2017. The total recorded investment for this loan was approximately $0.1 million. The unpaid principal balance for this loan was $0.2 million.

There was one loan modified in a TDR during the twelve months ended June 30, 2016, which subsequently became nonperforming during the three and nine months ended September 30, 2016. The total recorded investment and unpaid principal balance for this loan was approximately $0.1 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 residential real estate collateralizing a consumer mortgage loan via foreclosure on an in-substance repossession. As of September 30, 2017, Northern Trust held foreclosed residential real estate properties with a carrying value of $7.9 million as a result of obtaining physical possession. In addition, as of September 30, 2017, Northern Trust had consumer loans with a carrying value of $16.6 million collateralized by residential real estate property 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.

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

The following table provides information regarding changes in the total allowance for credit losses by segment during the three and nine months ended September 30, 2017 and 2016.

Table 47: Changes in the Allowance for Credit Losses

	Three Months Ended September 30,					
	2017			2016		
(In Millions)	Commercial	Personal	Total	Commercial	Personal	Total
Balance at Beginning of Period	$97.3	$ 81.5	$178.8	$112.3	$114.8	$227.1
Charge-Offs	—	(3.5)	(3.5)	(0.3)	(2.7)	(3.0)
Recoveries	2.9	2.2	5.1	1.0	2.8	3.8
Net (Charge-Offs) Recoveries	2.9	(1.3)	1.6	0.7	0.1	0.8
Provision for Credit Losses	(7.8)	0.8	(7.0)	4.0	(7.0)	(3.0)
Balance at End of Period	$92.4	$ 81.0	$173.4	$117.0	$107.9	$224.9

	Nine Months Ended September 30,					
	2017			2016		
(In Millions)	Commercial	Personal	Total	Commercial	Personal	Total
Balance at Beginning of Period	$104.9	$ 87.1	$192.0	$114.8	$118.5	$233.3
Charge-Offs	(4.6)	(8.6)	(13.2)	(4.7)	(8.5)	(13.2)
Recoveries	5.4	4.2	9.6	3.5	5.4	8.9
Net (Charge-Offs) Recoveries	0.8	(4.4)	(3.6)	(1.2)	(3.1)	(4.3)
Provision for Credit Losses	(13.3)	(1.7)	(15.0)	3.5	(7.5)	(4.0)
Effect of Foreign Exchange Rates	—	—	—	(0.1)	—	(0.1)
Balance at End of Period	$92.4	$ 81.0	$173.4	$117.0	$107.9	$224.9

The following table provides information regarding the recorded investments in loans and leases and the allowance for credit losses by segment as of September 30, 2017 and December 31, 2016.

Table 48: Recorded Investments in Loans and Leases

	September 30, 2017			December 31, 2016		
(In Millions)	Commercial	Personal	Total	Commercial	Personal	Total
Loans and Leases						
Specifically Evaluated for Impairment	$17.2	$ 109.7	$ 126.9	$46.9	$ 109.2	$ 156.1
Evaluated for Inherent Impairment	15,186.6	18,022.6	33,209.2	15,619.8	18,046.2	33,666.0
Total Loans and Leases	15,203.8	18,132.3	33,336.1	15,666.7	18,155.4	33,822.1
Allowance for Credit Losses on Credit Exposures						
Specifically Evaluated for Impairment	4.0	4.6	8.6	—	2.1	2.1
Evaluated for Inherent Impairment	71.4	70.3	141.7	83.7	75.2	158.9
Allowance Assigned to Loans and Leases	75.4	74.9	150.3	83.7	77.3	161.0
Allowance for Undrawn Exposures						
Commitments and Standby Letters of Credit	17.0	6.1	23.1	21.2	9.8	31.0
Total Allowance for Credit Losses	$92.4	$ 81.0	$ 173.4	$104.9	$ 87.1	$ 192.0

Note 8 – Pledged Assets

Certain of Northern Trust’s subsidiaries, as required or permitted by law, pledge assets to secure public and trust deposits, repurchase agreements and 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.

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

As of September 30, 2017, securities and loans totaling $41.8 billion ($32.2 billion of government-sponsored agency and other securities, $806.4 million of obligations of states and political subdivisions and $8.8 billion of loans) were pledged. This compares to $38.9 billion ($28.3 billion of government-sponsored agency and other securities, $939.8 million of obligations of states and political subdivisions and $9.6 billion of loans) at December 31, 2016. Collateral required for these purposes totaled $8.5 billion and $9.3 billion at September 30, 2017 and December 31, 2016, respectively. Available for sale securities with a total fair value of $520.4 million and $494.7 million, as of September 30, 2017 and December 31, 2016, respectively, were included in the total pledged assets, which were pledged as collateral for agreements to repurchase securities sold transactions and derivative contracts. The secured parties to these transactions have the right to repledge or sell these securities.

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 $1.4 billion as of September 30, 2017 and $1.8 billion as of December 31, 2016.

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 $235.4 million as of September 30, 2017 and $217.5 million as of December 31, 2016. There was no repledged or sold collateral at September 30, 2017 or December 31, 2016.

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 $4.5 million as of September 30, 2017. There were no securities accepted as collateral under derivative contracts prior to September 30, 2017.

Deposits maintained to meet Federal Reserve Bank reserve requirements averaged $4.0 billion and $2.7 billion for the three and nine months ended September 30, 2017 and $2.3 billion and $2.0 billion for the three and nine months ended September 30, 2016.

Note 9 – 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 September 30, 2017, and December 31, 2016, were as follows:

Table 49: Goodwill by Reporting Segment

(In Millions)	September 30, 2017	December 31, 2016
Corporate & Institutional Services	$ 455.3	$ 448.4
Wealth Management	71.2	71.0
Total Goodwill	$ 526.5	$ 519.4

The gross carrying amount and accumulated amortization of other intangible assets subject to amortization as of September 30, 2017 and December 31, 2016, were as follows:

Table 50: Other Intangible Assets

(In Millions)	September 30, 2017	December 31, 2016
Gross Carrying Amount	$ 94.5	$ 89.0
Less: Accumulated Amortization	56.6	47.2
Net Book Value	$ 37.9	$ 41.8

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 $2.3 million and $7.0 million for the three and nine months ended September 30, 2017, respectively, and $2.0 million and $6.3 million for the three and nine months ended September 30, 2016, respectively. Amortization for the remainder of 2017 and for the years 2018, 2019, 2020, and 2021 is estimated to be $2.3 million, $8.7 million, $8.5 million, $8.5 million and $6.0 million, respectively.

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

Note 10 – Reporting Segments
The following table shows the earnings contributions of Northern Trust's reporting segments for the three- and nine-month periods ended September 30, 2017 and 2016.
Table 51: Results of Reporting Segments

Three Months Ended September 30,	Corporate & Institutional Services		Wealth Management		Treasury and Other		Total Consolidated	
($ In Millions)	2017	2016	2017	2016	2017	2016	2017	2016
Noninterest Income								
Trust, Investment and Other Servicing Fees	$501.1	$450.8	$366.8	$337.5	$—	$—	$867.9	$788.3
Foreign Exchange Trading Income	47.2	55.2	0.7	0.9	1.2	(2.5)	49.1	53.6
Other Noninterest Income	43.8	41.5	25.2	26.3	5.0	0.9	74.0	68.7
Net Interest Income*	194.0	138.2	186.6	164.1	(14.4)	7.8	366.2	310.1
Revenue*	786.1	685.7	579.3	528.8	(8.2)	6.2	1,357.2	1,220.7
Provision for Credit Losses	0.8	4.0	(7.8)	(7.0)	—	—	(7.0)	(3.0)
Noninterest Expense	542.1	487.8	348.8	318.0	44.7	37.2	935.6	843.0
Income before Income Taxes*	243.2	193.9	238.3	217.8	(52.9)	(31.0)	428.6	380.7
Provision for Income Taxes*	78.4	61.8	90.3	82.3	(38.5)	(21.0)	130.2	123.1
Net Income	$164.8	$132.1	$148.0	$135.5	$(14.4)	$(10.0)	$298.4	$257.6
Percentage of Consolidated Net Income	55%	51%	50%	53%	(5)%	(4)%	100%	100%
Average Assets	$82,250.9	$75,696.5	$26,463.0	$26,601.7	$12,445.5	$14,084.3	$121,159.4	$116,382.5

* Non-GAAP financial measures stated on a fully taxable equivalent basis (FTE). Total consolidated includes FTE adjustments of $12.0 million for 2017 and $7.0 million for 2016.

Nine Months Ended September 30,	Corporate & Institutional Services		Wealth Management		Treasury and Other		Total Consolidated	
($ In Millions)	2017	2016	2017	2016	2017	2016	2017	2016
Noninterest Income								
Trust, Investment and Other Servicing Fees	$1,451.1	$1,331.1	$1,073.2	$982.6	$—	$—	$2,524.3	$2,313.7
Foreign Exchange Trading Income	146.9	169.1	2.4	7.0	(2.2)	2.4	147.1	178.5
Other Noninterest Income	132.4	113.0	77.4	79.8	20.4	124.8	230.2	317.6
Net Interest Income*	536.5	417.8	545.4	482.8	(2.9)	30.1	1,079.0	930.7
Revenue*	2,266.9	2,031.0	1,698.4	1,552.2	15.3	157.3	3,980.6	3,740.5
Provision for Credit Losses	(1.6)	—	(13.4)	(4.0)	—	—	(15.0)	(4.0)
Noninterest Expense	1,598.5	1,519.9	1,046.0	975.2	123.0	101.7	2,767.5	2,596.8
Income before Income Taxes*	670.0	511.1	665.8	581.0	(107.7)	55.6	1,228.1	1,147.7
Provision for Income Taxes*	213.0	158.0	251.4	219.1	(78.7)	4.6	385.7	381.7
Net Income	$457.0	$353.1	$414.4	$361.9	$(29.0)	$51.0	$842.4	$766.0
Percentage of Consolidated Net Income	54%	46%	49%	47%	(3)%	7%	100%	100%
Average Assets	$80,229.1	$75,589.0	$26,648.7	$26,525.6	$11,818.2	12,795.3	$118,696.0	$114,909.9

* Non-GAAP financial measures stated on a fully taxable equivalent basis (FTE). Total consolidated includes FTE adjustments of $29.8 million for 2017 and $20.1 million for 2016.

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.

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

Note 11 – Stockholders' Equity
Preferred Stock. The Corporation is authorized to issue 10 million shares of preferred stock without par value. The Board of Directors is authorized to fix the particular designations, preferences and relative, participating, optional and other special rights and qualifications, limitations or restrictions for each series of preferred stock issued.
On August 8, 2016, the Corporation issued and sold 500,000 depositary shares (the "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"). 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). The aggregate proceeds from the public offering of the depositary shares, net of underwriting discounts, commissions and offering expenses, were $493.5 million.
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.
The Series D Preferred Stock has no maturity date and is redeemable at the Corporation's option, in whole or in part, on any dividend payment date on or after October 1, 2026. The Series D Preferred Stock is redeemable at the Corporation's option in whole, but not in part, including prior to October 1, 2026, within 90 days of a regulatory capital treatment event, as described in the Series D Preferred Stock Certificate of Designation.
On July 18, 2017, the Corporation declared a cash dividend of $2,300 per share of Series D Preferred Stock payable on October 1, 2017, to stockholders of record as of September 15, 2017.
As of September 30, 2017, 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 September 30, 2017 and December 31, 2016 totaled $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 July 18, 2017, the Corporation declared a cash dividend of $365.625 per share of Series C Preferred Stock payable on October 1, 2017, to stockholders of record as of September 15, 2017.
The Series C Preferred Stock has no maturity date and is redeemable at the Corporation's option, in whole or in part, on any dividend payment date on or after October 1, 2019. The Series C Preferred stock is redeemable at the Corporation's option, in whole, but not in part, including prior to October 1, 2019, within 90 days of a regulatory capital treatment event, as described in the Series C Preferred Stock Certificate of Designation.
Shares of the Series C Preferred Stock and Series D Preferred Stock rank senior to the Corporation's common stock, and will rank at least equally with any other series of preferred stock it may issue (except for any senior series that may be issued with the requisite consent of the holders of the Series C Preferred Stock and Series D Preferred Stock, respectively) and all other parity stock, with respect to the payment of dividends and distributions upon liquidation, dissolution or winding up.
Common Stock. During the three and nine months ended September 30, 2017, the Corporation repurchased 1,411,696 shares of common stock, including 43,871 shares withheld related to share-based compensation, at a total cost of $124.8 million ($88.43 average price per share) and 3,983,690 shares of common stock, including 459,082 shares withheld related to share-based compensation, at a total cost of $352.5 million ($88.50 average price per share), respectively. Repurchases through July 18, 2017 were made pursuant to the repurchase program announced by the Corporation on April 21, 2015, under which the Corporation's Board of Directors authorized the Corporation to repurchase up to 15.0 million shares of the Corporation's common stock. This program was terminated and replaced with a new repurchase program, announced on July 18, 2017, under which the Corporation's Board of Directors

authorized the Corporation to repurchase up to 9.5 million shares of the Corporation’s common stock. Repurchases after July 18, 2017 were made pursuant to the new repurchase program, which has no expiration date. Shares repurchased by the Corporation are used for general purposes, including management of the Corporation’s capital levels and the

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

issuance of shares under stock option and other incentive plans of the Corporation. The new repurchase authorization approved by the Board of Directors has no expiration date.

Under the Corporation’s 2017 Capital Plan, which was reviewed without objection by the Federal Reserve, the Corporation may repurchase up to $625.2 million of common stock after September 30, 2017 through June 2018.

Note 12 – Accumulated Other Comprehensive Income (Loss)

The following tables summarize the components of accumulated other comprehensive income (loss) (AOCI) at September 30, 2017 and 2016, and changes during the three- and nine- month periods then ended.

Table 52: Summary of Changes in Accumulated Other Comprehensive Income (Loss)

(In Millions)	Balance at September 30, 2017	Net Change	Balance at December 31, 2016
Net Unrealized Gains (Losses) on Securities Available for Sale*	$ (13.7)	$ 18.7	$ (32.4)
Net Unrealized Gains (Losses) on Cash Flow Hedges	1.2	(4.9)	6.1
Net Foreign Currency Adjustments	(8.0)	10.5	(18.5)
Net Pension and Other Postretirement Benefit Adjustments	(314.6)	10.6	(325.2)
Total	$ (335.1)	$ 34.9	$ (370.0)

(In Millions)	Balance at September 30, 2016	Net Change	Balance at December 31, 2015
Net Unrealized Gains (Losses) on Securities Available for Sale	$ 63.3	$ 94.3	$ (31.0)
Net Unrealized Gains (Losses) on Cash Flow Hedges	3.6	6.6	(3.0)
Net Foreign Currency Adjustments	(16.9)	0.7	(17.6)
Net Pension and Other Postretirement Benefit Adjustments	(309.7)	11.4	(321.1)
Total	$ (259.7)	$ 113.0	$ (372.7)

* - Includes net unrealized gains on securities transferred from available for sale to held to maturity during the three months ended September 30, 2017.

Table 53: Details of Changes in Accumulated Other Comprehensive Income (Loss)

	Three Months Ended September 30,					
	2017			2016		
(In Millions)	Before Tax	Tax Effect	After Tax	Before Tax	Tax Effect	After Tax
Unrealized Gains (Losses) on Securities Available for Sale						
Unrealized Gains (Losses) on Securities Available for Sale	$(3.4)	$ 1.0	$ (2.4)	$(22.3)	$ 8.4	$ (13.9)
Reclassification Adjustment for (Gains) Losses Included in Net Income	0.4	(0.2)	0.2	(0.2)	0.2	—
Net Change	(3.0)	0.8	(2.2)	(22.5)	8.6	(13.9)
Unrealized Gains (Losses) on Cash Flow Hedges						
Unrealized Gains (Losses) on Cash Flow Hedges	2.9	(1.0)	1.9	(6.3)	3.5	(2.8)
Reclassification Adjustment for (Gains) Losses Included in Net Income	(6.1)	2.3	(3.8)	4.6	(1.7)	2.9
Net Change	(3.2)	1.3	(1.9)	(1.7)	1.8	0.1
Foreign Currency Adjustments						
Foreign Currency Translation Adjustments	47.3	(6.0)	41.3	(11.7)	(0.9)	(12.6)
Long-Term Intra-Entity Foreign Currency Transaction Gains (Losses)	0.6	(0.2)	0.4	0.8	(0.3)	0.5
Net Investment Hedge Gains (Losses)	(62.3)	24.2	(38.1)	4.1	(1.5)	2.6
Net Change	(14.4)	18.0	3.6	(6.8)	(2.7)	(9.5)
Pension and Other Postretirement Benefit Adjustments						
Net Actuarial Gain (Loss)	(0.7)	0.2	(0.5)	—	—	—
Reclassification Adjustment for (Gains) Losses Included in Net Income	7.4	(2.6)	4.8	6.3	(3.0)	3.3
Net Change	$6.7	$ (2.4)	$ 4.3	$6.3	$ (3.0)	$ 3.3

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

	Nine Months Ended September 30,					
	2017			2016		
(In Millions)	Before Tax	Tax Effect	After Tax	Before Tax	Tax Effect	After Tax
Unrealized Gains (Losses) on Securities Available for Sale						
Unrealized Gains (Losses) on Securities Available for Sale	$29.6	$ (11.5)	$ 18.1	$152.2	$ (57.6)	$ 94.6
Reclassification Adjustment for (Gains) Losses Included in Net Income	1.0	(0.4)	0.6	(0.5)	0.2	(0.3)
Net Change	30.6	(11.9)	18.7	151.7	(57.4)	94.3
Unrealized Gains (Losses) on Cash Flow Hedges						
Unrealized Gains (Losses) on Cash Flow Hedges	20.6	(15.3)	5.3	3.7	(0.3)	3.4
Reclassification Adjustment for (Gains) Losses Included in Net Income	(16.4)	6.2	(10.2)	5.2	(2.0)	3.2
Net Change	4.2	(9.1)	(4.9)	8.9	(2.3)	6.6
Foreign Currency Adjustments						
Foreign Currency Translation Adjustments	136.4	(6.1)	130.3	(52.7)	(2.3)	(55.0)
Long-Term Intra-Entity Foreign Currency Transaction Gains (Losses)	1.0	(0.4)	0.6	2.0	(0.8)	1.2
Net Investment Hedge Gains (Losses)	(194.7)	74.3	(120.4)	87.6	(33.1)	54.5
Net Change	(57.3)	67.8	10.5	36.9	(36.2)	0.7
Pension and Other Postretirement Benefit Adjustments						
Net Actuarial Gain (Loss)	(3.2)	0.3	(2.9)	—	—	—
Reclassification Adjustment for (Gains) Losses Included in Net Income	20.6	(7.1)	13.5	19.1	(7.7)	11.4
Net Change	$17.4	$ (6.8)	$ 10.6	$19.1	$ (7.7)	$ 11.4

The following table provides the location and before-tax amounts of reclassifications out of AOCI during the three and nine months ended September 30, 2017.

Table 54: 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 September 30, 2017	Nine Months Ended September 30, 2017
Securities Available for Sale			
Realized (Gains) Losses on Securities Available for Sale	Investment Security Gains (Losses), net	$ 0.4	$ 1.0
Realized Gains on Cash Flow Hedges			
Foreign Exchange Contracts	Other Operating Income/Expense	(6.1)	(16.4)
Pension and Other Postretirement Benefit Adjustments			
Amortization of Net Actuarial Loss	Employee Benefits	7.4	20.8
Amortization of Prior Service Cost	Employee Benefits	—	(0.2)
Gross Reclassification Adjustment		$ 7.4	$ 20.6

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

Note 13 – Net Income Per Common Share Computations

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

Table 55: Net Income per Common Share

	Three Months Ended September 30,		Nine Months Ended September 30,	
($ In Millions Except Per Common Share Information)	2017	2016	2017	2016
Basic Net Income Per Common Share				
Average Number of Common Shares Outstanding	228,010,845	226,540,086	228,751,804	227,561,218
Net Income	$298.4	$ 257.6	$842.4	$ 766.0
Less: Dividends on Preferred Stock	17.3	5.9	43.9	17.6
Net Income Applicable to Common Stock	281.1	251.7	798.5	748.4
Less: Earnings Allocated to Participating Securities	4.4	4.8	13.3	13.7
Earnings Allocated to Common Shares Outstanding	276.7	246.9	785.2	734.7
Basic Net Income Per Common Share	$1.21	$ 1.09	$3.43	$ 3.23
Diluted Net Income Per Common Share				
Average Number of Common Shares Outstanding	228,010,845	226,540,086	228,751,804	227,561,218
Plus: Dilutive Effect of Share-based Compensation	1,302,779	1,515,109	1,437,481	1,479,400
Average Common and Potential Common Shares	229,313,624	228,055,195	230,189,285	229,040,618
Earnings Allocated to Common and Potential Common Shares	$276.7	$ 247.0	$785.2	$ 734.8
Diluted Net Income Per Common Share	1.20	1.08	3.41	3.21

Note: For the three months ended September 30, 2017, there were no common stock equivalents excluded in the computation of diluted net income per share. Common stock equivalents of 154,411 for the nine months ended September 30, 2017, and 334,184 and 1,480,118 for the three and nine months ended September 30, 2016, respectively, were not included in the computation of diluted net income per common share because their inclusion would have been antidilutive.

Table of Contents

Notes to Consolidated Financial Statements (unaudited) (continued)

Note 14 – Net Interest Income

The components of net interest income were as follows:

Table 56: Net Interest Income

	Three Months Ended September 30,		Nine Months Ended September 30,	
(In Millions)	2017	2016	2017	2016
Interest Income				
Loans and Leases	$239.4	$202.1	$677.2	$604.3
Securities — Taxable	143.4	103.3	421.5	303.4
— Non-Taxable	2.3	2.2	7.5	5.0
Interest-Bearing Due from and Deposits with Banks (1)	16.0	15.4	45.0	49.4
Federal Reserve and Other Central Bank Deposits	52.7	26.2	130.1	83.8
Total Interest Income	453.8	349.2	1,281.3	1,045.9
Interest Expense				
Deposits	55.1	20.0	123.7	63.4
Federal Funds Purchased	4.3	0.4	5.7	1.0
Securities Sold Under Agreements to Repurchase	1.8	0.5	4.0	1.5
Other Borrowings	14.2	5.7	31.8	12.4
Senior Notes	11.5	11.8	35.0	35.2
Long-Term Debt	11.3	6.8	28.3	19.3
Floating Rate Capital Debt	1.4	0.9	3.6	2.5
Total Interest Expense	99.6	46.1	232.1	135.3
Net Interest Income	$354.2	$303.1	$1,049.2	$910.6

(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 15 – Income Taxes

Income tax expense for the three and nine months ended September 30, 2017 was $118.2 million and $355.9 million, representing an effective tax rate of 28.4% and 29.7%, respectively. The provision for income taxes includes Federal and State research tax credits of $17.6 million recognized in the three months ended September 30, 2017 due to the completion of a recent study of the Corporation's technology spend between 2013 and 2016, partially offset by $4.3 million related to an increase in the Illinois state deferred income tax reserve resulting from an increase in the Illinois income tax rate.

The prior-year three- and nine- month provision for income taxes was $116.1 million and $361.6 million, representing an effective tax rate of 31.1% and 32.1%, respectively.

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

Note 16 – Pension and Postretirement Health Care
The following tables set 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 and nine months ended September 30, 2017 and 2016.
Table 57: Net Periodic Pension Expense (Benefit)

Net Periodic Pension Expense U.S. Plan	Three Months Ended September 30,		Nine Months Ended September 30,	
(In Millions)	2017	2016	2017	2016
Service Cost	$9.6	$9.3	$28.8	$28.0
Interest Cost	11.4	11.5	34.4	34.4
Expected Return on Plan Assets	(23.4)	(23.6)	(70.4)	(70.8)
Amortization				
Net Actuarial Loss	4.7	4.7	14.3	14.1
Prior Service Cost	(0.1)	(0.1)	(0.3)	(0.3)
Net Periodic Pension Expense	$2.2	$1.8	$6.8	$5.4

Net Periodic Pension Expense Non-U.S. Plans	Three Months Ended September 30,		Nine Months Ended September 30,	
(In Millions)	2017	2016	2017	2016
Interest Cost	$1.0	$1.2	$2.9	$3.7
Expected Return on Plan Assets	(1.1)	(1.2)	(3.3)	(3.7)
Settlement Expense	0.7	—	0.9	—
Net Actuarial Loss Amortization	0.4	0.3	1.0	0.8
Net Periodic Pension Expense	$1.0	$0.3	$1.5	$0.8

Net Periodic Pension Expense Supplemental Plan	Three Months Ended September 30,		Nine Months Ended September 30,	
(In Millions)	2017	2016	2017	2016
Service Cost	$1.0	$0.9	$2.8	$2.6
Interest Cost	1.3	1.3	3.9	3.9
Amortization				
Net Actuarial Loss	1.5	1.5	4.3	4.4
Prior Service Cost	0.1	—	0.1	0.1
Net Periodic Pension Expense	$3.9	$3.7	$11.1	$11.0

Net Periodic Postretirement Expense Postretirement Health Care Plan	Three Months Ended September 30,		Nine Months Ended September 30,	
(In Millions)	2017	2016	2017	2016
Service Cost	$0.1	$—	$0.1	$0.1

Interest Cost	0.3	0.4	1.1	1.1
Amortization				
Net Actuarial (Gain)	—	—	—	—
Net Periodic Postretirement Expense	$ 0.4	$ 0.4	$ 1.2	$ 1.2

69

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

Note 17 – Share-Based Compensation Plans

The Northern Trust Corporation 2017 Long-Term Incentive Plan provides for the grant of nonqualified 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.

Total compensation expense for share-based payment arrangements and the associated tax impacts were as follows for the three and nine months ended September 30, 2017 and 2016.

Table 58: Total Compensation Expense for Share-Based Payment Arrangements

	Three Months Ended September 30,		Nine Months Ended September 30,	
(In Millions)	2017	2016	2017	2016
Restricted Stock Unit Awards	$15.8	$15.0	$72.6	$45.0
Stock Options	0.9	0.9	8.2	8.1
Performance Stock Units	4.9	4.5	25.4	13.1
Total Share-Based Compensation Expense	21.6	20.4	106.2	66.2
Tax Benefits Recognized	$8.5	$7.7	$40.4	$25.0

Note 18 – Variable Interest Entities

Variable Interest Entities (VIEs) are defined within GAAP as entities that 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. The variable interest holder, if any, that has both the power to direct the activities that most significantly impact the entity and a variable interest that could potentially be significant to the entity is deemed to be the VIE's primary beneficiary and is required to consolidate the VIE.

Leveraged Leases. In leveraged leasing transactions, Northern Trust acts as lessor of the underlying asset subject to the lease and typically funds 20 - 30% of the asset's cost via an equity ownership in a trust with the remaining 70 - 80% provided by third-party non-recourse debt holders. In such transactions, the trusts, which are VIEs, are created to provide the lessee use of the property with substantially all of the rights and obligations of ownership. The lessee's maintenance and operation of the leased property has a direct effect on the fair value of the underlying property, and the lessee also has the ability to increase the benefits it can receive and limit the losses it can suffer by the manner in which it uses the property. As a result, Northern Trust has determined that it is not the primary beneficiary of these VIEs given it lacks the power to direct the activities that most significantly impact the economic performance of the VIEs.

Northern Trust's maximum exposure to loss as a result of its involvement with the leveraged lease trust VIEs is limited to the carrying amounts of its leveraged lease investments. As of September 30, 2017 and December 31, 2016, the carrying amounts of these investments, which are included in loans and leases in the consolidated balance sheets, were $134.9 million and $183.5 million, respectively. Northern Trust's funding requirements relative to the VIEs are limited to its invested capital. Northern Trust has no other liquidity arrangements or obligations to purchase assets of the 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 (LLCs) 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

Table of Contents

investments. Northern Trust has determined that it is not the primary beneficiary of any community development projects which are 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 VIEs. Northern Trust's maximum exposure to loss as a result of its involvement with community development projects is limited to the carrying amount of its investments, including any undrawn commitments. As of September 30, 2017 and December 31, 2016, the carrying amount of investments in community development projects that generate tax credits, included in other assets in the consolidated balance sheets, totaled $333.8 million and $218.9 million, respectively, of which $303.6 million and $186.5 million are VIEs as of September 30, 2017 and December 31, 2016. Liabilities related to undrawn commitments on investments in tax credit community development projects, included in other liabilities in the consolidated balance sheets, totaled $164.9 million and $82.9 million as of September 30, 2017 and December 31, 2016, respectively, of which $140.9 million and $56.7 million, related to undrawn commitments on VIEs as of September 30, 2017 and December 31, 2016, 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 $12.5 million for both the three months ended September 30, 2017 and 2016, respectively, and $38.3 million and $36.5 million for the nine months ended September 30, 2017 and 2016, 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.

Some of the funds for which Northern Trust acts as asset manager comply or operate in accordance with requirements that are similar to those in Rule 2a-7 of the Investment Company Act of 1940 for registered money market funds and therefore the funds are exempt from the consolidation requirements in Accounting Standards Codification 810-10. Northern Trust voluntarily waived $0.3 million and $0.2 million of money market mutual fund fees for the three months ended September 30, 2017 and 2016, respectively, and $0.7 million and $8.1 million of money market mutual fund fees for the nine months ended September 30, 2017 and 2016, respectively. Northern Trust does not have any explicit arrangements to provide financial support to the funds. Any potential future support of the funds will be at the discretion of Northern Trust after an evaluation of the specific facts and circumstances.

Note 19 – Contingent Liabilities

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

Legally binding commitments to extend credit generally have fixed expiration dates or other termination clauses. Since a significant portion of the commitments are expected to expire without being drawn upon, the total commitment amount does not necessarily represent future loans or liquidity requirements. Legally binding commitments to extend credit totaled $27.8 billion and $32.8 billion as of September 30, 2017 and December 31, 2016, respectively.

Standby letters of credit obligate Northern Trust to meet certain financial obligations of its clients, if, under the contractual terms of the agreement, the clients are unable to do so. These instruments are primarily issued to support public and private financial commitments, including commercial paper, bond financing, initial margin requirements on futures exchanges and similar 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 $3.3 billion and $3.8 billion as of September 30, 2017

and December 31, 2016, respectively.
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 September 30, 2017 and December 31, 2016 subject to indemnification was $139.3 billion and $102.3 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 September 30, 2017 or December 31, 2016, related to these indemnifications.

Legal Proceedings. In the normal course of business, the Corporation and its subsidiaries are involved routinely in a number of pending and threatened legal actions, formal and informal regulatory matters, employment matters and challenges from tax authorities regarding the amount of taxes due. In certain of these actions and proceedings, claims for substantial monetary damages or adjustments to recorded tax liabilities are asserted.

Based on current knowledge, after consultation with legal counsel and after taking into account current accruals, management does not believe that losses, if any, arising from pending litigation or threatened legal actions or regulatory matters 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.”

For the reasons set out in this paragraph, the outcome of some matters is inherently difficult to predict and/or the range of loss cannot be reasonably estimated. This may be the case in 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 September 30, 2017, the Corporation has estimated the range of reasonably possible loss for these matters to be from zero to approximately $30 million in the aggregate. The Corporation’s estimate with respect to the aggregate range of reasonably possible loss is based upon currently available information and is subject to significant judgment and a variety of assumptions and known and unknown uncertainties. The matters underlying the estimated range will change from time to time, and actual results may vary significantly from the current estimate.

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

In January 2015, the Public Prosecutor’s Office of France recommended that certain charges be brought against Northern Trust Fiduciary Services (Guernsey) Limited (NTFS), an indirect subsidiary of the Corporation, relating to the administration of two trusts for which NTFS serves as trustee. In April 2015, a French investigating magistrate judge charged NTFS with complicity in estate tax fraud. Charges also were brought against a number of other persons and entities related to this matter. The trial related to this matter concluded in October 2016. In January 2017, the 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 has appealed the court decision. The proceedings in the appellate court are scheduled to begin in March 2018. As trustee, NTFS provided no tax advice and had no involvement in the

preparation or filing of the challenged estate tax filings.
Visa Class B Common Shares. Northern Trust, as a member of Visa U.S.A. Inc. (Visa U.S.A.) and in connection with the 2007 restructuring of Visa U.S.A. and its affiliates and the 2008 initial public offering of Visa Inc. (Visa), received certain Visa Class B common shares. The Visa Class B common shares are subject to certain selling restrictions until the final resolution of the covered litigation noted below, 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.

Table of Contents

Certain members of Visa U.S.A. are obligated to indemnify Visa for losses resulting from certain litigation relating to interchange fees (the covered litigation). On October 19, 2012, Visa signed a settlement agreement with plaintiff representatives for binding settlement of the covered litigation. On January 14, 2014, the United States District Court for the Eastern District of New York entered a final judgment order approving the settlement with the class plaintiffs. A number of objectors appealed from that order and more than 30 opt-out cases have been filed by merchants in various federal district courts. On June 30, 2016, the United States Court of Appeals for the Second Circuit reversed the District Court's approval of the settlement and remanded the case to the District Court for further proceedings. In November 2016, a subset of plaintiffs filed a certiorari petition with the Supreme Court of the United States. In March 2017, the Supreme Court denied that petition. The ultimate resolution of the covered litigation and the timing for removal of the selling restrictions on the Visa Class B 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 both September 30, 2017 and 2016.

Note 20 – 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, credit default swap contracts, and swaps related to the sale of certain Visa Class B common shares.

Northern Trust’s primary risks associated with these instruments are the possibility that interest rates, foreign exchange rates, equity prices, or credit spreads could change in an unanticipated manner, resulting in higher costs or a loss in the underlying value of the instrument. These risks are mitigated by establishing limits, monitoring the level of actual positions taken against such established limits and monitoring the level of any interest rate sensitivity gaps created by such positions. When establishing position limits, market liquidity and volatility, as well as experience in each market, are taken into account.

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.

All derivative financial instruments, whether designated as hedges or not, are recorded in the consolidated balance sheets at fair value within other assets or other liabilities. As noted in the discussions below, the manner in which changes in the fair value of a derivative is accounted for in the consolidated statements of income depends on whether the contract has been designated as a hedge and qualifies for hedge accounting under GAAP. 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. Derivative assets and liabilities recorded in the consolidated balance sheets were each reduced by $1.8 billion and $1.7 billion as of September 30, 2017 and December 31, 2016, respectively, as a result of master netting arrangements and similar agreements in place. Derivative assets and liabilities recorded at September 30, 2017, also reflect reductions of $617.9 million and $334.3 million, respectively, as a result of cash collateral received from and deposited with derivative counterparties, respectively. This compares with reductions of derivative assets and liabilities of $461.3 million and $722.1 million, respectively, at December 31, 2016. Additional cash collateral received from and deposited with derivative

counterparties totaling $235.5 million and $405.0 million, respectively, as of September 30, 2017, and $70.8 million and $324.5 million, respectively, as of December 31, 2016, was not offset against derivative assets and liabilities in the consolidated balance sheets as the amounts exceeded the net derivative positions with those counterparties.
Northern Trust centrally clears eligible interest rate derivative instruments as required under Title VII of the Dodd-Frank Wall Street Reform and Consumer Protection Act.
The following table presents the fair value of securities that have been either pledged to or accepted from counterparties for these derivative transactions.

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

Table 59: Fair Value of Securities Collateral for Derivative Transactions

(in Millions)	September 30, 2017	December 31, 2016
Pledged to others:		
Not permitted by contract or custom to sell or repledge	$ 43.0	$ 70.8
Permitted by contract or custom to sell or repledge	—	—
Accepted from others:		
Not permitted by contract or custom to sell or repledge	—	—
Permitted by contract or custom to sell or repledge	4.5	—

Securities pledged or accepted as collateral are not offset against derivative assets and liabilities in the consolidated balance sheets. There was no repledged or sold collateral at September 30, 2017 or December 31, 2016.

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 $240.4 million and $358.2 million at September 30, 2017 and December 31, 2016, respectively. Cash collateral amounts deposited with derivative counterparties on those dates included $190.1 million and $317.5 million, respectively, posted against these liabilities, resulting in a net maximum amount of termination payments that could have been required at September 30, 2017 and December 31, 2016, of $50.3 million and $40.7 million, respectively. Accelerated settlement of these liabilities would not have a material effect on the consolidated financial position or liquidity of Northern Trust.

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 purposes and risk management. 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 investment securities and net investments in non-U.S. affiliates.

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

Client-Related and Trading Derivative Instruments. Approximately 96% of Northern Trust's derivatives outstanding at September 30, 2017 and December 31, 2016, measured on a notional value basis, relate to client-related and trading activities. 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.

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

The following table shows the notional and fair values of client-related and trading derivative financial instruments. 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, which is significantly less than the notional amount.

Table 60: Notional and Fair Values of Client-Related and Trading Derivative Financial Instruments

	September 30, 2017			December 31, 2016		
	Notional	Fair Value		Notional	Fair Value	
(In Millions)	Value	Asset	Liability	Value	Asset	Liability
Foreign Exchange Contracts	$323,057.7	$3,047.4	$3,002.2	$273,213.1	$3,274.2	$3,221.7
Interest Rate Contracts	7,384.0	81.5	67.3	6,968.3	87.0	85.2
Total	$330,441.7	$3,128.9	$3,069.5	$280,181.4	$3,361.2	$3,306.9

Changes in the fair value of client-related and trading derivative instruments are recognized currently in income. The following table shows the location and amount of gains and losses recorded in the consolidated statements of income for the three and nine months ended September 30, 2017 and 2016.

Table 61: Location and Amount of Client-Related and Trading Derivative Gains and Losses Recorded in Income

	Location of Derivative Gain Recognized in Income	Amount of Derivative Gain Recognized in Income			
		Three Months Ended September 30,		Nine Months Ended September 30,	
(In Millions)		2017	2016	2017	2016
Foreign Exchange Contracts	Foreign Exchange Trading Income	$49.1	$53.6	$147.1	$178.5
Interest Rate Contracts	Security Commissions and Trading Income	2.7	2.6	8.3	9.7
Total		$51.8	$56.2	$155.4	$188.2

Risk Management Instruments. Northern Trust uses derivative instruments to hedge its exposure to foreign currency, interest rate, equity price, and credit risk. 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.

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.

Table of Contents

Notes to Consolidated Financial Statements (unaudited) (continued)

The following table identifies the types and classifications of derivative instruments formally designated as hedges under GAAP and used by Northern Trust to manage risk, their notional and fair values, and the respective risks addressed.

Table 62: Notional and Fair Value of Designated Risk Management Derivative Financial Instruments

			September 30, 2017			December 31, 2016		
	Derivative	Risk	Notional	Fair Value		Notional	Fair Value	
(In Millions)	Instrument	Classification	Value	Asset	Liability	Value	Asset	Liability
Fair Value Hedges								
Available for Sale Investment Securities	Interest Rate Swap Contracts	Interest Rate	$3,430.1	$17.4	$ 11.0	$3,873.4	$88.3	$ 16.8
Senior Notes and Long-Term Subordinated Debt	Interest Rate Swap Contracts	Interest Rate	1,250.0	18.0	4.1	1,250.0	71.8	3.3
Cash Flow Hedges								
Forecasted Foreign Currency Denominated Transactions	Foreign Exchange Contracts	Foreign Currency	431.2	11.7	8.5	329.3	8.5	7.8
Foreign Currency Denominated Investment Securities	Foreign Exchange Contracts	Foreign Currency	1,439.8	27.4	—	1,431.6	151.5	0.8
Available for Sale Investment Securities	Interest Rate Contracts	Interest Rate	1,025.0	0.2	1.7	975.0	0.1	2.7
Net Investment Hedges								
Net Investments in Non-U.S. Affiliates	Foreign Exchange Contracts	Foreign Currency	2,855.4	5.0	154.9	2,083.6	174.6	10.8
Total			$10,431.5	$79.7	$ 180.2	$9,942.9	$494.8	$ 42.2

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. For a fair value hedge, 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 recorded currently in income. The following table shows the location and amount of derivative gains and losses recognized in the consolidated statements of income related to fair value hedges for the three and nine months ended September 30, 2017 and 2016.

Table 63: Location and Amount of Fair Value Hedge Derivative Gains and Losses Recorded in Income

			Amount of Derivative Gain/(Loss) Recognized in Income			
	Derivative Instrument	Location of Derivative Gain/(Loss) Recognized in Income	Three Months Ended September 30,		Nine Months Ended September 30,	
(In Millions)			2017	2016	2017	2016
Available for Sale Investment Securities	Interest Rate Swap Contracts	Interest Income	$1.1	$15.5	$(24.5)	$(44.3)
Senior Notes and Long-Term Subordinated Debt	Interest Rate Swap Contracts	Interest Expense	1.2	(7.3)	14.3	63.7
Total			$2.3	$8.2	$(10.2)	$19.4

Northern Trust applies the “shortcut” method of accounting, available under GAAP, to substantially all of its fair value hedges, which assumes there is no ineffectiveness in a hedge. For fair value hedges that do not qualify for the “shortcut” method of accounting, Northern Trust utilizes regression analysis, the “long-haul” method of accounting, in assessing whether the hedging relationships are highly effective at inception and quarterly thereafter. There was no ineffectiveness or changes in the fair value of hedged items recognized in income for fair value hedges accounted for under the “long-haul” method of accounting during the three- and nine- month periods ended September 30, 2017 and 2016.

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

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. There was no ineffectiveness recognized in income for cash flow hedges during the three and nine months ended September 30, 2017 and 2016. As of September 30, 2017, 23 months was the maximum length of time over which the exposure to variability in future cash flows of forecasted foreign-currency-denominated transactions was being hedged.
The following table provides cash flow hedge derivative gains and losses recognized in AOCI and the amounts reclassified to income during the three and nine months ended September 30, 2017 and 2016.
Table 64: Cash Flow Hedge Derivative Gains and Losses Recognized in AOCI and Reclassified to Income

(In Millions)	Foreign Exchange Contracts (Before Tax)		Interest Rate Contracts (Before Tax)	
Three Months Ended September 30,	2017	2016	2017	2016
Net Gain/(Loss) Recognized in AOCI	$ 3.1	$ (0.5)	$ (0.2)	$ (5.9)
Net Gain/(Loss) Reclassified from AOCI to Net Income				
Other Operating Income	1.7	(6.8)	—	—
Interest Income	4.2	1.6	0.1	0.7
Other Operating Expense	0.1	(0.2)	—	—
Total	$ 6.0	$ (5.4)	$ 0.1	$ 0.7

(In Millions)	Foreign Exchange Contracts (Before Tax)		Interest Rate Contracts (Before Tax)	
Nine Months Ended September 30,	2017	2016	2017	2016
Net Gain/(Loss) Recognized in AOCI	$ 19.4	$ 1.7	$ 1.2	$ 1.9
Net Gain/(Loss) Reclassified from AOCI to Net Income				
Other Operating Income	4.2	(8.5)	—	—
Interest Income	12.1	1.6	0.2	2.5
Other Operating Expense	(0.1)	(0.7)	—	—
Total	$ 16.2	$ (7.6)	$ 0.2	$ 2.5

There were no material gains or losses reclassified into earnings during the three and nine months ended September 30, 2017 and 2016, as a result of the discontinuance of forecasted transactions that were no longer probable of occurring. It is estimated that a net gain of $2.8 million and a net gain of $0.2 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 investment securities, respectively. It is estimated that a net gain of $0.1 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 investment securities.
Certain foreign exchange contracts and qualifying nonderivative instruments 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. There was no ineffectiveness recorded during the three and nine months ended September 30, 2017 and 2016. Amounts recorded in AOCI are reclassified to net income only upon the sale or liquidation of an investment in a non-U.S. branch or subsidiary.
The following table provides net investment hedge gains and losses recognized in AOCI during the three and nine months ended September 30, 2017 and 2016.
Table 65: Net Investment Hedge Gains and Losses Recognized in AOCI

	Hedging Gain / (Loss) Recognized in OCI (Before Tax)	
	Three Months Ended September	Nine Months Ended September 30,

	30,			
(In Millions)	2017	2016	2017	2016
Foreign Exchange Contracts	$(62.3)	$4.1	$(194.7)	$87.6
Total	$(62.3)	$4.1	$(194.7)	$87.6

77

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

Derivatives that are not formally designated as a hedge under GAAP are entered into for risk management purposes. Foreign exchange contracts are 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 which retains the risks associated with the ultimate conversion of the Visa Class B common shares into Visa Class A common shares. Credit default swaps were entered into to manage credit risk associated with certain loans and loan commitments. Total return swaps are entered into to manage the equity price risk associated with certain investments. The following table identifies the types of risk management derivative instruments not formally designated as hedges and their notional amounts and fair values.

Table 66: Notional and Fair Values of Non-Designated Risk Management Derivative Instruments

(In Millions)	September 30, 2017			December 31, 2016		
	Notional Value	Fair Value Asset	Fair Value Liability	Notional Value	Fair Value Asset	Fair Value Liability
Foreign Exchange Contracts	$996.4	$8.7	$ 2.9	$289.6	$0.8	$ 1.8
Other Financial Derivatives [1]	364.3	—	27.7	270.0	—	25.2
Total	$1,360.7	$8.7	$ 30.6	$559.6	$0.8	$ 27.0

[1] This line includes swaps related to sales of certain Visa Class B common shares.

Changes in the fair value of derivative instruments not formally designated as hedges 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 and nine months ended September 30, 2017 and 2016.

Table 67: Location and Amount of Gains and Losses Recorded in Income for Non-Designated Risk Management Derivative Instruments

(In Millions)	Location of Derivative Gain / (Loss) Recognized in Income	Amount of Derivative Gain / (Loss) Recognized in Income			
		Three Months Ended September 30,		Nine Months Ended September 30,	
		2017	2016	2017	2016
Foreign Exchange Contracts	Other Operating Income	$(5.9)	$(1.2)	$2.2	$(0.2)
Other Financial Derivatives [1]	Other Operating Income	(4.0)	(2.3)	(8.4)	(8.6)
Total		$(9.9)	$(3.5)	$(6.2)	$(8.8)

[1] This line includes swaps related to sales of certain Visa Class B common shares, total return swap contracts, and credit default swap contracts.

Table of Contents
Notes to Consolidated Financial Statements (unaudited) (continued)

Note 21 – Offsetting of Assets and Liabilities

The following tables provide information regarding the offsetting of derivative assets and securities purchased under agreements to resell within the consolidated balance sheets as of September 30, 2017 and December 31, 2016.

Table 68: Offsetting of Derivative Assets and Securities Purchased Under Agreements to Resell

September 30, 2017

(In Millions)	Gross Recognized Assets	Gross Amounts Offset	Net Amounts Presented	Gross Amounts Not Offset	Net Amount [3]
Derivative Assets [1]					
Foreign Exchange Contracts Over the Counter (OTC)	$ 2,459.4	$ 1,702.0	$ 757.4	$ —	$ 757.4
Interest Rate Swaps OTC	3.0	12.4	(9.4)	—	(9.4)
Interest Rate Swaps Exchange Cleared	114.1	22.1	92.0	—	92.0
Cross Product Netting Adjustment	—	19.1	—	—	—
Cross Product Collateral Adjustment	—	617.9	—	—	—
Total Derivatives Subject to a Master Netting Arrangement	2,576.5	2,373.5	203.0	—	203.0
Total Derivatives Not Subject to a Master Netting Arrangement	640.7	—	640.7	—	640.7
Total Derivatives	$ 3,217.2	$ 2,373.5	$ 843.7	$ —	$ 843.7
Securities Purchased under Agreements to Resell [2]	$ 1,605.8	$ —	$ 1,605.8	$ 1,605.8	$ —

December 31, 2016

(In Millions)	Gross Recognized Assets	Gross Amounts Offset	Net Amounts Presented	Gross Amounts Not Offset	Net Amount [3]
Derivative Assets [1]					
Foreign Exchange Contracts OTC	$ 2,800.4	$ 1,651.9	$ 1,148.5	$ —	$ 1,148.5
Interest Rate Swaps OTC	129.8	18.2	111.6	—	111.6
Interest Rate Swaps Exchange Cleared	117.4	21.8	95.6	—	95.6
Cross Product Netting Adjustment	—	17.2	—	—	—
Cross Product Collateral Adjustment	—	461.3	—	—	—
Total Derivatives Subject to a Master Netting Arrangement	3,047.6	2,170.4	877.2	—	877.2
Total Derivatives Not Subject to a Master Netting Arrangement	809.2	—	809.2	—	809.2
Total Derivatives	3,856.8	2,170.4	1,686.4	—	1,686.4
Securities Purchased under Agreements to Resell [2]	$ 1,967.5	$ —	$ 1,967.5	$ 1,967.5	$ —

(1) Derivative assets are reported in other assets in the consolidated balance sheets. Other assets (excluding derivative assets) totaled $3.8 billion and $3.3 billion as of September 30, 2017 and December 31, 2016, respectively.

(2) Securities purchased under agreements to resell are reported in federal funds sold and securities purchased under agreements to resell in the consolidated balance sheets. There were $65.0 million Federal funds sold and $6.8 million Federal funds sold as of September 30, 2017 and December 31, 2016, respectively.

(3) Northern Trust did not possess any cash collateral that was not offset in the consolidated balance sheets that could have been used to offset the net amounts presented in the consolidated balance sheets as of September 30, 2017 and December 31, 2016.

Table of Contents

Notes to Consolidated Financial Statements (unaudited) (continued)

The following tables provide information regarding the offsetting of derivative liabilities and securities sold under agreements to repurchase within the consolidated balance sheets as of September 30, 2017 and December 31, 2016.

Table 69: Offsetting of Derivative Liabilities and Securities Sold Under Agreements to Repurchase

September 30, 2017

(In Millions)	Gross Recognized Liabilities	Gross Amounts Offset	Net Amounts Presented	Gross Amounts Not Offset	Net Amount [2]
Derivative Liabilities [1]					
Foreign Exchange Contracts OTC	$ 2,215.8	$ 1,702.0	$ 513.8	$ —	$ 513.8
Interest Rate Swaps OTC	62.0	12.4	49.6	—	49.6
Interest Rate Swaps Exchange Cleared	22.1	22.1	—	—	—
Other Financial Derivatives	27.7	—	27.7	—	27.7
Cross Product Netting Adjustment	—	19.1	—	—	—
Cross Product Collateral Adjustment	—	334.2	—	—	—
Total Derivatives Subject to a Master Netting Arrangement	2,327.6	2,089.8	237.8	—	237.8
Total Derivatives Not Subject to a Master Netting Arrangement	952.8	—	952.8	—	952.8
Total Derivatives	3,280.4	2,089.8	1,190.6	—	1,190.6
Securities Sold under Agreements to Repurchase	$ 523.9	$—	$ 523.9	$ 523.9	$ —

December 31, 2016

(In Millions)	Gross Recognized Liabilities	Gross Amounts Offset	Net Amounts Presented	Gross Amounts Not Offset	Net Amount [2]
Derivative Liabilities [1]					
Foreign Exchange Contracts OTC	$ 2,634.4	$ 1,651.9	$ 982.5	$ —	$ 982.5
Interest Rate Swaps OTC	86.2	18.2	68.0	—	68.0
Interest Rate Swaps Exchange Cleared	21.8	21.8	—	—	—
Other Financial Derivatives	25.2	—	25.2	—	25.2
Cross Product Netting Adjustment	—	17.2	—	—	—
Cross Product Collateral Adjustment	—	722.1	—	—	—
Total Derivatives Subject to a Master Netting Arrangement	2,767.6	2,431.2	336.4	—	336.4
Total Derivatives Not Subject to a Master Netting Arrangement	608.5	—	608.5	—	608.5
Total Derivatives	3,376.1	2,431.2	944.9	—	944.9
Securities Sold under Agreements to Repurchase	$ 473.7	$—	$ 473.7	$ 473.7	$ —

(1) Derivative liabilities are reported in other liabilities in the consolidated balance sheets. Other liabilities (excluding derivative liabilities) totaled $2.1 billion and $2.7 billion as of September 30, 2017 and December 31, 2016, respectively.

(2) 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 September 30, 2017 and December 31, 2016.

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

80

arrangement, Northern Trust is entitled to set off 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.

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. Northern Trust centrally clears those interest rate derivative instruments addressed under Title VII of the Dodd-Frank Wall Street Reform and Consumer Protection Act. These transactions are subject to an agreement similar to a master netting arrangement which has the same rights of offset as described above.

Note 22 – Subsequent Events

On October 1, 2017, Northern Trust completed its acquisition of UBS Asset Management’s fund administration servicing businesses in Luxembourg and Switzerland. The purchase price recorded in connection with the closing of the acquisition, which remains subject to adjustment through May 2018, totaled $199.4 million and was comprised of $180.0 million of cash and $19.4 million of contingent consideration.

Table of Contents

Item 4. Controls and Procedures

As of September 30, 2017, 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 September 30, 2017, the Corporation's disclosure controls and procedures are effective.

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

PART II — OTHER INFORMATION

Item 1. Legal Proceedings

The information presented under the caption "Legal Proceedings" in "Note 19 — 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 September 30, 2017.

Table 70: Repurchases of Common Stock

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of a Publicly Announced Plan (1)	Maximum Number of Shares that May Yet Be Purchased Under the Plan
July 1-31, 2017	140,940	$ 87.98	140,940	9,359,060
August 1-31, 2017	805,946	88.47	805,946	8,553,114
September 1-30, 2017	420,939	88.37	420,939	8,132,175
Total (Third Quarter)	1,367,825	$ 88.39	1,367,825	8,132,175

(1) Repurchases through July 18, 2017 were made pursuant to the repurchase program announced by the Corporation on April 21, 2015, under which the Corporation's Board of Directors authorized the Corporation to repurchase up to 15.0 million shares of the Corporation's common stock. This program was terminated and replaced with a new repurchase program, announced on July 18, 2017, under which the Corporation's Board of Directors authorized the Corporation to repurchase up to 9.5 million shares of the Corporation's common stock. Repurchases after July 18, 2017 were made pursuant to the new repurchase program, which 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.

Table of Contents

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:	October 26, 2017	By:	/s/ S. Biff Bowman
			S. Biff Bowman
			Executive Vice President and
			Chief Financial Officer
			(Principal Financial Officer)
Date:	October 26, 2017	By:	/s/ Aileen B. Blake
			Aileen B. Blake
			Executive Vice President and Controller
			(Principal Accounting Officer)

Table of Contents

EXHIBIT INDEX

Exhibit Number	Description
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.
31.1	Rule 13a-14(a)/15d-14(a) Certification of CEO Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2	Rule 13a-14(a)/15d-14(a) Certification of CFO Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32	Certifications of CEO and CFO Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101	Includes the following financial and related information from Northern Trust’s Quarterly Report on Form 10-Q as of and for the quarter ended September 30, 2017, formatted in Extensible Business Reporting Language (XBRL): (1) the Consolidated Balance Sheets as of September 30, 2017 and December 31, 2016, (2) the Consolidated Statements of Income for the three and nine months ended September 30, 2017 and 2016, (3) the Consolidated Statements of Comprehensive Income for the three and nine months ended September 30, 2017 and 2016, (4) the Consolidated Statements of Changes in Stockholders’ Equity for the nine months ended September 30, 2017 and 2016, (5) the Consolidated Statements of Cash Flows for the nine months ended September 30, 2017 and 2016, and (6) Notes to Consolidated Financial Statements