

Financial Report for the Three Months Ended March 31, 2019
The Bank of N.T. Butterfield & Son Limited



Butterfield

INDEX TO FINANCIAL STATEMENTS

Unaudited Consolidated Financial Statements	Page
Consolidated Balance Sheets (unaudited) as of March 31, 2019 and December 31, 2018	2
Consolidated Statements of Operations (unaudited) for the Three Months Ended March 31, 2019 and 2018	3
Consolidated Statements of Comprehensive Income (unaudited) for the Three Months Ended March 31, 2019 and 2018	4
Consolidated Statements of Changes in Shareholders' Equity (unaudited) for the Three Months Ended March 31, 2019 and 2018	5
Consolidated Statements of Cash Flows (unaudited) for the Three Months Ended March 31, 2019 and 2018	6
Notes to the Consolidated Financial Statements (unaudited)	7

The Bank of N.T. Butterfield & Son Limited
Consolidated Balance Sheets (unaudited)
(In thousands of US dollars, except share and per share data)

	As at	
	March 31, 2019	December 31, 2018
Assets		
Cash and demand deposits with banks - Non-interest bearing	140,699	124,182
Demand deposits with banks - Interest bearing	315,129	487,588
Cash equivalents - Interest bearing	2,145,441	1,442,113
Cash due from banks	2,601,269	2,053,883
Securities purchased under agreement to resell	72,466	27,341
Short-term investments	215,280	52,336
Investment in securities		
Trading	6,942	6,495
Available-for-sale	2,198,510	2,182,749
Held-to-maturity (fair value: \$2,187,925 (2018: \$2,036,214))	2,187,917	2,066,120
Total investment in securities	4,393,369	4,255,364
Loans		
Loans	4,011,471	4,068,991
Allowance for credit losses	(25,011)	(25,102)
Loans, net of allowance for credit losses	3,986,460	4,043,889
Premises, equipment and computer software	154,555	158,060
Accrued interest	30,068	20,870
Goodwill	24,417	23,991
Intangible assets	49,680	50,751
Equity method investments	14,692	14,660
Other real estate owned	4,687	5,346
Other assets	96,118	66,687
Total assets	11,643,061	10,773,178
Liabilities		
Customer deposits		
Bermuda		
Non-interest bearing	1,377,858	1,378,539
Interest bearing	3,377,575	3,117,063
Non-Bermuda		
Non-interest bearing	798,343	732,957
Interest bearing	4,714,322	4,189,860
Total customer deposits	10,268,098	9,418,419
Bank deposits		
Bermuda	16,266	8,100
Non-Bermuda	9,207	25,722
Total deposits	10,293,571	9,452,241
Employee benefit plans	117,112	117,203
Accrued interest	7,470	5,072
Other liabilities	185,359	172,997
Total other liabilities	309,941	295,272
Long-term debt	143,367	143,322
Total liabilities	10,746,879	9,890,835
Commitments, contingencies and guarantees (Note 10)		
Shareholders' equity		
Common share capital (BMD 0.01 par; authorized voting ordinary shares 2,000,000,000 and non-voting ordinary shares 6,000,000,000) issued and outstanding: 54,936,833 (2018: 55,359,218)	549	554
Additional paid-in capital	1,146,182	1,171,435
Accumulated deficit	(64,187)	(92,676)
Less: treasury common shares, at cost: 1,619,212 (2018: 1,254,212)	(60,444)	(48,443)
Accumulated other comprehensive loss	(125,918)	(148,527)
Total shareholders' equity	896,182	882,343
Total liabilities and shareholders' equity	11,643,061	10,773,178

The accompanying notes are an integral part of these consolidated financial statements.

The Bank of N.T. Butterfield & Son Limited
Consolidated Statements of Operations (unaudited)
(In thousands of US dollars, except per share data)

	Three months ended	
	March 31, 2019	March 31, 2018
Non-interest income		
Asset management	6,738	6,379
Banking	11,151	10,860
Foreign exchange revenue	8,760	8,194
Trust	12,607	10,854
Custody and other administration services	2,681	2,225
Other non-interest income	1,443	1,249
Total non-interest income	43,380	39,761
Interest income		
Interest and fees on loans	56,727	50,550
<i>Investments (none of the investment securities are intrinsically tax-exempt)</i>		
Available-for-sale	15,456	17,318
Held-to-maturity	17,038	11,310
Deposits with banks	9,930	5,013
Total interest income	99,151	84,191
Interest expense		
Deposits	9,155	2,942
Long-term debt	2,018	1,345
Securities sold under repurchase agreements	—	9
Total interest expense	11,173	4,296
Net interest income before provision for credit losses	87,978	79,895
Provision for credit recoveries (losses)	39	1,942
Net interest income after provision for credit losses	88,017	81,837
Net trading gains (losses)	447	(71)
Net realized gains (losses) on available-for-sale investments	972	850
Net gains (losses) on other real estate owned	128	(339)
Net other gains (losses)	204	(87)
Total other gains (losses)	1,751	353
Total net revenue	133,148	121,951
Non-interest expense		
Salaries and other employee benefits	41,462	35,650
Technology and communications	14,610	14,745
Professional and outside services	5,600	9,684
Property	5,377	5,125
Indirect taxes	5,222	4,948
Non-service employee benefits expense	1,328	1,313
Marketing	1,674	942
Amortization of intangible assets	1,338	1,071
Other expenses	4,304	3,924
Total non-interest expense	80,915	77,402
Net income before income taxes	52,233	44,549
Income tax expense	(126)	(352)
Net income	52,107	44,197
Earnings per common share		
Basic earnings per share	0.97	0.80
Diluted earnings per share	0.96	0.79

The accompanying notes are an integral part of these consolidated financial statements.

The Bank of N.T. Butterfield & Son Limited
Consolidated Statements of Comprehensive Income (unaudited)
(In thousands of US dollars)

	Three months ended	
	March 31, 2019	March 31, 2018
Net income	52,107	44,197
Other comprehensive income (loss), net of taxes		
Net change in unrealized gains and losses on translation of net investment in foreign operations	814	1,184
Accretion of net unrealized (gains) losses on held-to-maturity investments transferred from available-for-sale investments	7	22
Net change in unrealized gains and losses on available-for-sale investments	21,284	(28,721)
Employee benefit plans adjustments	504	702
Other comprehensive income (loss), net of taxes	22,609	(26,813)
Total comprehensive income	74,716	17,384

The accompanying notes are an integral part of these consolidated financial statements.

The Bank of N.T. Butterfield & Son Limited
Consolidated Statements of Changes in Shareholders' Equity (unaudited)

	Three months ended			
	March 31, 2019		March 31, 2018	
	Number of shares	In thousands of US dollars	Number of shares	In thousands of US dollars
Common share capital issued and outstanding				
Balance at beginning of period	55,359,218	554	54,692,630	547
Retirement of shares	(780,000)	(8)	—	—
Issuance of common shares	357,615	3	454,210	4
Balance at end of period	54,936,833	549	55,146,840	551
Additional paid-in capital				
Balance at beginning of period		1,171,435		1,155,542
Share-based compensation		3,911		2,537
Share-based settlements		—		648
Retirement of common shares		(29,169)		—
Issuance of common shares, net of underwriting discounts and commissions		5		1,714
Balance at end of period		1,146,182		1,160,441
Accumulated deficit				
Balance at beginning of period		(92,676)		(204,156)
Net income for period		52,107		44,197
Common share cash dividends declared and paid, \$0.44 per share (2018: \$0.38 per share)		(23,618)		(20,941)
Balance at end of period		(64,187)		(180,900)
Treasury common shares				
Balance at beginning of period	1,254,212	(48,443)	—	—
Purchase of treasury common shares	1,145,000	(41,178)	—	—
Retirement of shares	(780,000)	29,177	—	—
Balance at end of period	1,619,212	(60,444)	—	—
Accumulated other comprehensive income (loss)				
Balance at beginning of period		(148,527)		(129,052)
Other comprehensive income (loss), net of taxes		22,609		(26,813)
Balance at end of period		(125,918)		(155,865)
Total shareholders' equity		896,182		824,227

The accompanying notes are an integral part of these consolidated financial statements.

The Bank of N.T. Butterfield & Son Limited
Consolidated Statements of Cash Flows (unaudited)
(In thousands of US dollars)

	Three months ended	
	March 31, 2019	March 31, 2018
Cash flows from operating activities		
Net income	52,107	44,197
Adjustments to reconcile net income to operating cash flows		
Depreciation and amortization	10,574	12,224
Provision for credit (recovery) losses	(39)	(1,942)
Share-based payments and settlements	3,911	3,185
Net realized (gains) losses on available-for-sale investments	(972)	(850)
Net (gains) losses on other real estate owned	(128)	339
(Increase) decrease in carrying value of equity method investments	(32)	(271)
Dividends received from equity method investments	—	47
Changes in operating assets and liabilities		
(Increase) decrease in accrued interest receivable	(8,382)	(3,598)
(Increase) decrease in other assets	(30,918)	(11,344)
Increase (decrease) in accrued interest payable	2,395	1,118
Increase (decrease) in employee benefit plans and other liabilities	11,839	46,940
Cash provided by (used in) operating activities	40,355	90,045
Cash flows from investing activities		
(Increase) decrease in securities purchased under agreement to resell	(45,125)	(19,103)
Short-term investments other than restricted cash: purchases	(179,615)	—
Short-term investments other than restricted cash: proceeds from maturities and sales	23,234	141,063
Net change in trading investments	(447)	71
Available-for-sale investments: proceeds from sale	972	321,381
Available-for-sale investments: proceeds from maturities and pay downs	60,062	157,535
Available-for-sale investments: purchases	(55,814)	(48,551)
Held-to-maturity investments: proceeds from maturities and pay downs	42,931	30,172
Held-to-maturity investments: purchases	(165,300)	(350,984)
Net (increase) decrease in loans	78,949	(144,566)
Additions to premises, equipment and computer software	(2,528)	(3,772)
Proceeds from sale of other real estate owned	787	—
Net cash disbursed for business acquisitions	—	(30,168)
Cash provided by (used in) investing activities	(241,894)	53,078
Cash flows from financing activities		
Net increase (decrease) in demand and term deposit liabilities	810,154	159,839
Common shares repurchased	(41,178)	—
Proceeds from stock option exercises	8	1,719
Cash dividends paid on common shares	(23,618)	(20,941)
Cash provided by (used in) financing activities	745,366	140,617
Net effect of exchange rates on cash, cash equivalent and restricted cash	9,278	15,810
Net increase (decrease) in cash, cash equivalent and restricted cash	553,105	299,550
Cash, cash equivalent and restricted cash: beginning of period	2,070,120	1,557,733
Cash, cash equivalent and restricted cash: end of period	2,623,225	1,857,283
Components of cash, cash equivalent and restricted cash at end of period		
Cash due from banks	2,601,269	1,845,628
Restricted cash included in short-term investments on the consolidated balance sheets	21,956	11,655
Total cash, cash equivalent and restricted cash at end of period	2,623,225	1,857,283

The accompanying notes are an integral part of these consolidated financial statements.

Note 1: Nature of business

The Bank of N.T. Butterfield & Son Limited ("Butterfield", the "Bank" or the "Company") is incorporated under the laws of Bermuda and has a banking license under the Banks and Deposit Companies Act, 1999 ("the Act"). Butterfield is regulated by the Bermuda Monetary Authority ("BMA"), which operates in accordance with Basel principles.

Butterfield is a full service bank and wealth manager headquartered in Hamilton, Bermuda. The Bank operates its business through three geographic segments: Bermuda, the Cayman Islands, and the Channel Islands and the United Kingdom (UK), where its principal banking operations are located and where it offers specialized financial services. Butterfield offers banking services, comprised of retail and corporate banking, and wealth management, which consists of trust, private banking, and asset management. In the Bermuda and Cayman Islands segments, Butterfield offers both banking and wealth management. In the Channel Islands and the UK segment, the Bank offers wealth management and residential property lending.

On September 16, 2016, the Bank's common shares began to trade on the New York Stock Exchange under the symbol "NTB". On September 21, 2016, the Bank completed its offering of 5,957,447 common shares, at \$23.50 per share. The proceeds, net of the underwriting discounts and commissions, were \$131.6 million.

Note 2: Significant accounting policies

The accompanying unaudited interim consolidated financial statements of the Bank have been prepared in accordance with accounting principles generally accepted in the United States of America ("US GAAP") for interim financial information and should be read in conjunction with the Bank's audited financial statements for the year ended December 31, 2018.

In the opinion of Management, these unaudited interim consolidated financial statements reflect all adjustments (consisting principally of normal recurring accruals) considered necessary for a fair statement of the Bank's financial position and results of operations as at the end of and for the periods presented. The Bank's results for interim periods are not necessarily indicative of results for the full year.

The preparation of financial statements in conformity with US GAAP requires Management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. While Management believes that the amounts included in the unaudited interim consolidated financial statements reflect its best estimates and assumptions, actual results could differ from those estimates. The Bank's principal estimates include:

- Allowance for credit losses
- Fair value and impairment of financial instruments
- Impairment of long-lived assets
- Impairment of goodwill
- Employee benefit plans
- Share-based payments

Leases

In the normal course of operation, the Bank enters into leasing agreements either as the lessee or the lessor. Starting on January 1, 2019 (the adoption date of the new lease accounting guidance ASU 2016-02 Leases (Topic 842)), the Bank recognizes a right-of-use asset and a lease liability for operating leases and for finance leases. Lease liabilities are measured as the present value of future lease payments, including term renewals that are reasonably certain to occur, discounted using the Bank's incremental borrowing interest rate. Right-of-use assets are measured as the carrying amount of the related lease liabilities adjusted for: prepaid or accrued lease payments, unamortized lease incentive received, unamortized initial direct costs and any impairment of the right-of-use asset.

On January 1, 2019 the Bank elected the practical expedient: 1) not to reassess whether any expired or existing contracts are or contain leases; 2) not reassess the lease classification for any expired or existing leases and 3) not reassess initial direct costs for any existing leases.

The Bank also elected the practical expedient not to separate lease components from non-lease components for all classes of underlying assets.

The Bank also elected the practical expedient not to recognize a right-of-use asset and a lease liability for leases with a term at inception of 12 months or less, including renewal options are reasonably certain to be exercised (referred to as "short term leases").

New Accounting Pronouncements

The following accounting developments were issued during the three months ended March 31, 2019 or are accounting standards pending adoption:

In June 2016, the FASB published Accounting Standards Update No. 2016-13 Financial Instruments – Credit Losses. The amendments in this update provide a new impairment model, known as the current expected credit loss model that is based on expected losses rather than incurred losses. The amendments in this update are also intended to reduce the complexity and reduce the number of impairment models entities use to account for debt instruments. For public business entities that meet the GAAP definition of an SEC filer, the effective date for this update for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. The Bank is evaluating ASU No. 2016-13 and has initiated a working group with multiple members from applicable departments to evaluate the requirements of the new standard, planning for loss modeling requirements consistent with lifetime expected loss estimates, and assessing the impact it will have on current processes. The extent of the impact upon adoption will likely depend on the characteristics of the Bank's loan portfolio and economic conditions at that date, as well as forecasted conditions thereafter.

In March 2019, the FASB published Accounting Standards Update No. 2019-01 Leases (Topic 842) - Codification Improvements. The amendments in this update provide clarification on three issues relating to ASU 2016-02 Leases (Topic 842): 1) determining the fair value of the underlying asset by lessors that are not manufacturers or dealers; 2) presentation on the statement of cash flows - sales-type and direct financing leases for all lessors that are depository and lending entities within the scope of Topic 942; and 3) transition disclosures related to Topic 250, Accounting Changes and Error Corrections. The transition and effective date provisions for this update apply to Issue 1 and Issue 2 and are effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years, for public business entities. Issue 3 amendments are to the original transition requirements in Topic 842 to clarify that the transition disclosures for Topic 250, paragraphs 250-10-50-1(b)(2) and paragraph 250-10-50-3 are excluded from interim disclosure requirements for Topic 842. The Bank does not anticipate this ASU to have an impact on the Bank.

Note 3: Cash due from banks

	March 31, 2019			December 31, 2018		
	Bermuda	Non-Bermuda	Total	Bermuda	Non-Bermuda	Total
Non-interest bearing						
Cash and demand deposits with banks	22,817	117,882	140,699	21,677	102,505	124,182
Interest bearing¹						
Demand deposits with banks	179,716	135,413	315,129	335,841	151,747	487,588
Cash equivalents	825,537	1,319,904	2,145,441	364,714	1,077,399	1,442,113
Sub-total - Interest bearing	1,005,253	1,455,317	2,460,570	700,555	1,229,146	1,929,701
Total cash due from banks	1,028,070	1,573,199	2,601,269	722,232	1,331,651	2,053,883

¹ Interest bearing cash due from banks includes certain demand deposits with banks as at March 31, 2019 in the amount of \$155.9 million (December 31, 2018: \$204.2 million) that are earning interest at a negligible rate.

Note 4: Short-term investments

	March 31, 2019			December 31, 2018		
	Bermuda	Non-Bermuda	Total	Bermuda	Non-Bermuda	Total
Unrestricted						
Maturing within three months	—	162,848	162,848	—	25,459	25,459
Maturing between three to six months	—	30,092	30,092	—	9,641	9,641
Maturing between six to twelve months	—	384	384	—	—	—
Total unrestricted short-term investments	—	193,324	193,324	—	35,100	35,100
Affected by drawing restrictions related to minimum reserve and derivative margin requirements						
Non-interest earning demand deposits	—	7,395	7,395	—	2,401	2,401
Interest earning demand and term deposits	13,563	998	14,561	13,836	999	14,835
Total restricted short-term investments	13,563	8,393	21,956	13,836	3,400	17,236
Total short-term investments	13,563	201,717	215,280	13,836	38,500	52,336

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

Note 5: Investment in securities

Amortized Cost, Carrying Amount and Fair Value

On the consolidated balance sheets, trading and available-for-sale ("AFS") investments are carried at fair value and held-to-maturity ("HTM") investments are carried at amortized cost.

	March 31, 2019				December 31, 2018			
	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
Trading								
Mutual funds	5,724	1,665	(447)	6,942	5,724	1,176	(405)	6,495
Total trading	5,724	1,665	(447)	6,942	5,724	1,176	(405)	6,495
Available-for-sale								
US government and federal agencies	1,820,277	5,432	(22,753)	1,802,956	1,820,808	3,355	(37,656)	1,786,507
Non-US governments debt securities	25,792	26	(515)	25,303	25,804	19	(398)	25,425
Corporate debt securities	80,054	—	(675)	79,379	80,177	—	(1,464)	78,713
Asset-backed securities - Student loans	13,290	—	(664)	12,626	13,290	—	(664)	12,626
Commercial mortgage-backed securities	125,477	41	(1,179)	124,339	125,806	6	(2,603)	123,209
Residential mortgage-backed securities	155,964	41	(2,098)	153,907	160,492	—	(4,223)	156,269
Total available-for-sale	2,220,854	5,540	(27,884)	2,198,510	2,226,377	3,380	(47,008)	2,182,749
Held-to-maturity¹								
US government and federal agencies	2,187,917	13,287	(13,279)	2,187,925	2,066,120	5,012	(34,918)	2,036,214
Total held-to-maturity	2,187,917	13,287	(13,279)	2,187,925	2,066,120	5,012	(34,918)	2,036,214

¹ For the three months ended March 31, 2019 and the year ended December 31, 2018, non-credit impairments recognized in accumulated other comprehensive loss ("AOCL") for HTM investments were nil.

Investments with Unrealized Loss Positions

The Bank does not believe that the AFS and HTM investment securities that were in an unrealized loss position as of March 31, 2019 (and December 31, 2018), which were composed of 173 securities representing 65% of the AFS and HTM portfolios' fair value (December 31, 2018: 198 and 75%, respectively), represent an other-than-temporary impairment ("OTTI"). Total gross unrealized losses were 1.5% of the fair value of affected securities (December 31, 2018: 2.6%) and were attributable primarily to changes in market interest rates, relative to when the investment securities were purchased, and not due to the credit quality of the investment securities. The following describes the processes for identifying credit impairment in security types with the most significant unrealized losses as shown in the preceding tables.

Management believes that all the **US government and federal agencies securities** do not have any credit losses, given the explicit and implicit guarantees provided by the US federal government.

Management believes that all the **Non-US governments debt securities** do not have any credit losses, given the explicit guarantee provided by the issuing government.

The unrealized losses in **Corporate debt securities** relate primarily to six debt securities that are all of investment grade with ratings of A- or A+. Management believes that the value of these securities will recover and the current unrealized loss positions are a result of interest rate movements.

Investments in **Asset-backed securities - Student loans** are composed primarily of securities collateralized by Federal Family Education Loan Program loans ("FFELP loans"). FFELP loans benefit from a US federal government guarantee of at least 97% of defaulted principal and accrued interest, with additional credit support provided in the form of over-collateralization, subordination and excess spread, which collectively total in excess of 100%. Accordingly, the vast majority of FFELP loan-backed securities are not exposed to traditional consumer credit risk.

Investments in **Commercial mortgage-backed securities** relate to 11 senior securities rated AAA or AA+ that possess significant subordination, a form of credit enhancement expressed hereafter as the percentage of pool losses that can occur before the senior securities held by the Bank will incur its first dollar of principal loss. No credit losses were recognized as for eight of these securities the weighted average credit support and the weighted average loan-to-value ratios ("LTV") range from 26% - 38% and 46% - 72%, respectively. In respect of the three remaining securities, two are fully defeased with the other having an LTV of less than 30%.

Investments in **Residential mortgage-backed securities** relate to 15 securities which are rated AAA or AA+ and possess similar significant credit enhancement as described above. No credit losses were recognized on these securities as the weighted average credit support and the weighted average LTV ratios range from 6% - 21% and 53% - 65%, respectively. Current credit support is significantly greater than any delinquencies experienced on the underlying mortgages.

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

In the following tables, debt securities with unrealized losses that are not deemed to be OTTI are categorized as being in a loss position for "less than 12 months" or "12 months or more" based on the point in time that the fair value most recently declined below the amortized cost basis.

	<u>Less than 12 months</u>		<u>12 months or more</u>			
	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses	Total fair value	Total gross unrealized losses
March 31, 2019						
Available-for-sale securities with unrealized losses						
US government and federal agencies	288,373	(1,507)	1,028,761	(21,246)	1,317,134	(22,753)
Non-US governments debt securities	—	—	22,246	(515)	22,246	(515)
Corporate debt securities	—	—	79,380	(675)	79,380	(675)
Asset-backed securities - Student loans	—	—	12,626	(664)	12,626	(664)
Commercial mortgage-backed securities	800	(4)	118,487	(1,175)	119,287	(1,179)
Residential mortgage-backed securities	—	—	142,599	(2,098)	142,599	(2,098)
Total available-for-sale securities with unrealized losses	289,173	(1,511)	1,404,099	(26,373)	1,693,272	(27,884)
Held-to-maturity securities with unrealized losses						
US government and federal agencies	—	—	1,136,360	(13,279)	1,136,360	(13,279)
	<u>Less than 12 months</u>		<u>12 months or more</u>			
	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses	Total fair value	Total gross unrealized losses
December 31, 2018						
Available-for-sale securities with unrealized losses						
US government and federal agencies	372,283	(1,586)	1,027,638	(36,070)	1,399,921	(37,656)
Non-US governments debt securities	—	—	22,360	(398)	22,360	(398)
Corporate debt securities	14,914	(114)	63,799	(1,350)	78,713	(1,464)
Asset-backed securities - Student loans	—	—	12,626	(664)	12,626	(664)
Commercial mortgage-backed securities	812	—	117,379	(2,603)	118,191	(2,603)
Residential mortgage-backed securities	49,804	(1,313)	106,465	(2,910)	156,269	(4,223)
Total available-for-sale securities with unrealized losses	437,813	(3,013)	1,350,267	(43,995)	1,788,080	(47,008)
Held-to-maturity securities with unrealized losses						
US government and federal agencies	647,484	(11,468)	724,974	(23,450)	1,372,458	(34,918)

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

Investment Maturities

The following table presents the remaining term to contractual maturity of the Bank's securities. The actual maturities may differ as certain securities offer prepayment options to the borrowers.

	Remaining term to maturity					Carrying amount
	Within 3 months	3 to 12 months	1 to 5 years	5 to 10 years	No specific or single maturity	
March 31, 2019						
Trading						
Mutual funds	—	—	—	—	6,942	6,942
Available-for-sale						
US government and federal agencies	—	—	34,593	—	1,768,363	1,802,956
Non-US governments debt securities	—	3,057	22,246	—	—	25,303
Corporate debt securities	14,982	—	64,397	—	—	79,379
Asset-backed securities - Student loans	—	—	—	—	12,626	12,626
Commercial mortgage-backed securities	—	—	—	—	124,339	124,339
Residential mortgage-backed securities	—	—	—	—	153,907	153,907
Total available-for-sale	14,982	3,057	121,236	—	2,059,235	2,198,510
Held-to-maturity						
US government and federal agencies	—	—	—	—	2,187,917	2,187,917
Total investments	14,982	3,057	121,236	—	4,254,094	4,393,369
Total by currency						
US dollars	14,982	3,057	121,236	—	4,253,816	4,393,091
Other	—	—	—	—	278	278
Total investments	14,982	3,057	121,236	—	4,254,094	4,393,369

Pledged Investments

The Bank pledges certain US government and federal agencies investment securities to further secure the Bank's issued customer deposit products. The secured party does not have the right to sell or repledge the collateral.

	March 31, 2019		December 31, 2018	
	Amortized cost	Fair value	Amortized cost	Fair value
Pledged Investments				
Available-for-sale	14,633	14,762	42,531	42,400
Held-to-maturity	52,078	51,552	70,818	69,030

Sale Proceeds and Realized Gains and Losses of AFS Securities

	Three months ended		
	March 31, 2019		
	Sale proceeds	Gross realized gains	Gross realized (losses)
Pass-through note	972	972	—
Total	972	972	—

	Three months ended		
	March 31, 2018		
	Sale proceeds	Gross realized gains	Gross realized (losses)
US government and federal agencies	320,471	766	(826)
Pass-through note	910	910	—
Total	321,381	1,676	(826)

Taxability of Interest Income

None of the investments' interest income have received a specific preferential income tax treatment in any of the jurisdictions in which the Bank owns investments.

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

Note 6: Loans

The "Bermuda" and "Non-Bermuda" classifications purpose is to reflect management segment reporting as described in Note 12: Segmented information.

The principal means of securing residential mortgages, personal, credit card and business loans are entitlements over assets and guarantees. Mortgage loans are generally repayable over periods of up to thirty years and personal, business and government loans are generally repayable over terms not exceeding five years. Amounts owing on credit cards are revolving and typically a minimum amount is due within 30 days from billing. The effective yield on total loans as at March 31, 2019 is 5.48% (December 31, 2018: 5.53%).

	March 31, 2019			December 31, 2018		
	Bermuda	Non-Bermuda	Total	Bermuda	Non-Bermuda	Total
Commercial loans						
Government	97,768	12,670	110,438	92,994	12,670	105,664
Commercial and industrial	281,392	152,418	433,810	291,470	222,393	513,863
Commercial overdrafts	16,381	16,853	33,234	16,342	16,752	33,094
Total gross commercial loans	395,541	181,941	577,482	400,806	251,815	652,621
Less specific allowance for credit losses	(2,759)	(1,688)	(4,447)	(2,766)	(1,687)	(4,453)
Net commercial loans	392,782	180,253	573,035	398,040	250,128	648,168
Commercial real estate loans						
Commercial mortgage	294,839	200,111	494,950	304,519	192,456	496,975
Construction	30,000	32,016	62,016	29,760	48,909	78,669
Total gross commercial real estate loans	324,839	232,127	556,966	334,279	241,365	575,644
Less specific allowance for credit losses	(600)	—	(600)	(600)	—	(600)
Net commercial real estate loans	324,239	232,127	556,366	333,679	241,365	575,044
Consumer loans						
Automobile financing	13,176	7,080	20,256	13,249	6,975	20,224
Credit card	58,138	24,304	82,442	60,466	23,623	84,089
Overdrafts	1,775	2,255	4,030	10,511	2,375	12,886
Other consumer	31,232	38,413	69,645	28,415	35,076	63,491
Total gross consumer loans	104,321	72,052	176,373	112,641	68,049	180,690
Less specific allowance for credit losses	(274)	—	(274)	(274)	—	(274)
Net consumer loans	104,047	72,052	176,099	112,367	68,049	180,416
Residential mortgage loans	1,116,465	1,584,185	2,700,650	1,121,288	1,538,748	2,660,036
Less specific allowance for credit losses	(9,403)	(1,185)	(10,588)	(8,575)	(1,013)	(9,588)
Net residential mortgage loans	1,107,062	1,583,000	2,690,062	1,112,713	1,537,735	2,650,448
Total gross loans	1,941,166	2,070,305	4,011,471	1,969,014	2,099,977	4,068,991
Less specific allowance for credit losses	(13,036)	(2,873)	(15,909)	(12,215)	(2,700)	(14,915)
Less general allowance for credit losses	(6,008)	(3,094)	(9,102)	(7,098)	(3,089)	(10,187)
Net loans	1,922,122	2,064,338	3,986,460	1,949,701	2,094,188	4,043,889

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

Age Analysis of Past Due Loans (Including Non-Accrual Loans)

The following tables summarize the past due status of the loans as at March 31, 2019 and December 31, 2018. The aging of past due amounts are determined based on the contractual delinquency status of payments under the loan and this aging may be affected by the timing of the last business day at period end. Loans less than 30 days past due are included in current loans.

March 31, 2019	30 - 59 days	60 - 89 days	More than 90 days	Total past due loans	Total current	Total loans
Commercial loans						
Government	—	—	3,750	3,750	106,688	110,438
Commercial and industrial	—	125	7,374	7,499	426,311	433,810
Commercial overdrafts	—	—	2	2	33,232	33,234
Total commercial loans	—	125	11,126	11,251	566,231	577,482
Commercial real estate loans						
Commercial mortgage	1,922	—	4,368	6,290	488,660	494,950
Construction	—	—	—	—	62,016	62,016
Total commercial real estate loans	1,922	—	4,368	6,290	550,676	556,966
Consumer loans						
Automobile financing	14	7	222	243	20,013	20,256
Credit card	732	467	479	1,678	80,764	82,442
Overdrafts	—	—	6	6	4,024	4,030
Other consumer	419	—	731	1,150	68,495	69,645
Total consumer loans	1,165	474	1,438	3,077	173,296	176,373
Residential mortgage loans	22,219	4,210	37,759	64,188	2,636,462	2,700,650
Total gross loans	25,306	4,809	54,691	84,806	3,926,665	4,011,471

December 31, 2018	30 - 59 days	60 - 89 days	More than 90 days	Total past due loans	Total current	Total loans
Commercial loans						
Government	—	—	3,750	3,750	101,914	105,664
Commercial and industrial	231	—	7,379	7,610	506,253	513,863
Commercial overdrafts	—	—	2	2	33,092	33,094
Total commercial loans	231	—	11,131	11,362	641,259	652,621
Commercial real estate loans						
Commercial mortgage	837	1,282	4,062	6,181	490,794	496,975
Construction	—	—	—	—	78,669	78,669
Total commercial real estate loans	837	1,282	4,062	6,181	569,463	575,644
Consumer loans						
Automobile financing	125	29	162	316	19,908	20,224
Credit card	351	313	126	790	83,299	84,089
Overdrafts	—	—	4	4	12,882	12,886
Other consumer	456	183	577	1,216	62,275	63,491
Total consumer loans	932	525	869	2,326	178,364	180,690
Residential mortgage loans	31,015	8,859	36,394	76,268	2,583,768	2,660,036
Total gross loans	33,015	10,666	52,456	96,137	3,972,854	4,068,991

Loans' Credit Quality

The four credit quality classifications set out in the following tables (which exclude purchased credit-impaired loans) are defined below and describe the credit quality of the Bank's lending portfolio. These classifications each encompass a range of more granular, internal credit rating grades assigned.

A **pass loan** shall mean a loan that is expected to be repaid as agreed. A loan is classified as pass where the Bank is not expected to face repayment difficulties because the present and projected cash flows are sufficient to repay the debt and the repayment schedule as established by the agreement is being followed.

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

A **special mention** loan shall mean a loan under close monitoring by the Bank's management. Loans in this category are currently protected and still performing (current with respect to interest and principal payments), but are potentially weak and present an undue credit risk exposure, but not to the point of justifying a classification of substandard.

A **substandard** loan shall mean a loan whose evident unreliability makes repayment doubtful and there is a threat of loss to the Bank unless the unreliability is averted.

A **non-accrual** loan shall mean either management is of the opinion full payment of principal or interest is in doubt or when principal or interest is 90 days past due and for residential mortgage loans which are not well secured and in the process of collection.

March 31, 2019	Pass	Special mention	Substandard	Non-accrual	Total gross recorded investments
Commercial loans					
Government	106,688	—	—	3,750	110,438
Commercial and industrial	420,933	4,280	1,139	7,458	433,810
Commercial overdrafts	30,195	2,445	592	2	33,234
Total commercial loans	557,816	6,725	1,731	11,210	577,482
Commercial real estate loans					
Commercial mortgage	415,237	72,295	1,779	5,639	494,950
Construction	62,016	—	—	—	62,016
Total commercial real estate loans	477,253	72,295	1,779	5,639	556,966
Consumer loans					
Automobile financing	19,918	101	15	222	20,256
Credit card	81,963	—	479	—	82,442
Overdrafts	3,554	470	—	6	4,030
Other consumer	66,903	1,792	10	940	69,645
Total consumer loans	172,338	2,363	504	1,168	176,373
Residential mortgage loans	2,540,855	47,029	76,976	35,790	2,700,650
Total gross recorded loans	3,748,262	128,412	80,990	53,807	4,011,471

December 31, 2018	Pass	Special mention	Substandard	Non-accrual	Total gross recorded investments
Commercial loans					
Government	101,914	—	—	3,750	105,664
Commercial and industrial	501,241	4,097	1,146	7,379	513,863
Commercial overdrafts	29,896	2,705	491	2	33,094
Total commercial loans	633,051	6,802	1,637	11,131	652,621
Commercial real estate loans					
Commercial mortgage	444,397	45,390	3,126	4,062	496,975
Construction	78,669	—	—	—	78,669
Total commercial real estate loans	523,066	45,390	3,126	4,062	575,644
Consumer loans					
Automobile financing	19,927	119	16	162	20,224
Credit card	83,963	—	126	—	84,089
Overdrafts	12,650	232	—	4	12,886
Other consumer	60,766	1,869	10	846	63,491
Total consumer loans	177,306	2,220	152	1,012	180,690
Residential mortgage loans	2,501,814	47,039	78,697	32,486	2,660,036
Total gross recorded loans	3,835,237	101,451	83,612	48,691	4,068,991

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

Evaluation of Loans For Impairment

	March 31, 2019		December 31, 2018	
	Individually evaluated	Collectively evaluated	Individually evaluated	Collectively evaluated
Commercial	12,168	565,314	12,096	640,525
Commercial real estate	7,418	549,548	7,188	568,456
Consumer	1,178	175,195	1,023	179,667
Residential mortgage	103,752	2,596,898	102,127	2,557,909
Total gross loans	124,516	3,886,955	122,434	3,946,557

Changes in General and Specific Allowances For Credit Losses

	Three months ended March 31, 2019				
	Commercial	Commercial real estate	Consumer	Residential mortgage	Total
Allowances at beginning of period	6,913	4,092	802	13,295	25,102
Provision taken (released)	(646)	(112)	156	563	(39)
Recoveries	10	1	277	56	344
Charge-offs	—	—	(421)	(18)	(439)
Other	—	1	—	42	43
Allowances at end of period	6,277	3,982	814	13,938	25,011
Allowances at end of period: individually evaluated for impairment	4,447	600	274	10,588	15,909
Allowances at end of period: collectively evaluated for impairment	1,830	3,382	540	3,350	9,102

	Three months ended March 31, 2018				
	Commercial	Commercial real estate	Consumer	Residential mortgage	Total
Allowances at beginning of period	6,309	10,360	888	17,910	35,467
Provision taken (released)	488	(1,186)	43	(1,287)	(1,942)
Recoveries	2	1	125	35	163
Charge-offs	—	—	(170)	(768)	(938)
Other	2	7	1	37	47
Allowances at end of period	6,801	9,182	887	15,927	32,797
Allowances at end of period: individually evaluated for impairment	2,837	600	274	8,560	12,271
Allowances at end of period: collectively evaluated for impairment	3,964	8,582	613	7,367	20,526

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

Non-Performing Loans (excluding purchased credit-impaired loans)	March 31, 2019			December 31, 2018		
	Non-accrual	Past due more than 90 days and accruing	Total non-performing loans	Non-accrual	Past due more than 90 days and accruing	Total non-performing loans
Commercial loans						
Government	3,750	—	3,750	3,750	—	3,750
Commercial and industrial	7,458	—	7,458	7,379	—	7,379
Commercial overdrafts	2	—	2	2	—	2
Total commercial loans	11,210	—	11,210	11,131	—	11,131
Commercial real estate loans						
Commercial mortgage	5,639	—	5,639	4,062	—	4,062
Consumer loans						
Automobile financing	222	—	222	162	—	162
Credit card	—	479	479	—	126	126
Overdrafts	6	—	6	4	—	4
Other consumer	940	—	940	846	—	846
Total consumer loans	1,168	479	1,647	1,012	126	1,138
Residential mortgage loans	35,790	5,909	41,699	32,486	6,332	38,818
Total non-performing loans	53,807	6,388	60,195	48,691	6,458	55,149

Impaired Loans (excluding purchased credit-impaired loans)

A loan is considered to be impaired when, based on current information and events, the Bank determines that it will not be able to collect all amounts due according to the original loan contract, including scheduled interest payments. Impaired loans include all non-accrual loans and all loans modified in a troubled debt restructuring ("TDR") even if full collectability is expected following the restructuring. During the three months ended March 31, 2019, the amount of gross interest income that would have been recorded had impaired loans been current was \$0.9 million (March 31, 2018: \$0.6 million).

March 31, 2019	Impaired loans with an allowance			Gross recorded investment of impaired loans without an allowance	Total impaired loans		
	Gross recorded investment	Specific allowance	Net loans		Gross recorded investment	Specific allowance	Net loans
Commercial loans							
Government	3,750	(1,688)	2,062	—	3,750	(1,688)	2,062
Commercial and industrial	7,374	(2,759)	4,615	1,042	8,416	(2,759)	5,657
Commercial overdrafts	—	—	—	2	2	—	2
Total commercial loans	11,124	(4,447)	6,677	1,044	12,168	(4,447)	7,721
Commercial real estate loans							
Commercial mortgage	1,069	(600)	469	6,349	7,418	(600)	6,818
Consumer loans							
Automobile financing	127	(75)	52	95	222	(75)	147
Overdrafts	—	—	—	6	6	—	6
Other consumer	199	(199)	—	741	940	(199)	741
Total consumer loans	326	(274)	52	842	1,168	(274)	894
Residential mortgage loans	50,227	(10,411)	39,816	50,536	100,763	(10,411)	90,352
Total impaired loans	62,746	(15,732)	47,014	58,771	121,517	(15,732)	105,785

Specific allowance excludes \$0.2 million recognized relating to purchased credit-impaired loans.

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

	Impaired loans with an allowance			Gross recorded investment of impaired loans without an allowance	Total impaired loans		
	Gross recorded investment	Specific allowance	Net loans		Gross recorded investment	Specific allowance	Net loans
December 31, 2018							
Commercial loans							
Government	3,750	(1,687)	2,063	—	3,750	(1,687)	2,063
Commercial and industrial	7,379	(2,766)	4,613	965	8,344	(2,766)	5,578
Commercial overdrafts	—	—	—	2	2	—	2
Total commercial loans	11,129	(4,453)	6,676	967	12,096	(4,453)	7,643
Commercial real estate loans							
Commercial mortgage	1,081	(600)	481	6,108	7,189	(600)	6,589
Consumer loans							
Automobile financing	130	(75)	55	32	162	(75)	87
Overdrafts	—	—	—	4	4	—	4
Other consumer	199	(199)	—	647	846	(199)	647
Total consumer loans	329	(274)	55	683	1,012	(274)	738
Residential mortgage loans	49,431	(9,422)	40,009	49,571	99,002	(9,422)	89,580
Total impaired loans	61,970	(14,749)	47,221	57,329	119,299	(14,749)	104,550

Specific allowance excludes \$0.2 million recognized relating to purchased credit-impaired loans.

Average Impaired Loan Balances and Related Recognized Interest Income

	March 31, 2019		December 31, 2018	
	Average gross recorded investment	Interest income recognized ¹	Average gross recorded investment	Interest income recognized ¹
Commercial loans				
Government	3,750	—	3,750	—
Commercial and industrial	8,380	18	8,415	68
Commercial overdrafts	2	—	2	—
Total commercial loans	12,132	18	12,167	68
Commercial real estate loans				
Commercial mortgage	7,304	47	7,539	287
Consumer loans				
Automobile financing	192	—	194	—
Overdrafts	5	—	4	—
Other consumer	893	—	665	—
Total consumer loans	1,090	—	863	—
Residential mortgage loans	99,883	1,171	97,378	4,568
Total impaired loans	120,409	1,236	117,947	4,923

¹ All interest income recognized on impaired loans relate to loans previously modified in a TDR.

Loans Modified in a TDR

As at March 31, 2019, the Bank had two loans which were formerly residential mortgages that were modified in a TDR during the preceding 12 months that subsequently defaulted (i.e. 90 days or more past due following a modification) with a combined recorded investment of \$1.4 million. As at December 31, 2018, the Bank had two loans which were formerly residential mortgages that were modified in a TDR during the preceding 12 months that subsequently defaulted with a combined recorded investment of \$0.8 million.

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

TDRs entered into during the period

For the three months ended March 31, 2019, the Bank did not enter into any new TDRs.

	Three months ended March 31, 2018			
	Number of contracts	Pre-modification recorded investment	Modification: interest capitalization	Post-modification recorded investment
Residential mortgage loans	5	2,733	97	2,830
Total loans modified in a TDR	5	2,733	97	2,830

	March 31, 2019		December 31, 2018	
	Accrual	Non-accrual	Accrual	Non-accrual
TDRs outstanding				
Commercial loans	958	—	965	—
Commercial real estate loans	1,779	2,600	3,127	1,336
Residential mortgage loans	64,973	9,392	66,516	8,154
Total TDRs outstanding	67,710	11,992	70,608	9,490

Purchased Credit-Impaired Loans

The Bank acquired certain credit-impaired loans as part of the November 7, 2014 acquisition of substantially all retail loans of HSBC Bank (Cayman) Limited. The accretable difference (or "accretable yield") represents the excess of a loan's cash flows expected to be collected over the loan's carrying amount.

	Three months ended March 31, 2019			
	Contractual principal	Non-accretable difference	Accretable difference	Carrying amount
Balance at beginning of period	4,531	(901)	(661)	2,969
Advances and increases in cash flows expected to be collected	13	17	(17)	13
Reduction resulting from repayments	(238)	—	89	(149)
Increase (reduction) resulting from changes in allowances for credit losses	—	(11)	—	(11)
Balance at end of period	4,306	(895)	(589)	2,822

	Year ended December 31, 2018			
	Contractual principal	Non-accretable difference	Accretable difference	Carrying amount
Balance at beginning of period	6,001	(1,239)	(711)	4,051
Advances and increases in cash flows expected to be collected	25	42	(42)	25
Reduction resulting from repayments	(1,495)	191	92	(1,212)
Increase (reduction) resulting from changes in allowances for credit losses	—	105	—	105
Balance at end of period	4,531	(901)	(661)	2,969

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

Note 7: Credit risk concentrations

Concentrations of credit risk in the lending and off-balance sheet credit-related arrangements portfolios arise when a number of customers are engaged in similar business activities, are in the same geographic region, or when they have similar economic features that would cause their ability to meet contractual obligations to be similarly affected by changes in economic conditions. The Bank regularly monitors various segments of its credit risk portfolio to assess potential concentrations of risks and to obtain collateral when deemed necessary. In the Bank's commercial portfolio, risk concentrations are evaluated primarily by industry and by geographic region of loan origination. In the consumer portfolio, concentrations are evaluated primarily by products. Credit exposures include loans, guarantees and acceptances, letters of credit and commitments for undrawn lines of credit. Unconditionally cancellable credit cards and overdraft lines of credit are excluded from the tables below.

The following tables summarize the credit exposure of the Bank by business sector and by geographic region. The on-balance sheet exposure amounts disclosed are net of specific allowances and the off-balance sheet exposure amounts disclosed are gross of collateral held.

Business sector	March 31, 2019			December 31, 2018		
	Loans	Off-balance sheet	Total credit exposure	Loans	Off-balance sheet	Total credit exposure
Banks and financial services	627,821	373,386	1,001,207	611,404	415,124	1,026,528
Commercial and merchandising	233,719	183,277	416,996	316,349	182,440	498,789
Governments	120,117	9,726	129,843	104,857	—	104,857
Individuals	2,350,375	113,473	2,463,848	2,339,854	89,931	2,429,785
Primary industry and manufacturing	118,467	895	119,362	120,088	1,003	121,091
Real estate	377,996	1,679	379,675	395,086	1,547	396,633
Hospitality industry	161,158	1,932	163,090	160,680	3,497	164,177
Transport and communication	5,909	75	5,984	5,758	75	5,833
Sub-total	3,995,562	684,443	4,680,005	4,054,076	693,617	4,747,693
General allowance	(9,102)	—	(9,102)	(10,187)	—	(10,187)
Total	3,986,460	684,443	4,670,903	4,043,889	693,617	4,737,506

Geographic region	March 31, 2019				December 31, 2018			
	Cash due from banks, resell agreements and short-term investments	Loans	Off-balance sheet	Total credit exposure	Cash due from banks, resell agreements and short-term investments	Loans	Off-balance sheet	Total credit exposure
Australia	219,813	—	—	219,813	145,675	—	—	145,675
Belgium	2,254	—	—	2,254	3,007	—	—	3,007
Bermuda	21,996	2,101,951	321,951	2,445,898	36,827	2,133,859	333,845	2,504,531
Canada	892,296	—	—	892,296	759,437	—	—	759,437
Cayman	18,061	733,866	199,519	951,446	18,138	730,418	222,189	970,745
Guernsey	1	298,186	23,292	321,479	6	290,578	22,619	313,203
Japan	16,050	—	—	16,050	14,271	—	—	14,271
Jersey	—	9,484	11,683	21,167	—	9,083	449	9,532
Netherlands	36,976	—	—	36,976	—	—	—	—
Norway	83,779	—	—	83,779	8,750	—	—	8,750
Saint Lucia	—	29,625	—	29,625	—	90,000	—	90,000
Switzerland	7,551	—	—	7,551	6,637	—	—	6,637
The Bahamas	1,584	14,046	—	15,630	1,534	14,367	—	15,901
United Kingdom	1,098,590	806,341	127,998	2,032,929	725,634	783,708	114,515	1,623,857
United States	484,774	—	—	484,774	411,248	—	—	411,248
Other	5,290	2,063	—	7,353	2,396	2,063	—	4,459
Sub-total	2,889,015	3,995,562	684,443	7,569,020	2,133,560	4,054,076	693,617	6,881,253
General allowance	—	(9,102)	—	(9,102)	—	(10,187)	—	(10,187)
Total	2,889,015	3,986,460	684,443	7,559,918	2,133,560	4,043,889	693,617	6,871,066

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

Note 8: Customer deposits and deposits from banks

By Maturity

	Demand		Total demand deposits	Term				Total term deposits	Total deposits
	Non-interest bearing	Interest bearing		Within 3 months	3 to 6 months	6 to 12 months	After 12 months		
March 31, 2019									
Customers									
Bermuda									
Demand or less than \$100k ¹	1,377,858	2,331,839	3,709,697	10,334	4,755	10,192	14,294	39,575	3,749,272
Term - \$100k or more	N/A	N/A	—	658,268	161,921	135,439	50,533	1,006,161	1,006,161
Total Bermuda	1,377,858	2,331,839	3,709,697	668,602	166,676	145,631	64,827	1,045,736	4,755,433
Non-Bermuda									
Demand or less than \$100k ¹	798,343	3,454,861	4,253,204	19,885	5,040	4,859	772	30,556	4,283,760
Term and \$100k or more	N/A	N/A	—	788,674	122,199	309,998	8,034	1,228,905	1,228,905
Total non-Bermuda	798,343	3,454,861	4,253,204	808,559	127,239	314,857	8,806	1,259,461	5,512,665
Total customer deposits	2,176,201	5,786,700	7,962,901	1,477,161	293,915	460,488	73,633	2,305,197	10,268,098
Banks									
Bermuda									
Demand or less than \$100k	16,266	—	16,266	—	—	—	—	—	16,266
Non-Bermuda									
Demand or less than \$100k	—	3,292	3,292	—	—	—	—	—	3,292
Term and \$100k or more	N/A	N/A	—	5,814	101	—	—	5,915	5,915
Total non-Bermuda	—	3,292	3,292	5,814	101	—	—	5,915	9,207
Total bank deposits	16,266	3,292	19,558	5,814	101	—	—	5,915	25,473
Total deposits	2,192,467	5,789,992	7,982,459	1,482,975	294,016	460,488	73,633	2,311,112	10,293,571
	Demand		Total demand deposits	Term				Total term deposits	Total deposits
	Non-interest bearing	Interest bearing		Within 3 months	3 to 6 months	6 to 12 months	After 12 months		
December 31, 2018									
Customers									
Bermuda									
Demand or less than \$100k ¹	1,378,539	2,158,971	3,537,510	12,387	4,306	8,049	14,644	39,386	3,576,896
Term - \$100k or more	N/A	N/A	—	598,528	92,427	184,337	43,414	918,706	918,706
Total Bermuda	1,378,539	2,158,971	3,537,510	610,915	96,733	192,386	58,058	958,092	4,495,602
Non-Bermuda									
Demand or less than \$100k ¹	732,957	3,179,376	3,912,333	18,714	5,386	4,705	507	29,312	3,941,645
Term and \$100k or more	N/A	N/A	—	608,390	126,022	235,278	11,482	981,172	981,172
Total non-Bermuda	732,957	3,179,376	3,912,333	627,104	131,408	239,983	11,989	1,010,484	4,922,817
Total customer deposits	2,111,496	5,338,347	7,449,843	1,238,019	228,141	432,369	70,047	1,968,576	9,418,419
Banks									
Bermuda									
Demand or less than \$100k	8,100	—	8,100	—	—	—	—	—	8,100
Non-Bermuda									
Demand or less than \$100k	—	18,965	18,965	—	—	—	—	—	18,965
Term and \$100k or more	N/A	N/A	—	6,656	—	101	—	6,757	6,757
Total non-Bermuda	—	18,965	18,965	6,656	—	101	—	6,757	25,722
Total bank deposits	8,100	18,965	27,065	6,656	—	101	—	6,757	33,822
Total deposits	2,119,596	5,357,312	7,476,908	1,244,675	228,141	432,470	70,047	1,975,333	9,452,241

¹ The weighted-average interest rate on interest-bearing demand deposits as at March 31, 2019 is 0.07% (December 31, 2018: 0.13%).

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

By Type and Segment

	March 31, 2019			December 31, 2018		
	Payable on demand	Payable on a fixed date	Total	Payable on demand	Payable on a fixed date	Total
Bermuda						
Customers	3,709,697	1,045,737	4,755,434	3,537,510	958,092	4,495,602
Banks	16,266	—	16,266	8,100	—	8,100
Cayman						
Customers	2,918,858	552,929	3,471,787	2,847,793	472,442	3,320,235
Banks	2,912	5,915	8,827	17,564	6,757	24,321
Channel Islands and the UK						
Customers	1,334,346	706,531	2,040,877	1,064,540	538,042	1,602,582
Banks	380	—	380	1,401	—	1,401
Total Customers	7,962,901	2,305,197	10,268,098	7,449,843	1,968,576	9,418,419
Total Banks	19,558	5,915	25,473	27,065	6,757	33,822
Total deposits	7,982,459	2,311,112	10,293,571	7,476,908	1,975,333	9,452,241

Note 9: Employee benefit plans

The Bank maintains trustee pension plans including non-contributory defined benefit plans and a number of defined contribution plans, and provides post-retirement medical benefits to its qualifying retirees. The defined benefit provisions under the pension plans are generally based upon years of service and average salary during the relevant years of employment. The defined benefit and post-retirement medical plans are not open to new participants and are non-contributory and the funding required is provided by the Bank, based upon the advice of independent actuaries. The defined benefit pension plans are in the Bermuda, Guernsey and United Kingdom jurisdictions and the defined benefit post-retirement medical plan is in Bermuda.

The Bank includes an estimate of the 2019 Bank contribution and estimated benefit payments for the next ten years under the pension and post-retirement plans in its financial statements for the year-ended December 31, 2018. During the three months ended March 31, 2019, there have been no material revisions to these estimates.

Line item in the consolidated statements of operations		Three months ended	
		March 31, 2019	March 31, 2018
Defined benefit pension expense (income)			
Interest cost	Non-service employee benefits expense	1,271	1,271
Expected return on plan assets	Non-service employee benefits expense	(1,909)	(2,224)
Amortization of net actuarial (gains) losses	Non-service employee benefits expense	614	526
Amortization of prior service (credit) cost	Non-service employee benefits expense	5	—
Total defined benefit pension expense (income)		(19)	(427)
Post-retirement medical benefit expense (income)			
Service cost	Salaries and other employee benefits	15	16
Interest cost	Non-service employee benefits expense	1,185	1,076
Amortization of net actuarial (gains) losses	Non-service employee benefits expense	68	654
Amortization of prior service (credit) cost	Non-service employee benefits expense	94	10
Total post-retirement medical benefit expense (income)		1,362	1,756

The components of defined benefit pension expense (income) and post-retirement benefit expense (income) other than the service cost component are included in the line item non-service employee benefits expense in the consolidated statements of income.

Note 10: Credit related arrangements, repurchase agreements and commitments

Commitments

The Bank enters into contractual commitments to extend credit, normally with fixed expiration dates or termination clauses, at specified rates and for specific purposes. Substantially all of the Bank's commitments to extend credit are contingent upon customers maintaining specific credit standards at the time of loan funding. Management assesses the credit risk associated with certain commitments to extend credit in determining the level of the allowance for possible loan losses.

The Bank has a facility by one of its custodians, whereby the Bank may offer up to US\$200 million of standby letters of credit to its customers on a fully secured basis. Under the standard terms of the facility, the custodian has the right to set-off against securities held of 110% of the utilized facility. At March 31, 2019, \$134.2 million (December 31, 2018: \$137.4 million) of standby letters of credit were issued under this facility.

Outstanding unfunded commitments to extend credit	March 31, 2019	December 31, 2018
Commitments to extend credit	449,589	445,215
Documentary and commercial letters of credit	498	561
Total unfunded commitments to extend credit	450,087	445,776

Credit-Related Arrangements

Standby letters of credit and letters of guarantee are issued at the request of a Bank customer in order to secure the customer's payment or performance obligations to a third party. These guarantees represent an irrevocable obligation of the Bank to pay the third party beneficiary upon presentation of the guarantee and satisfaction of the documentary requirements stipulated therein, without investigation as to the validity of the beneficiary's claim against the customer. Generally, the term of the standby letters of credit does not exceed one year, while the term of the letters of guarantee does not exceed four years. The types and amounts of collateral security held by the Bank for these standby letters of credit and letters of guarantee is generally represented by deposits with the Bank or a charge over assets held in mutual funds.

The Bank considers the fees collected in connection with the issuance of standby letters of credit and letters of guarantee to be representative of the fair value of its obligation undertaken in issuing the guarantee. In accordance with applicable accounting standards related to guarantees, the Bank defers fees collected in connection with the issuance of standby letters of credit and letters of guarantee. The fees are then recognized in income proportionately over the life of the credit agreements. The following table presents the outstanding financial guarantees. Collateral is shown at estimated market value less selling cost. Where the collateral is cash, it is shown gross including accrued income.

Outstanding financial guarantees	March 31, 2019			December 31, 2018		
	Gross	Collateral	Net	Gross	Collateral	Net
Standby letters of credit	231,669	224,409	7,260	245,156	237,051	8,105
Letters of guarantee	2,687	2,601	86	2,685	2,599	86
Total	234,356	227,010	7,346	247,841	239,650	8,191

Repurchase agreements

The Bank utilizes repurchase agreements and resell agreements (reverse repurchase agreements) to manage liquidity. The risks of these transactions include changes in the fair value in the securities posted or received as collateral and other credit related events. The Bank manages these risks by ensuring that the collaterals involved are appropriate and by monitoring the value of the securities posted or received as collateral on a daily basis.

As at March 31, 2019, the Bank had 4 open positions (December 31, 2018: 2) in resell agreements with a remaining maturity of less than 30 days involving pools of mortgages issued by US federal agencies. The amortized cost of these resell agreements is \$72.5 million (December 31, 2018: \$27.3 million) and are included in securities purchased under agreement to resell on the consolidated balance sheets. As at March 31, 2019, there were no positions (December 31, 2018: no positions) which were offset on the balance sheet to arrive at the carrying value, and there was no collateral amount which was available to offset against the future settlement amount.

Legal Proceedings

There are actions and legal proceedings pending against the Bank and its subsidiaries which arose in the normal course of its business. Management, after reviewing all actions and proceedings pending against or involving the Bank and its subsidiaries, considers that the resolution of these matters would in the aggregate not be material to the consolidated financial position of the Bank, except as noted in the following paragraphs.

As publicly announced, in November 2013, the US Attorney's Office for the Southern District of New York applied for and secured the issuance of so-called John Doe Summonses to six US financial institutions with which the Bank had correspondent bank relationships. The Bank has been fully cooperating with the US authorities in their ongoing investigation. Specifically, the Bank has conducted an extensive review and account remediation exercise to determine the US tax compliance status of US person account holders. The review process and results have been shared with the US authorities.

Management believes that as of March 31, 2019, a provision of \$5.5 million (December 31, 2018: \$5.5 million), which has been recorded, is appropriate. As the investigation remains ongoing at this time, the timing and terms of the final resolution, including any fines or penalties, remain uncertain and the financial impact to the Bank could exceed the amount of the provision. In this regard, we note that the US authorities have not approved or commented on the adequacy or reasonableness of the estimate. The provision is included on the consolidated balance sheets under other liabilities and on the consolidated statements of operations under other expenses.

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

Note 11: Leases

The Bank enters into operating lease agreements either as the lessee or the lessor, mostly for office and parking spaces as well as for small office equipment. The terms of the existing leases, including renewal options that are reasonably certain to be exercised, extend up to the year 2026.

	Three months ended
	March 31, 2019
Lease costs	
Operating lease costs	1,226
Variable lease costs	—
Short-term lease costs	196
Sublease (income)	(5)
Total net lease cost	1,417
Operating lease income	307
Other information	
Operating leases right-of-use assets (included in other assets on the balance sheets)	20,891
Operating leases liabilities (included in other liabilities on the balance sheets)	20,282
Right-of-use assets related to new operating lease liabilities	338
Operating cash flows from operating leases	1,349
Weighted average remaining lease term in years (operating leases)	4.9 years
Weighted average discount rate (operating leases)	5.25%

The following table summarizes the Bank's commitments for long-term leases as at December 31, 2018:

Year ending December 31	Leases
2019	5,448
2020	5,524
2021	4,696
2022	4,317
2023	3,609
2024 & thereafter	3,583
Total commitments	27,177

Note 12: Segmented information

The Bank is managed by the CEO on a geographic basis. In 2017, the Bank presented six segments which included Bermuda, Cayman, Guernsey, Switzerland, The Bahamas and the United Kingdom. In 2018, the Bank reassessed the segment reporting as a result of acquisitions which were announced in 2017 and early 2018 and concluded on the following three geographic segments: Bermuda, Cayman, and Channel Islands and the UK. The Other segment is composed of several non-reportable operating segments that have been aggregated in accordance with US GAAP. Each region has a managing director who reports to the CEO. The CEO and the region managing director have final authority over resource allocation decisions and performance assessment.

The geographic segments reflect this management structure and the manner in which financial information is currently evaluated by the CEO. Segment results are determined based on the Bank's management reporting system, which assigns balance sheet and income statement items to each of the geographic segments. The process is designed around the Bank's organizational and management structure and, accordingly, the results derived are not necessarily comparable with similar information published by other financial institutions. A description of each reportable segment and table of financial results is presented below.

Accounting policies of the reportable segments are the same as those described in Note 2 of the Bank's audited financial statements for the year ended December 31, 2018. Transactions between segments are accounted for on an accrual basis and are all eliminated upon consolidation. The Bank generally does not allocate assets, revenues and expenses among its business segments, with the exception of certain corporate overhead expenses and loan participation revenue and expense. Loan participation revenue and expenses are allocated pro-rata based upon the percentage of the total loan funded by each jurisdiction participating in the loan.

The **Bermuda** segment provides a full range of retail, commercial and private banking services. Retail services are offered to individuals and small to medium-sized businesses through four branch locations and through internet banking, mobile banking, automated teller machines ("ATMs") and debit cards. Retail services include deposit services, consumer and mortgage lending, credit cards and personal insurance products. Commercial banking includes commercial lending and mortgages, cash management, payroll services, remote banking and letters of credit. Treasury services include money market and foreign exchange activities. Bermuda's wealth management offering consists of Butterfield Asset Management Limited, which provides investment management, advisory and brokerage services and Butterfield Trust (Bermuda) Limited, which provides trust, estate, company management and custody services. Bermuda is also the location of Bank's head offices and accordingly, retains the unallocated corporate overhead expenses.

The **Cayman** segment provides a comprehensive range of retail, commercial and private banking services. Retail services are offered to individuals and small to medium-sized businesses through three branch locations and through internet banking, mobile banking, ATMs and debit cards. Retail services include deposit services, consumer and

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

mortgage lending, credit cards and property/auto insurance. Commercial banking includes commercial lending and mortgages, cash management, payroll services, remote banking and letters of credit. Treasury services include money market and foreign exchange activities. Cayman's wealth management offering comprises investment management, advisory and brokerage services and Butterfield Trust (Cayman) Limited, which provides trust, estate and company management.

The **Channel Islands and the UK** segment includes the jurisdictions of Guernsey and Jersey (Channel Islands), and the UK. In the Channel Islands, a broad range of services are provided to private clients and financial institutions including private banking and treasury services, internet banking, wealth management and fiduciary services. The UK jurisdiction provides mortgage services for high-value residential properties.

The **Other** segment includes the jurisdictions of the Bahamas, Canada, Mauritius, Singapore and Switzerland. These operating segments individually and collectively do not meet the quantitative threshold for segmented reporting and are therefore aggregated as non-reportable operating segments.

Total Assets by Segment	March 31, 2019	December 31, 2018
Bermuda	5,703,030	5,387,347
Cayman	3,863,307	3,705,468
Channel Islands and the UK	2,430,034	1,966,547
Other	34,510	30,035
Total assets before inter-segment eliminations	12,030,881	11,089,397
Less: inter-segment eliminations	(387,820)	(316,219)
Total	11,643,061	10,773,178

Three months ended March 31, 2019	Net interest income		Provision for credit losses	Non-interest income	Revenue before gains and losses	Gains and losses	Total net revenue	Total expenses	Net income
	Customer	Inter- segment							
Bermuda	47,422	486	153	21,655	69,716	1,746	71,462	47,803	23,659
Cayman	30,551	159	(27)	13,062	43,745	5	43,750	14,644	29,106
Channel Islands and the UK	9,993	(645)	(87)	6,663	15,924	—	15,924	15,660	264
Other	12	—	—	5,117	5,129	—	5,129	6,051	(922)
Total before eliminations	87,978	—	39	46,497	134,514	1,751	136,265	84,158	52,107
Inter-segment eliminations	—	—	—	(3,117)	(3,117)	—	(3,117)	(3,117)	—
Total	87,978	—	39	43,380	131,397	1,751	133,148	81,041	52,107

Three months ended March 31, 2018	Net interest income		Provision for credit losses	Non-interest income	Revenue before gains and losses	Gains and losses	Total net revenue	Total expenses	Net income
	Customer	Inter- segment							
Bermuda	47,674	599	1,811	20,878	70,962	(71)	70,891	51,579	19,312
Cayman	23,670	1	203	11,467	35,341	429	35,770	14,617	21,153
Channel Islands and the UK	8,546	(600)	(72)	7,107	14,981	(5)	14,976	11,019	3,957
Other	5	—	—	2,945	2,950	—	2,950	3,175	(225)
Total before eliminations	79,895	—	1,942	42,397	124,234	353	124,587	80,390	44,197
Inter-segment eliminations	—	—	—	(2,636)	(2,636)	—	(2,636)	(2,636)	—
Total	79,895	—	1,942	39,761	121,598	353	121,951	77,754	44,197

Note 13: Derivative instruments and risk management

The Bank uses derivatives for risk management purposes and to meet the needs of its customers. The Bank's derivative contracts principally involve over-the-counter ("OTC") transactions that are negotiated privately between the Bank and the counterparty to the contract and include interest rate contracts and foreign exchange contracts.

The Bank may pursue opportunities to reduce its exposure to credit losses on derivatives by entering into International Swaps and Derivatives Association master agreements ("ISDAs"). Depending on the nature of the derivative transaction, bilateral collateral arrangements may be used as well. When the Bank is engaged in more than one outstanding derivative transaction with the same counterparty, and also has a legally enforceable master netting agreement with that counterparty, the net marked to market exposure represents the netting of the positive and negative exposures with that counterparty. When there is a net negative exposure, the Bank regards its credit exposure to the counterparty as being zero. The net marked to market position with a particular counterparty represents a reasonable measure of credit risk when there is a legally enforceable master netting agreement between the Bank and that counterparty.

Certain of these agreements contain credit risk-related contingent features in which the counterparty has the option to accelerate cash settlement of the Bank's net derivative liabilities with the counterparty in the event the Bank's credit rating falls below specified levels or the liabilities reach certain levels.

All derivative financial instruments, whether designated as hedges or not, are recorded on the consolidated balance sheets at fair value within other assets or other liabilities. These amounts include the effect of netting. The accounting for changes in the fair value of a derivative in the consolidated statements of operations depends on whether the contract has been designated as a hedge and qualifies for hedge accounting.

Notional Amounts

The notional amounts are not recorded as assets or liabilities on the consolidated balance sheets as they represent the face amount of the contract to which a rate or price is applied to determine the amount of cash flows to be exchanged. Notional amounts represent the volume of outstanding transactions and do not represent the potential gain or loss associated with market risk or credit risk of such instruments. Credit risk is limited to the positive fair value of the derivative instrument, which is significantly less than the notional amount.

Fair Value

Derivative instruments, in the absence of any compensating up-front cash payments, generally have no market value at inception. They obtain value, positive or negative, as relevant interest rates, exchange rates, equity or commodity prices or indices change. The potential for derivatives to increase or decrease in value as a result of the foregoing factors is generally referred to as market risk. Market risk is managed within clearly defined parameters as prescribed by senior management of the Bank. The fair value is defined as the profit or loss associated with replacing the derivative contracts at prevailing market prices.

Risk Management Derivatives

The Bank enters into interest derivative contracts as part of its overall interest rate risk management strategy to minimize significant unplanned fluctuations in earnings that are caused by interest rate volatility. The Bank's goal is to manage interest rate sensitivity by modifying the repricing or maturity characteristics of certain consolidated balance sheet assets and liabilities so that movements in interest rates do not adversely affect the net interest margin. Derivative instruments that are used as part of the Bank's risk management strategy include interest rate swap contracts that have indices related to the pricing of specific consolidated balance sheet assets and liabilities. Interest rate swaps generally involve the exchange of fixed and variable-rate interest payments between two parties, based on a common notional principal amount and maturity date. The Bank uses foreign currency derivative instruments to hedge its exposure to foreign currency risk. Certain hedging relationships are formally designated and qualify for hedge accounting as fair value or net investment hedges. Risk management derivatives comprise fair value hedges, net investment hedges and derivatives not formally designated as hedges as described below.

Fair value hedges consist of designated interest rate swaps and are used to minimize the Bank's exposure to changes in the fair value of assets and liabilities due to movements in interest rates. The Bank previously entered into interest rate swaps to convert its fixed-rate long-term loans to floating-rate loans, and convert fixed-rate deposits to floating-rate deposits. During the year ended December 31, 2011, the Bank canceled its interest rate swaps designated as fair value hedges of loans receivable and therefore discontinued hedge accounting for these financial instruments. The fair value attributable to the hedged loans are accounted for prospectively and are being amortized to net income over the remaining life of each individual loan, which could extend to year 2029, using the effective interest method.

Net investment hedges includes designated currency swaps and qualifying non-derivative instruments and are used to minimize the Bank's exposure to variability in the foreign currency translation of net investments in foreign operations. The effective portion of changes in the fair value of the hedging instrument is recognized in AOCL consistent with the related translation gains and losses of the hedged net investment. For net investment hedges, all critical terms of the hedged item and the hedging instrument are matched at inception and on an ongoing basis to minimize the risk of hedge ineffectiveness.

For derivatives designated as net investment hedges, the Bank follows the method based on changes in spot exchange rates. Accordingly:

- The change in the fair value of the derivative instrument that is reported in AOCL (i.e., the effective portion) is determined by the changes in spot exchange rates.
- The change in the fair value of the derivative instrument attributable to changes in the difference between the forward rate and spot rate are excluded from the measure of the hedge ineffectiveness and that difference is reported directly in the consolidated statements of operations under foreign exchange revenue.

Amounts recorded in AOCL are reclassified to earnings only upon the sale or substantial liquidation of an investment in a foreign subsidiary.

For foreign-currency-denominated debt instruments that are designated as hedges of net investments in foreign operations, the translation gain or loss that is recorded in AOCL is based on the spot exchange rate between the reporting currency of the Bank and the functional currency of the respective subsidiary. See Note 20: Accumulated other comprehensive loss for details on the amount recognized into AOCL during the current period from translation gain or loss.

Derivatives not formally designated as hedges are entered into to manage the interest rate risk of fixed rate deposits and foreign exchange risk of the Bank's exposure. Changes in the fair value of derivative instruments not formally designated as hedges are recognized in foreign exchange income.

Client service derivatives

The Bank enters into foreign exchange contracts and interest rate caps primarily to meet the foreign exchange needs of its customers. Foreign exchange contracts are agreements to exchange specific amounts of currencies at a future date at a specified rate of exchange. Changes in the fair value of client services derivative instruments are recognized in foreign exchange income.

The following table shows the aggregate notional amounts of derivative contracts outstanding listed by type and respective gross positive or negative fair values and classified by those used for risk management (sub-classified as hedging and those that do not qualify for hedge accounting), client services and credit derivatives. Fair value of derivatives is recorded in the consolidated balance sheets in other assets and other liabilities. Gross positive fair values are recorded in other assets and gross negative fair values are recorded in other liabilities, subject to netting when master netting agreements are in place.

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

March 31, 2019	Derivative instrument	Number of contracts	Notional amounts	Gross positive fair value	Gross negative fair value	Net fair value
Risk management derivatives						
Derivatives not formally designated as hedging instruments	Currency swaps	13	485,971	4,051	(1,377)	2,674
Client services derivatives	Spot and forward foreign exchange	342	2,416,339	10,811	(10,262)	549
Total derivative instruments			2,902,310	14,862	(11,639)	3,223

December 31, 2018	Derivative instrument	Number of contracts	Notional amounts	Gross positive fair value	Gross negative fair value	Net fair value
Risk management derivatives						
Derivatives not formally designated as hedging instruments	Currency swaps	8	238,810	269	(601)	(332)
Client services derivatives	Spot and forward foreign exchange	288	2,064,762	13,331	(12,671)	660
Total derivative instruments			2,303,572	13,600	(13,272)	328

In addition to the above, as at March 31, 2019 foreign denominated deposits of £124.5 million (December 31, 2018: £124.5 million), CHF 0.4 million (December 31, 2018: CHF 0.4 million) and SGD 8.1 million (December 31, 2018: SGD 4.0 million) were designated as a hedge of foreign exchange risk associated with the net investment in foreign operations.

We manage derivative exposure by monitoring the credit risk associated with each counterparty using counterparty specific credit risk limits, using master netting arrangements where appropriate and obtaining collateral. The Bank elected to offset in the consolidated balance sheets certain gross derivative assets and liabilities subject to netting agreements.

The Bank also elected not to offset certain derivative assets or liabilities and all collaterals received or paid that the Bank or the counterparties could legally offset in the event of default. In the tables below, these positions are deducted from the net fair value presented in the consolidated balance sheets in order to present the net exposures. The collateral values presented in the following table are limited to the related net derivative asset or liability balance and, accordingly, do not include excess collateral received or paid.

March 31, 2019	Gross fair value recognized	Less: offset applied under master netting agreements	Net fair value presented in the consolidated balance sheets	Less: positions not offset in the consolidated balance sheets		Net exposures
				Gross fair value of derivatives	Cash collateral received / paid	
Derivative assets						
Spot and forward foreign exchange and currency swaps	14,862	(4,283)	10,579	(24)	(1,375)	9,180
Derivative liabilities						
Spot and forward foreign exchange and currency swaps	11,639	(4,283)	7,356	(24)	—	7,332
Net positive fair value			3,223			

December 31, 2018	Gross fair value recognized	Less: offset applied under master netting agreements	Net fair value presented in the consolidated balance sheets	Less: positions not offset in the consolidated balance sheets		Net exposures
				Gross fair value of derivatives	Cash collateral received / paid	
Derivative assets						
Spot and forward foreign exchange and currency swaps	13,600	(2,036)	11,564	—	(3,216)	8,348
Derivative liabilities						
Spot and forward foreign exchange and currency swaps	13,272	(2,036)	11,236	—	(1,861)	9,375
Net positive fair value			328			

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

The following tables show the location and amount of gains (losses) recorded in either the consolidated statements of operations or consolidated statements of comprehensive income on derivative instruments outstanding.

Derivative instrument	Consolidated statements of operations line item	Three months ended	
		March 31, 2019	March 31, 2018
Spot and forward foreign exchange	Foreign exchange revenue	(110)	428
Currency swaps, not designated as hedge	Foreign exchange revenue	3,005	2,105
Total net gains (losses) recognized in net income		2,895	2,533

Note 14: Fair value measurements

The following table presents the financial assets and liabilities that are measured at fair value on a recurring basis. Management classifies these items based on the type of inputs used in their respective fair value determination as described in Note 2 of the Bank's audited financial statements for the year ended December 31, 2018.

Management reviews the price of each security monthly, comparing market values to expectations and to the prior month's price. Management's expectations are based upon knowledge of prevailing market conditions and developments relating to specific issuers and/or asset classes held in the investment portfolio. Where there are unusual or significant price movements, or where a certain asset class has performed out-of-line with expectations, the matter is reviewed by management.

Financial instruments in Level 1 include actively traded redeemable mutual funds.

Financial instruments in Level 2 include corporate bonds, mortgage-backed securities and other asset-backed securities, forward foreign exchange contracts and mutual funds not actively traded.

Financial instruments in Level 3 include asset-backed securities for which the market is relatively illiquid and for which information about actual trading prices is not readily available.

There were no transfers between Level 1 and Level 2 or Level 2 and Level 3 during the three months ended March 31, 2019 and the year ended December 31, 2018.

	March 31, 2019				December 31, 2018			
	Fair value			Total carrying amount / fair value	Fair value			Total carrying amount / fair value
	Level 1	Level 2	Level 3		Level 1	Level 2	Level 3	
Items that are recognized at fair value on a recurring basis:								
Financial assets								
Trading investments								
Mutual funds	6,664	278	—	6,942	6,176	319	—	6,495
Total trading	6,664	278	—	6,942	6,176	319	—	6,495
Available-for-sale investments								
US government and federal agencies	—	1,802,956	—	1,802,956	—	1,786,507	—	1,786,507
Non-US governments debt securities	—	25,303	—	25,303	—	25,425	—	25,425
Corporate debt securities	—	79,379	—	79,379	—	78,713	—	78,713
Asset-backed securities - Student loans	—	—	12,626	12,626	—	—	12,626	12,626
Commercial mortgage-backed securities	—	124,339	—	124,339	—	123,209	—	123,209
Residential mortgage-backed securities	—	153,907	—	153,907	—	156,269	—	156,269
Total available-for-sale	—	2,185,884	12,626	2,198,510	—	2,170,123	12,626	2,182,749
Other assets - Derivatives	—	10,579	—	10,579	—	11,564	—	11,564
Financial liabilities								
Other liabilities - Derivatives	—	7,356	—	7,356	—	11,236	—	11,236

Level 3 Reconciliation

The Level 3, shown as Asset-backed securities - Student loans in the above table, is a federal family education loan program guaranteed student loan security and is valued using a non-binding broker quote. The fair value provided by the broker is based on the last trading price of similar securities but as the market for the security is illiquid, a Level 2 classification is not supported.

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

	Three months ended March 31, 2019	Year ended December 31, 2018
	Available- for-sale investments	Available- for-sale investments
Carrying amount at beginning of period	12,626	12,493
Realized and unrealized gains (losses) recognized in other comprehensive income	—	133
Carrying amount at end of period	12,626	12,626

Items Other Than Those Recognized at Fair Value on a Recurring Basis:

		March 31, 2019			December 31, 2018		
	Level	Carrying amount	Fair value	Appreciation / (depreciation)	Carrying amount	Fair value	Appreciation / (depreciation)
Financial assets							
Cash due from banks	Level 1	2,601,269	2,601,269	—	2,053,883	2,053,883	—
Securities purchased under agreement to resell	Level 2	72,466	72,466	—	27,341	27,341	—
Short-term investments	Level 1	215,280	215,280	—	52,336	52,336	—
Investments held-to-maturity	Level 2	2,187,917	2,187,925	8	2,066,120	2,036,214	(29,906)
Loans, net of allowance for credit losses	Level 2	3,986,460	3,995,782	9,322	4,043,889	4,047,262	3,373
Other real estate owned ¹	Level 2	4,687	4,687	—	5,346	5,346	—
Financial liabilities							
Customer deposits							
Demand deposits	Level 2	7,962,901	7,962,901	—	7,449,843	7,449,843	—
Term deposits	Level 2	2,305,197	2,307,427	(2,230)	1,968,576	1,970,004	(1,428)
Deposits from banks	Level 2	25,473	25,473	—	33,822	33,822	—
Long-term debt	Level 2	143,367	146,968	(3,601)	143,322	146,261	(2,939)

¹ The current carrying value of OREO is adjusted to fair value only when there is devaluation below carrying value.

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

Note 15: Interest rate risk

The following tables set out the assets, liabilities and shareholders' equity and off-balance sheet instruments on the date of the earlier of contractual maturity, expected maturity or repricing date. Use of these tables to derive information about the Bank's interest rate risk position is limited by the fact that customers may choose to terminate their financial instruments at a date earlier than the contractual maturity or repricing date. Examples of this include fixed-rate mortgages, which are shown at contractual maturity but which may pre-pay earlier, and certain term deposits, which are shown at contractual maturity but which may be withdrawn before their contractual maturity subject to prepayment penalties. Investments are shown based on remaining contractual maturities. The remaining contractual principal maturities for mortgage-backed securities (primarily US government agencies) do not consider prepayments. Remaining expected maturities will differ from contractual maturities because borrowers may have the right to prepay obligations before the underlying mortgages mature.

March 31, 2019	Earlier of contractual maturity or repricing date						
(in \$ millions)	Within 3 months	3 to 6 months	6 to 12 months	1 to 5 years	After 5 years	Non-interest bearing funds	Total
Assets							
Cash due from banks	2,460	—	—	—	—	141	2,601
Securities purchased under agreement to resell	72	—	—	—	—	—	72
Short-term investments	178	30	—	—	—	7	215
Investments	501	4	3	241	3,637	7	4,393
Loans	3,071	197	7	262	428	21	3,986
Other assets	—	—	—	—	—	376	376
Total assets	6,282	231	10	503	4,065	552	11,643
Liabilities and shareholders' equity							
Shareholders' equity	—	—	—	—	—	896	896
Demand deposits	5,790	—	—	—	—	2,192	7,982
Term deposits	1,484	294	460	74	—	—	2,312
Other liabilities	—	—	—	—	—	310	310
Long-term debt	70	—	—	73	—	—	143
Total liabilities and shareholders' equity	7,344	294	460	147	—	3,398	11,643
Interest rate sensitivity gap	(1,062)	(63)	(450)	356	4,065	(2,846)	—
Cumulative interest rate sensitivity gap	(1,062)	(1,125)	(1,575)	(1,219)	2,846	—	—

December 31, 2018	Earlier of contractual maturity or repricing date						
(in \$ millions)	Within 3 months	3 to 6 months	6 to 12 months	1 to 5 years	After 5 years	Non-interest bearing funds	Total
Assets							
Cash due from banks	1,930	—	—	—	—	124	2,054
Securities purchased under agreement to resell	27	—	—	—	—	—	27
Short-term investments	40	10	—	—	—	2	52
Investments	488	35	8	245	3,473	6	4,255
Loans	3,160	278	38	223	330	15	4,044
Other assets	—	—	—	—	—	341	341
Total assets	5,645	323	46	468	3,803	488	10,773
Liabilities and shareholders' equity							
Shareholders' equity	—	—	—	—	—	882	882
Demand deposits	5,357	—	—	—	—	2,120	7,477
Term deposits	1,245	228	432	70	—	—	1,975
Other liabilities	—	—	—	—	—	296	296
Long-term debt	70	—	—	73	—	—	143
Total liabilities and shareholders' equity	6,672	228	432	143	—	3,298	10,773
Interest rate sensitivity gap	(1,027)	95	(386)	325	3,803	(2,810)	—
Cumulative interest rate sensitivity gap	(1,027)	(932)	(1,318)	(993)	2,810	—	—

Note 16: Long-term debt

On May 28, 2003, the Bank issued US \$125 million of Subordinated Lower Tier II capital notes. The notes were issued at par and in two tranches, namely US \$78 million in Series A notes due 2013 and US \$47 million in Series B notes due 2018. The issuance was by way of private placement with US institutional investors. The notes are listed on the Bermuda Stock Exchange ("BSX") in the specialist debt securities category. Part of the proceeds of the issue were used to repay the entire amount of the US \$75 million outstanding subordinated notes redeemed in July 2003. The notes issued under Series A paid a fixed coupon of 3.94% until May 27, 2008 when it was redeemed in whole by the Bank. The Series B notes paid a fixed coupon of 5.15% until May 27, 2013 when they became redeemable in whole at the Bank's option. The Series B notes were priced at a spread of 1.35% over the 10-year US Treasury yield. In May 2018, the Bank fully redeemed the 2003 issuance Series B for its nominal value of \$47 million.

On June 27, 2005, the Bank issued US \$150 million of Subordinated Lower Tier II capital notes. The notes were issued at par in two tranches, namely US \$90 million in Series A notes due 2015 and US \$60 million in Series B notes due 2020. The issuance was by way of private placement with US institutional investors. The notes are listed on the BSX in the specialist debt securities category. The notes issued under Series A paid a fixed coupon of 4.81% until July 2, 2010 after which the coupon rate became floating and the principal became redeemable in whole at the Bank's option. The Series B notes paid a fixed coupon of 5.11% until July 2, 2015 when they also became redeemable in whole at the Bank's option. The Series A notes were priced at a spread of 1.00% over the five-year US Treasury yield and the Series B notes were priced at a spread of 1.10% over the 10-year US Treasury yield. During September 2011, the Bank repurchased a portion of the outstanding 5.11% 2005 Series B Subordinated notes ("the Note"). The face value of the portion of the Note repurchased was \$15 million and the purchase price paid for the repurchase was \$13.875 million, which realized a gain of \$1.125 million. During January 2014, the Bank fully redeemed the 2005 issuance Series A subordinated debt for its nominal value of \$90 million.

On May 27, 2008, the Bank issued US \$78 million of Subordinated Lower Tier II capital notes. The notes were issued at par and in two tranches, namely US \$53 million in Series A notes due 2018 and US \$25 million in Series B notes due 2023. The issuance was by way of private placement with US institutional investors. The notes are listed on the BSX in the specialist debt securities category. The proceeds of the issue were used to repay the entire amount of the US \$78 million outstanding subordinated notes redeemed in May 2008. The notes issued under Series A paid a fixed coupon of 7.59% until May 27, 2013 when they became redeemable in whole at the option of the Bank. In May 2013, the Bank exercised its option to redeem the Series A note outstanding at face value. The Series B notes pay a fixed coupon of 8.44% until May 27, 2018 when they become redeemable in whole at the Bank's option. The Series B notes were priced at a spread of 4.51% over the 10-year US Treasury yield.

On May 24, 2018, the Bank issued US \$75 million of Subordinated Lower Tier II capital notes. The notes were issued at par and due on June 1, 2028. The issuance was by way of a registered offering with US institutional investors. The notes are listed on the Bermuda Stock Exchange (BSX) in the specialist debt securities category. The proceeds of the issue were used, among other, to repay the entire amount of the US \$47 million outstanding subordinated notes series 2003-B. The notes issued pay a fixed coupon of 5.25% until June 1, 2023 when they become redeemable in whole at the option of the Bank. The notes were priced at a spread of 2.27% over the 10-year US Treasury yield. The Bank incurred \$1.8 million of costs directly related to the issuance of these capital notes. These costs have been capitalized directly against the carrying value of these notes on the balance sheet, and will be amortized over the life of the notes.

No interest was capitalized during the three months ended March 31, 2019 and the year ended December 31, 2018.

In the event the Bank would be in a position to redeem long-term debt, priority would go to the redemption of the higher interest-bearing Series, subject to availability relative to the earliest date the Series is redeemable at the Bank's option.

The following table presents the contractual maturity and interest payments for long-term debt issued by the Bank as at March 31, 2019. The interest payments are calculated until contractual maturity using the current LIBOR rates.

Long-term debt	Earliest date redeemable at the Bank's option	Contractual maturity date	Interest rate until date redeemable	Interest rate from earliest date redeemable to contractual maturity	Principal Outstanding	Interest payments until contractual maturity		
						Within 1 year	1 to 5 years	After 5 years
Bermuda								
2005 issuance - Series B	July 2, 2015	July 2, 2020	5.11%	3 months US\$ LIBOR + 1.695%	45,000	1,956	975	—
2008 issuance - Series B	May 27, 2018	May 27, 2023	8.44%	3 months US\$ LIBOR + 4.929%	25,000	1,906	6,189	—
2018 issuance	June 1, 2023	June 1, 2028	5.25%	3 months US\$ LIBOR + 2.255%	75,000	3,938	16,548	15,681
Total					145,000	7,800	23,712	15,681
Unamortized debt issuance costs					(1,633)			
Long-term debt less unamortized debt issuance costs					143,367			

Note 17: Earnings per share

Earnings per share have been calculated using the weighted average number of common shares outstanding during the period after deduction of the shares held as treasury stock. The dilutive effect of share-based compensation plans was calculated using the treasury stock method, whereby the proceeds received from the exercise of share-based awards are assumed to be used to repurchase outstanding shares, using the average market price of the Bank's shares for the year. Numbers of shares are expressed in thousands.

During the three months ended March 31, 2019, options to purchase an average of 0.2 million (March 31, 2018: 0.4 million) common shares were outstanding. During the three months ended March 31, 2019, the average number of outstanding awards of unvested common shares was 1.0 million (March 31, 2018: 0.9 million). Only awards for which the sum of 1) the expense that will be recognized in the future (i.e., the unrecognized expense) and 2) its exercise price, if any, was lower than the average market price of the Bank's common shares were considered dilutive and, therefore, included in the computation of diluted earnings per share. An award's unrecognized expense is also considered to be the proceeds the employees would need to pay to purchase accelerated vesting of the awards. For purposes of calculating dilution, such proceeds are assumed to be used by the Bank to buy back common shares at the average market price. The weighted-average number of outstanding awards, net of the assumed weighted-average number of common shares bought back, is included in the number of diluted participating shares.

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

	Three months ended	
	March 31, 2019	March 31, 2018
Net income	52,107	44,197
Basic Earnings Per Share		
Weighted average number of common shares issued	55,343	54,919
Weighted average number of common shares held as treasury stock	(1,647)	—
Weighted average number of common shares (in thousands)	53,696	54,919
Basic Earnings Per Share	0.97	0.80
Diluted Earnings Per Share		
Weighted average number of common shares	53,696	54,919
Net dilution impact related to options to purchase common shares	127	308
Net dilution impact related to awards of unvested common shares	406	586
Weighted average number of diluted common shares (in thousands)	54,229	55,813
Diluted Earnings Per Share	0.96	0.79

Note 18: Share-based payments

The common shares transferred to employees under all share-based payments are either taken from the Bank's common treasury shares or from newly issued shares. All share-based payments are settled by the ultimate parent company, which pursuant to Bermuda law is not taxed on income. There are no income tax benefits in relation to the issue of such shares as a form of compensation.

In conjunction with the 2010 capital raise, the Board of Directors approved the 2010 Omnibus Plan (the "2010 Plan"). Under the 2010 Plan, 5% of the Bank's fully diluted common shares, equal to approximately 2.95 million shares, were initially available for grant to certain officers in the form of stock options or unvested shares awards. Both types of awards are detailed below. In 2012 and 2016, the Board of Directors approved an increase to the equivalent number of shares allowed to be granted under the 2010 Plan to respectively 5.0 million and 7.5 million shares.

Stock Option Awards

1997 Stock Option Plan

Prior to the capital raise on March 2, 2010, the Bank granted stock options to employees and Directors of the Bank that entitle the holder to purchase one common share at a subscription price equal to the market price on the effective date of the grant. Generally, the options granted vest 25 percent at the end of each year for four years, however as a result of the 2010 capital raise, the options granted under the Bank's 1997 Stock Option Plan to employees became fully vested and options awarded to certain executives were surrendered.

2010 Plan

Under the 2010 Plan, options are awarded to Bank employees and executive management, based on predetermined vesting conditions that entitle the holder to purchase one common share at a subscription price usually equal to the price of the most recently traded common share when granted and have a term of 10 years. The subscription price is reduced for all special dividends declared by the Bank. Stock option awards granted under the 2010 Plan vest based on two specific types of vesting conditions i.e., time and performance conditions, as detailed below:

Time vesting condition

50% of each option award was granted in the form of time vested options and vested 25% on each of the second, third, fourth and fifth anniversaries of the effective grant date.

In addition to the time vesting conditions noted above, the options will generally vest immediately:

- by reason of the employee's death or disability,
- upon termination, by the Bank, of the holder's employment, unless if in relation with the holder's misconduct, or
- in limited circumstances and specifically approved by the Board, as stipulated in the holder's employment contract.

In the event of the employee's resignation, any unvested portion of the awards shall generally be forfeited and any vested portion of the options shall generally remain exercisable during the 90-day period following the termination date or, if earlier, until the expiration date, and any vested portion of the options not exercised as of the expiration of such period shall be forfeited without any consideration therefore.

Performance vesting condition

50% of each option award was granted in the form of performance options and would vest (partially or fully) on a "valuation event" date (the date that any of the March 2, 2010 new investors transfers at least 5% of the total number of common shares or the date that there is a change in control and any of the new investors realize a predetermined multiple of invested capital ("MOIC")). On September 21, 2016, it was determined that a valuation event occurred during which a new investor realized a MOIC of more than 200% of the original invested capital of \$12.09 per share and accordingly, all outstanding unvested performance options vested.

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

Changes in Outstanding Stock Options

Three months ended March 31, 2019	Number of shares transferable upon exercise (thousands)			Weighted average exercise price (\$)		Weighted average remaining life (years)		Aggregate intrinsic value (\$ thousands)
	1997 Stock Option Plan	2010 Stock Option Plan	Total	1997 Stock Option Plan	2010 Stock Option Plan	1997 Stock Option Plan	2010 Stock Option Plan	
Outstanding at beginning of period	25	189	214	64.51	11.98			
Exercised	—	(1)	(1)	—	11.50			19
Expiration at end of plan life	(25)	—	(25)	64.51	—			
Outstanding at end of period	—	188	188	—	11.98	—	1.42	4,469
Vested and exercisable at end of period	—	188	188	—	11.98	—	1.42	

Three months ended March 31, 2018	Number of shares transferable upon exercise (thousands)			Weighted average exercise price (\$)		Weighted average remaining life (years)		Aggregate intrinsic value (\$ thousands)
	1997 Stock Option Plan	2010 Stock Option Plan	Total	1997 Stock Option Plan	2010 Stock Option Plan	1997 Stock Option Plan	2010 Stock Option Plan	
Outstanding at beginning of period	58	476	534	113.46	11.73			
Exercised	—	(148)	(148)	—	11.62			4,892
Forfeitures and cancellations	(32)	—	(32)	153.63	—			
Outstanding at end of period	26	328	354	64.49	11.78	0.95	2.28	10,790
Vested and exercisable at end of period	26	328	354	64.49	11.78	0.95	2.28	

Share Based Plans

Recipients of unvested share awards are entitled to the related common shares at no cost, at the time the award vests. Recipients of unvested shares may be entitled to receive additional unvested shares having a value equal to the cash dividends that would have been paid had the unvested shares been issued and vested. Such additional unvested shares granted as dividend equivalents are subject to the same vesting schedule and conditions as the underlying unvested shares.

Unvested shares subject only to the time vesting condition generally vest upon retirement, death, disability or upon termination, by the Bank, of the holder's employment unless if in connection with the holder's misconduct. Unvested shares subject to both time vesting and performance vesting conditions remain outstanding and unvested upon retirement and will vest only if the performance conditions are met. Unvested shares can also vest in limited circumstances and if specifically approved by the Board, as stipulated in the holder's employment contract. In all other circumstances, unvested shares are generally forfeited when employment ends.

The grant date weighted average fair value of unvested share awards granted in the three months ended March 31, 2019 was \$35.96 (December 31, 2018: \$39.25). The Bank expects to settle these awards by issuing new shares.

Employee Deferred Incentive Plan ("EDIP")

Under the Bank's EDIP Plan, shares were awarded to Bank employees and executive management based on the time vesting condition, which states that the shares will vest equally over a three-year period from the effective grant date.

Executive Long-Term Incentive Share Plan ("ELTIP") - Years 2013 - 2019

The 2019 ELTIP was approved on January 14, 2019. Under the Bank's ELTIP plans for the years 2013 through 2019, performance shares as well as time-vested shares were awarded to executive management. The performance shares will generally vest upon the achievement of certain performance targets in the three-year period from the effective grant date. The time-vested shares will generally vest over the three-year period from the effective grant date.

Changes in Outstanding ELTIP and EDIP awards (in thousands of shares transferable upon vesting)

	Three months ended			
	March 31, 2019		March 31, 2018	
	EDIP	ELTIP	EDIP	ELTIP
Outstanding at beginning of period	234	697	244	679
Granted	156	272	124	224
Vested (fair value in 2019: \$12.9 million, 2018: \$13.0 million)	(115)	(242)	(120)	(169)
Resignations	—	—	(2)	(4)
Outstanding at end of period	275	727	246	730

Share-based Compensation Cost Recognized in Net Income

	Three months ended					
	March 31, 2019			March 31, 2018		
	Stock option plans	EDIP and ELTIP	Total	Stock option plans	EDIP and ELTIP	Total
Cost recognized in net income	—	3,911	3,911	—	2,537	2,537

Unrecognized Share-based Compensation Cost

	March 31, 2019		December 31, 2018	
	Unrecognized cost	Weighted average years over which it is expected to be recognized	Unrecognized cost	Weighted average years over which it is expected to be recognized
EDIP	8,870	2.30	4,442	1.73
ELTIP				
Time vesting shares	1,277	0.82	1,746	1.03
Performance vesting shares	16,165	2.36	7,880	1.85
Total unrecognized expense	26,312		14,068	

Note 19: Share buy-back plans

The Bank initially introduced two share buy-back programs on May 1, 2012 as a means to improve shareholder liquidity and facilitate growth in share value. Each program was approved by the Board of Directors for a period of 12 months, in accordance with the regulations of the BSX. The BSX must be advised monthly of shares purchased pursuant to each program.

From time to time the Bank's associates, insiders and insiders' associates as defined by the BSX regulations may sell shares which may result in such shares being repurchased pursuant to each program, provided no more than any such person's pro-rata share of the listed securities is repurchased. Pursuant to the BSX regulations, all repurchases made by any issuer pursuant to a securities repurchase program must be made: (1) in the open market and not by private agreement; and (2) for a price not higher than the last independent trade for a round lot of the relevant class of securities.

Common Share Buy-Back Program

On February 15, 2018, the Board approved, with effect on April 1, 2018, the 2018 common share buy-back program, authorizing the purchase for treasury of up to 1.0 million common shares.

On December 6, 2018, the Board approved, with effect from December 10, 2018 to February 29, 2020, a common share buy-back program, authorizing the purchase for treasury of up to 2.5 million common shares.

	Three months ended	Year ended December 31				
	March 31, 2019	2018	2017	2016	2015	Total
Common share buy-backs						
Acquired number of shares (to the nearest 1)	1,145,000	1,254,212	—	97,053	250,371	2,746,636
Average cost per common share	35.96	38.62	—	16.36	19.42	34.98
Total cost (in US dollars)	41,177,568	48,442,768	—	1,588,189	4,862,248	96,070,773

In March 2019, the Bank canceled 780,000 shares which were previously held as Treasury Shares resulting from these buybacks.

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

Note 20: Accumulated other comprehensive loss

March 31, 2019	Unrealized (losses) on translation of net investment in foreign operations	HTM investments	Unrealized gains (losses) on AFS investments	Employee benefit plans			Total AOCL
				Pension	Post- retirement healthcare	Subtotal - employee benefits plans	
Balance at beginning of period	(19,866)	(796)	(43,630)	(64,892)	(19,343)	(84,235)	(148,527)
Other comprehensive income (loss), net of taxes	814	7	21,284	342	162	504	22,609
Balance at end of period	(19,052)	(789)	(22,346)	(64,550)	(19,181)	(83,731)	(125,918)

March 31, 2018	Unrealized (losses) on translation of net investment in foreign operations	HTM investments	Unrealized gains (losses) on AFS investments	Employee benefit plans			Total AOCL
				Pension	Post- retirement healthcare	Subtotal - employee benefits plans	
Balance at beginning of period	(17,549)	(839)	(15,737)	(47,767)	(47,160)	(94,927)	(129,052)
Other comprehensive income (loss), net of taxes	1,184	22	(28,721)	38	664	702	(26,813)
Balance at end of period	(16,365)	(817)	(44,458)	(47,729)	(46,496)	(94,225)	(155,865)

Net Change of AOCL Components

Three months ended

	Line item in the consolidated statements of operations, if any	March 31, 2019	March 31, 2018
Net unrealized gains (losses) on translation of net investment in foreign operations adjustments			
Foreign currency translation adjustments	N/A	3,994	5,493
Gains (loss) on net investment hedge	N/A	(3,180)	(4,309)
Net change		814	1,184
Held-to-maturity investment adjustments			
Amortization of net gains (losses) to net income	Interest income on investments	7	22
Net change		7	22
Available-for-sale investment adjustments			
Gross unrealized gains (losses)	N/A	22,256	(27,871)
Transfer of realized (gains) losses to net income	Net realized gains (losses) on AFS investments	(972)	(850)
Net change		21,284	(28,721)
Employee benefit plans adjustments			
Defined benefit pension plan			
Amortization of net actuarial (gains) losses	Non-service employee benefits expense	614	526
Amortization of prior service (credit) cost	Non-service employee benefits expense	5	—
Foreign currency translation adjustments of related balances	N/A	(277)	(488)
Net change		342	38
Post-retirement healthcare plan			
Amortization of net actuarial (gains) losses	Non-service employee benefits expense	68	654
Amortization of prior service (credit) cost	Non-service employee benefits expense	94	10
Net change		162	664
Other comprehensive income (loss), net of taxes		22,609	(26,813)

Note 21: Capital structure

Authorized Capital

On September 16, 2016, the Bank began trading on the New York Stock Exchange under the ticker symbol "NTB". The offering of 12,234,042 common shares consisted of 5,957,447 newly issued common shares sold by Butterfield and 6,276,595 common shares sold by certain selling shareholders, including 1,595,744 common shares sold by certain of the selling shareholders pursuant to the underwriters' option to purchase additional shares, which was exercised in full prior to the closing.

On July 25, 2016, the Bank's board of directors approved a consolidation of the existing common shares on the basis of a 10 to 1 ratio, subject to shareholder approval. As a result of this consolidation, effective September 6, 2016 upon shareholder approval, every 10 common shares of par value BM\$0.01 were consolidated into 1 common share of par value BM\$0.10 (the "Share Consolidation").

In addition, as of September 6, 2016, the par value of each issued common share and each authorized but unissued common share was reduced from BM\$0.10 to BM\$0.01 and the authorized share capital of the Bank was correspondingly reduced from 2,000,000,000 common shares of par value BM\$0.10 each, 6,000,000,000 non-voting ordinary shares of par value BM\$0.01 each, 110,200,001 preference shares of par value US\$0.01 each and 50,000,000 preference shares of par value £0.01 each to 2,000,000,000 common shares of par value BM\$0.01 each, 6,000,000,000 non-voting ordinary shares of par value BM\$0.01 each, 110,200,001 preference shares of par value US\$0.01 each and 50,000,000 preference shares of par value £0.01 each, without any payment by the Bank to the holders of the voting ordinary shares in respect thereof (the "Reduction in Par Value" and together with the Share Consolidation, the "Reverse Share Split").

Immediately following the Reduction in Par Value, the Bank repurchased any and all fractions of common shares issued and outstanding from the holders thereof. All share, share-based payments and dividend information presented in these consolidated financial statements and accompanying footnotes has been retroactively adjusted to reflect the decreased number of shares resulting from this action.

Prior to the Reverse Share Split, the Bank's total authorized share capital consisted of (i) 20 billion common shares of par value BM\$0.01, (ii) 6 billion non-voting ordinary shares of par value BM\$0.01; (iii) 110,200,001 preference shares of par value US\$0.01 and (iv) 50 million preference shares of par value £0.01.

Dividends Declared

During the three months ended March 31, 2019, the Bank paid cash dividends of \$0.44 (March 31, 2018: \$0.38) for each common share as of the related record dates.

The Bank is required to comply with Section 54 of the Companies Act 1981 issued by the Government of Bermuda (the "Companies Act") each time a dividend is declared or paid by the Bank and also obtain prior written consent from the BMA pursuant to the Banks and Deposit Companies Act 1999 for any dividends declared. The Bank has complied with Section 54 and has obtained BMA consent for all dividends declared during the periods presented.

Regulatory Capital

Effective January 1, 2016, the Bank's regulatory capital is determined in accordance with current Basel III guidelines as issued by the Bermuda Monetary Authority ("BMA"). Basel III adopts Common Equity Tier 1 ("CET1") as the predominant form of regulatory capital with the CET1 ratio as a new metric. Basel III also adopts the new Leverage Ratio regime, which is calculated by dividing Tier 1 capital by an exposure measure. The Leverage Ratio Exposure Measure consists of total assets (excluding items deducted from Tier 1 capital) and certain off-balance sheet items converted into credit exposure equivalents as well as adjustments for derivatives to reflect credit risk and other risks. Prior to January 1, 2016, the Bank's regulatory capital was determined in accordance with Basel II guidelines as issued by the BMA.

The Bank is fully compliant with all regulatory capital requirements and maintains capital ratios in excess of regulatory minimums as at March 31, 2019 and December 31, 2018. The following table sets forth the Bank's capital adequacy in accordance with the Basel III framework:

	March 31, 2019		December 31, 2018	
	Actual	Regulatory minimum	Actual	Regulatory minimum
Capital				
CET 1 capital	838,526	N/A	846,043	N/A
Tier 1 capital	838,526	N/A	846,043	N/A
Tier 2 capital	116,935	N/A	121,521	N/A
Total capital	955,461	N/A	967,564	N/A
Risk Weighted Assets	4,341,465	N/A	4,321,354	N/A
Leverage Ratio Exposure Measure	12,004,214	N/A	11,139,677	N/A
Capital Ratios (%)				
CET 1 capital	19.3%	10.0%	19.6%	9.4%
Tier 1 capital	19.3%	11.5%	19.6%	10.9%
Total capital	22.0%	16.3%	22.4%	15.6%
Leverage ratio	7.0%	5.0%	7.6%	5.0%

Note 22: Business combinations

Deutsche Bank's Global Trust Solutions Acquisition

On March 29, 2018, the Bank concluded the acquisition of Deutsche Bank's Global Trust Solutions ("GTS") business, excluding its US operations, for net cash payments of \$24.7 million (composed of an initial cash payment of \$30.2 million followed by a refund of \$5.5 million on May 29, 2018). The refund was received based upon the movement in the number of clients in the GTS portfolio between the time the acquisition was agreed upon and the conclusion of the acquisition, together with an adjustment based upon the net asset values of the companies transferred. Butterfield has taken over the ongoing management and administration of the GTS portfolio, comprising approximately 1,000 trust structures for some 900 private clients. Butterfield has also offered positions to all employees who are fully dedicated to GTS in the Cayman Islands, Guernsey, Switzerland, Singapore and Mauritius. The acquisition was undertaken to enhance the Bank's market presence in the global trust service market.

The Bank incurred transaction expenses related to this acquisition in the amount of \$3.8 million, of which \$1.9 million were expensed during the year ended December 31, 2018 (including \$1.0 million of legal and professional fees) and \$1.9 million were expensed during the year ended December 31, 2017 (including \$1.6 million of legal and professional fees).

For the year ended December 31, 2018, the amount of revenues and net deficit relating to the acquired GTS operations that were not inextricably merged into the Bank's operations were \$6.5 million and \$2.9 million respectively.

The assets acquired consist mainly of: customer relationships intangible assets, goodwill and accounts receivable. The liabilities assumed consist mainly of deferred revenues and accounts payable. Goodwill is made up of expected cash flows to be derived from new business and expected synergies resulting from leveraging existing support services and infrastructure within the Bank. The goodwill acquisitions were allocated to reportable segments as per Note 9 in the Bank's audited financial statements for the year ended December 31, 2018.

	As at March 29, 2018
Total consideration transferred	24,680
Assets acquired	
Cash due from banks	3,958
Intangible assets (estimated useful life of 15 years)	16,932
Other assets	4,548
Total assets acquired	25,438
Liabilities acquired (included in Other liabilities on the balance sheet)	4,626
Excess purchase price (Goodwill)	3,868

Disclosure of the unaudited pro forma financial information to present a summary of the combined results of the Bank and GTS acquisition is impracticable for the year ended December 31, 2018. The disclosure is impracticable as the Bank does not have access to the complete historical revenue and expense data as it relates to GTS for the period preceding the acquisition.

Ongoing Asset Acquisition

On February 15, 2018, the Bank announced that it had entered into an agreement to acquire Deutsche Bank's banking and custody business in the Cayman Islands, Guernsey and Jersey. During the year ended December 31, 2018, the Bank began to onboard certain customer deposits relating to the acquisition and this activity has continued in 2019.

Note 23: Related party transactions

Financing Transactions

Certain directors and executives of the Bank, companies in which they are principal owners and/or members of the board, and trusts in which they are involved, have loans with the Bank. Loans to directors were made in the ordinary course of business at normal credit terms, including interest rate and collateral requirements. Loans to executives may be eligible to preferential rates. As at March 31, 2019, related party director and executive loan balances were \$105.3 million (December 31, 2018: \$97.2 million). During the three months ended March 31, 2019, new issuance of loans to related parties were \$8.1 million and repayments and change in directorships were nil (year ended December 31, 2018: \$77.3 million and \$11.0 million, respectively). All of these loans were considered performing loans as at March 31, 2019 and December 31, 2018. For the three months ended March 31, 2019, the Bank has recognized \$1.4 million (March 31, 2018: \$0.8 million) of loan interest revenue in the consolidated statement of operations relating to directors and executives, companies in which they are principal owners and/or members of the board and trusts in which they are involved.

Certain directors and executives of the Bank, companies in which they are principal owners, and trusts in which they are involved, have deposits with the Bank. As at March 31, 2019, related party director and executive deposit balances were \$15.8 million (December 31, 2018: \$17.2 million).

Certain affiliates of the Bank have loans and deposits with the Bank. The loans were made and the deposits are maintained in the ordinary course of business on normal commercial terms. At March 31, 2019, affiliates had loan balances of \$10.1 million (December 31, 2018: \$10.2 million) and deposit balances of \$0.4 million (December 31, 2018: \$0.4 million). For the three months ended March 31, 2019, the Bank has recognized \$0.4 million (March 31, 2018: \$0.4 million) of non-interest expenses and \$0.2 million (March 31, 2018: \$0.1 million) of loan interest revenue in the consolidated statement of operations relating to affiliates which the Bank holds investments in.

Financial Transactions With Related Parties

The Bank holds seed investments in several Butterfield mutual funds, which are managed by a wholly-owned subsidiary of the Bank. As at March 31, 2019, these investments have a fair value of \$6.7 million with an unrealized gain of \$1.7 million (December 31, 2018: \$6.2 million and \$1.2 million, respectively) and were included in trading investments at their fair value. As at March 31, 2019, several Butterfield mutual funds which are managed by a wholly owned subsidiary of the Bank, had loan balances of nil (December 31, 2018: \$1.8 million) and deposit balances of nil (December 31, 2018: \$36.7 million). During the three months ended March 31, 2019, the Bank earned \$2.7 million (March 31, 2018: \$2.2 million) in asset management revenue from funds managed by a wholly-owned subsidiary of the Bank. During the three months ended March 31, 2019, the Bank

The Bank of N.T. Butterfield & Son Limited
Notes to the Consolidated Financial Statements (unaudited) (continued)
(In thousands of US dollars, unless otherwise stated)

earned \$0.3 million (March 31, 2018: \$0.3 million) in custody and other administration services revenue from funds managed by a wholly-owned subsidiary of the Bank and directors and executives, companies in which they are principal owners and/or members of the board and trusts in which they are involved. During the three months ended March 31, 2019, the Bank earned \$0.2 million (March 31, 2018: \$0.2 million) in other income from other related parties.

Note 24: Subsequent events

On April 22, 2019, the Board of Directors declared an interim dividend of \$0.44 per common share to be paid on May 17, 2019 to shareholders of record on May 6, 2019.

On April 25, 2019, the Bank announced that it has entered into an agreement to acquire ABN AMRO (Channel Islands) Limited from ABN AMRO Bank N.V. for cash consideration of £161 million. The deal is pending customary regulatory approvals and is expected to close during the third quarter of 2019.