

FINANCIAL REPORT FOR THE
THREE MONTHS ENDED 31 MARCH 2017
The Bank of N.T. Butterfield & Son Limited



INDEX TO FINANCIAL STATEMENTS

Unaudited Consolidated Financial Statements	Page
Consolidated Balance Sheets (unaudited) as of 31 March 2017 and 31 December 2016	2
Consolidated Statements of Operations (unaudited) for the Three Months Ended 31 March 2017 and 2016	3
Consolidated Statements of Comprehensive Income (unaudited) for the Three Months Ended 31 March 2017 and 2016	4
Consolidated Statements of Changes in Shareholders' Equity (unaudited) for the Three Months Ended 31 March 2017 and 2016	5
Consolidated Statements of Cash Flows (unaudited) for the Three Months Ended 31 March 2017 and 2016	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	
	31 March 2017	31 December 2016
Assets		
Cash and demand deposits with banks - Non-interest bearing	85,051	110,741
Demand deposits with banks - Interest bearing	247,768	326,437
Cash equivalents - Interest bearing	1,534,490	1,664,473
Cash due from banks	1,867,309	2,101,651
Securities purchased under agreement to resell	62,669	148,813
Short-term investments	542,163	519,755
Investment in securities		
Trading	6,470	6,313
Available-for-sale	3,306,211	3,332,738
Held-to-maturity (fair value: \$1,222,784 (2016: \$1,046,828))	1,235,965	1,061,103
Total investment in securities	4,548,646	4,400,154
Loans		
Loans	3,615,945	3,614,725
Allowance for credit losses	(43,156)	(44,247)
Loans, net of allowance for credit losses	3,572,789	3,570,478
Premises, equipment and computer software	166,161	167,773
Accrued interest	22,786	22,780
Goodwill	19,967	19,622
Intangible assets	41,447	42,289
Equity method investments	13,789	13,482
Other real estate owned	14,088	14,199
Other assets	71,746	82,549
Total assets	10,943,560	11,103,545
Liabilities		
Customer deposits		
Bermuda		
Non-interest bearing	1,649,708	1,733,684
Interest bearing	3,871,852	4,213,417
Non-Bermuda		
Non-interest bearing	613,594	651,329
Interest bearing	3,704,261	3,411,423
Total customer deposits	9,839,415	10,009,853
Bank deposits		
Bermuda	142	344
Non-Bermuda	9,870	23,452
Total deposits	9,849,427	10,033,649
Employee benefit plans	139,555	139,967
Accrued interest	3,050	2,143
Other liabilities	93,527	100,044
Total other liabilities	236,132	242,154
Long-term debt	117,000	117,000
Total liabilities	10,202,559	10,392,803
Commitments, contingencies and guarantees (Note 12)		
Shareholders' equity		
Common share capital (BMD 0.01 par; authorised voting ordinary shares 2,000,000,000 and non-voting ordinary shares 6,000,000,000 issued and outstanding: 54,255,377 (2016: 53,284,872))	543	533
Additional paid-in capital	1,147,981	1,142,608
Accumulated deficit	(269,117)	(287,677)
Less: treasury common shares, at cost: 58 (2016: 2,066)	(1)	(42)
Accumulated other comprehensive loss	(138,405)	(144,680)
Total shareholders' equity	741,001	710,742
Total liabilities and shareholders' equity	10,943,560	11,103,545

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	
	31 March 2017	31 March 2016
Non-interest income		
Asset management	5,840	4,188
Banking	10,043	8,665
Foreign exchange revenue	8,306	8,324
Trust	11,390	10,145
Custody and other administration services	2,012	2,219
Other non-interest income	947	977
Total non-interest income	38,538	34,518
Interest income		
Interest and fees on loans	44,007	47,417
Investments <i>(none of the investment securities are intrinsically tax-exempt)</i>		
Trading	—	963
Available-for-sale	15,874	11,714
Held-to-maturity	8,559	5,289
Deposits with banks	3,479	1,600
Total interest income	71,919	66,983
Interest expense		
Deposits	2,793	3,483
Long-term debt	1,193	1,094
Securities sold under repurchase agreements	—	69
Total interest expense	3,986	4,646
Net interest income before provision for credit losses	67,933	62,337
Provision for credit recovery	339	342
Net interest income after provision for credit losses	68,272	62,679
Net trading gains (losses)	157	1,033
Net realised gains (losses) on available-for-sale investments	69	(76)
Net gains (losses) on other real estate owned	68	(307)
Net other gains (losses)	(71)	(889)
Total other gains (losses)	223	(239)
Total net revenue	107,033	96,958
Non-interest expense		
Salaries and other employee benefits	35,995	31,238
Technology and communications	12,949	14,456
Property	4,922	5,019
Professional and outside services	6,244	4,063
Indirect taxes	4,196	4,618
Amortisation of intangible assets	1,030	1,052
Marketing	963	948
Restructuring costs	441	4,459
Other expenses	4,261	4,080
Total non-interest expense	71,001	69,933
Net income before income taxes	36,032	27,025
Income tax expense	(175)	(264)
Net income	35,857	26,761
Cash dividends declared on preference shares	—	(3,657)
Preference shares guarantee fee	—	(462)
Net income attributable to common shareholders	35,857	22,642
Earnings per common share		
Basic earnings per share	0.67	0.49
Diluted earnings per share	0.65	0.48
Dividend per share	0.32	0.10

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

31 March 2017 31 March 2016

	31 March 2017	31 March 2016
Net income	35,857	26,761
Other comprehensive income (loss), net of taxes		
Net change in unrealised gains and losses on translation of net investment in foreign operations	358	(1,587)
Accretion of net unrealised (gains) losses on held-to-maturity investments transferred from available-for-sale investments	48	(245)
Net change in unrealised gains and losses on available-for-sale investments	4,851	19,129
Employee benefit plans adjustments	1,018	(436)
Other comprehensive income (loss), net of taxes	6,275	16,861
Total comprehensive income	42,132	43,622

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

	31 March 2017		31 March 2016	
	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	53,284,872	533	47,293,253	473
Issuance of common shares	970,505	10	—	—
Balance at end of period	54,255,377	543	47,293,253	473
Preference shares				
Balance at beginning of period	—	—	182,863	2
Repurchase and cancellation of preference shares	—	—	—	—
Balance at end of period	—	—	182,863	2
Additional paid-in capital				
Balance at beginning of period		1,142,608		1,225,344
Share-based compensation		1,741		1,791
Share-based settlements		(10)		(6,785)
Cost of issuance of common shares		22		—
Issuance of common shares, net of underwriting discounts and commissions		3,621		—
Sale of treasury common shares		(1)		—
Balance at end of period		1,147,981		1,220,350
Accumulated deficit				
Balance at beginning of period		(287,677)		(368,618)
Net income for period		35,857		26,761
Common share cash dividends declared and paid, \$0.32 per share (2016 \$0.10 per share)		(17,297)		(4,674)
Cash dividends declared on preference shares, nil per share (2016: \$20.00 per share)		—		(3,657)
Preference shares guarantee fee		—		(462)
Balance at end of period		(269,117)		(350,650)
Treasury common shares				
Balance at beginning of period	2,066	(42)	924,031	(16,350)
Purchase of treasury common shares	—	—	16,542	(272)
Sale of treasury common shares	(380)	13	—	—
Share-based settlements	(1,628)	28	(392,884)	6,941
Balance at end of period	58	(1)	547,689	(9,681)
Accumulated other comprehensive income (loss)				
Balance at beginning of period		(144,680)		(90,497)
Other comprehensive income (loss), net of taxes		6,275		16,861
Balance at end of period		(138,405)		(73,636)
Total shareholders' equity		741,001		786,858

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	
	31 March 2017	31 March 2016
Cash flows from operating activities		
Net income	35,857	26,761
Adjustments to reconcile net income to operating cash flows		
Depreciation and amortisation	12,803	11,228
Provision for credit (recovery) losses	(339)	(342)
Share-based payments and settlements	1,759	1,791
Net realised (gains) losses on available-for-sale investments	(69)	76
(Gain) loss on sale of premises and equipment	—	(5)
Net (gains) losses on other real estate owned	(68)	307
(Increase) in carrying value of equity method investments	(347)	(364)
Fair value adjustments of a contingent payment	—	895
Changes in operating assets and liabilities		
(Increase) decrease in accrued interest receivable	94	(4,928)
(Increase) decrease in other assets	11,085	(3,861)
Increase in accrued interest payable	873	624
Increase (decrease) in employee benefit plans and other liabilities	(7,205)	2,326
Cash provided by operating activities	54,443	34,508
Cash flows from investing activities		
(Increase) decrease in securities purchased under agreement to resell	86,144	—
Net (increase) in short-term investments	(22,108)	(31,194)
Net change in trading investments	(157)	81,725
Available-for-sale investments: proceeds from sale	86	7,567
Available-for-sale investments: proceeds from maturities and pay downs	124,944	130,245
Available-for-sale investments: purchases	(98,804)	(540,674)
Held-to-maturity investments: proceeds from maturities and pay downs	23,648	9,597
Held-to-maturity investments: purchases	(199,248)	(36,346)
Net decrease in loans	9,070	29,568
Additions to premises, equipment and computer software	(3,888)	(2,780)
Proceeds from sale of other real estate owned	179	2,361
Dividends received on equity method investments	40	30
Cash (used in) investing activities	(80,094)	(349,901)
Cash flows from financing activities		
Net increase (decrease) in demand and term deposit liabilities	(205,239)	(200,855)
Net increase (decrease) in securities sold under agreement to repurchase	—	23,518
Proceeds from issuance of common shares, net of underwriting discounts and commissions	13	—
Common shares repurchased	—	(272)
Proceeds from stock option exercises	3,631	156
Cash dividends paid on common and contingent value convertible preference shares	(17,297)	(4,674)
Cash dividends paid on preference shares	—	(3,657)
Preference shares guarantee fee paid	—	(462)
Cash (used in) financing activities	(218,892)	(186,246)
Net effect of exchange rates on cash due from banks	10,201	(13,208)
Net (decrease) in cash due from banks	(234,342)	(514,847)
Cash due from banks at beginning of period	2,101,651	2,288,890
Cash due from banks at end of period	1,867,309	1,774,043

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 licence under the Bank 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 six geographic segments: Bermuda, the Cayman Islands, and Guernsey, where its principal banking operations are located; and The Bahamas, Switzerland, and the United Kingdom, 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 Guernsey, Bahamas, and Switzerland segments, the Bank offers wealth management. In the United Kingdom segment, the Bank offers residential property lending.

On 16 September 2016, the Bank's common shares began to trade on the New York Stock Exchange under the symbol "NTB". On 21 September 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 31 December 2016.

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

On 1 January 2016, the Bank changed its financial statements' reporting currency from Bermuda dollars to United States ("US") dollars for all periods presented. Assets, liabilities, revenues and expenses denominated in Bermuda dollars are translated to US dollars at par.

The following accounting developments were issued during the three months ended 31 March 2017:

In January 2017, the Financial Accounting Standards Board ("FASB") published Accounting Standards Update No. 2017-03 Accounting Changes and Error Corrections (Topic 250) and Investments - Equity Method and Joint Ventures (Topic 323) - Amendments to SEC Paragraphs Pursuant to Staff Announcement at the September 22, 2016 and November 17, 2016 EITF Meetings. The amendments in this update reflect the SEC Staff Announcement "Disclosure of the Impact that Recently Issued Accounting Standards Will Have on the Financial Statements of a Registrant When Such Standards Are Adopted in a Future Period (in accordance with Staff Accounting Bulletin [SAB] Topic 11.M)". It applies to ASU 2014-09 Revenue from Contracts with Customers (Topic 606), ASU 2016-02 Leases (Topic 842), and ASU 2016-13 Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments. The ASUs mentioned above follow with the applied amendments.

In May 2014, the FASB and the International Accounting Standards Board ("IASB") issued converged final standards on revenue recognition. The FASB issued Accounting Standards Update No. 2014-09 Revenue from Contracts with Customers (Topic 606) ("ASU 2014-09"). The core principle of the new standards is that revenue is recognized when a customer obtains control of a good or service compared to the existing model that is based on the transfer of risks and rewards. As a result of the change, revenue could be recognized earlier or later than under current GAAP and in addition, the update requires extensive new disclosures. The effective date for this update is the same as for Accounting Standards Update No. 2015-14 Revenue from Contracts with Customers (Topic 606), Deferral of the Effective Date which defers the effective date of ASU 2014-09 by one year resulting in the effective date being fiscal years, and interim periods with in those fiscal years, beginning after 15 December 2017. Earlier application is permitted only as of annual reporting periods beginning after 15 December 2016, including interim reporting periods within that reporting period. The Bank has determined that this standard will affect non-interest income items that are fee generating but does not expect the impact to have a significant effect.

In February 2016, the FASB published Accounting Standards Update No. 2016-02 Leases (Topic 842) which requires the recognition of lease assets and lease liabilities by lessees for those leases classified as operating leases under previous GAAP. This update is effective for public business entities for fiscal years, and interim periods with in those fiscal years, beginning after 15 December 2018. Early application is permitted. The Bank has determined that this standard will have an effect due to the recognition of lease assets and lease liabilities currently classified as operating leases, which will result in the recognition of assets and corresponding lease liabilities.

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 15 December 2019, including interim periods within those fiscal years. The Bank is assessing the impact of the adoption of this guidance.

In January 2017, the FASB published Accounting Standards Update No. 2017-04 Intangibles - Goodwill and Other (Topic 350) - Simplifying the Test for Goodwill Impairment. To simplify the subsequent measurement of goodwill, the FASB eliminated Step 2 from the goodwill impairment test, and therefore an entity should perform its annual, or interim, goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount and recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value. The loss recognized should not exceed the total amount of goodwill allocated to that reporting unit and an entity should consider income tax effects from any tax deductible goodwill on the carrying amount of the reporting unit when measuring the goodwill impairment loss, if applicable. This update should

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

be adopted on a prospective basis by a public business entity that is a US Securities and Exchange Commission filer for its annual or any interim goodwill impairment tests in fiscal years beginning after 15 December 2019. Early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after 1 January 2017. The Bank is assessing the impact of the adoption of this guidance.

In March 2017, the FASB published Accounting Standards Update No. 2017-07 Compensation - Retirement Benefits (Topic 715) - Improving the Presentation of Net Periodic Pension Cost and Net Periodic Post-retirement Benefit Cost. The amendments in this Update require that an employer report the service cost component in the same line item or items as other compensation costs arising from services rendered by the pertinent employees during the period. The other components of net benefit cost are required to be presented in the income statement separately from the service cost component and outside a subtotal of income from operations, if one is presented. The amendments in this Update are effective for public business entities for annual periods beginning after 15 December 2017, including interim periods within those annual periods. Early adoption is permitted. The amendments in this Update should be applied retrospectively for the presentation of the service cost component and the other components of net periodic pension cost and net periodic post-retirement benefit cost in the income statement and prospectively, on and after the effective date, for the capitalization of the service cost component of net periodic pension cost and net periodic post-retirement benefit in assets. The Bank has determined that this standard will have an effect on the presentation of other components of net benefit cost in the consolidated statements of operations and statements of comprehensive income as the Bank currently reflects those items with the service cost component.

Note 3: Cash due from banks

	31 March 2017			31 December 2016		
	Bermuda	Non-Bermuda	Total	Bermuda	Non-Bermuda	Total
Non-interest bearing						
Cash and demand deposits with banks	22,851	62,200	85,051	28,690	82,051	110,741
Interest bearing¹						
Demand deposits with banks	95,727	152,041	247,768	138,123	188,314	326,437
Cash equivalents	618,338	916,152	1,534,490	976,557	687,916	1,664,473
Sub-total - Interest bearing	714,065	1,068,193	1,782,258	1,114,680	876,230	1,990,910
Total cash due from banks	736,916	1,130,393	1,867,309	1,143,370	958,281	2,101,651

¹ Interest bearing cash due from banks includes certain demand deposits with banks as at 31 March 2017 in the amount of \$220.7 million (31 December 2016: \$305.3 million) that are earning interest at a negligible rate.

Note 4: Short-term investments

	31 March 2017			31 December 2016		
	Bermuda	Non-Bermuda	Total	Bermuda	Non-Bermuda	Total
Unrestricted						
Maturing within three months	387,324	41,334	428,658	36,953	80,360	117,313
Maturing between three to six months	41,353	50,171	91,524	343,723	40,825	384,548
Maturing between six to twelve months	—	409	409	—	—	—
Total unrestricted short-term investments	428,677	91,914	520,591	380,676	121,185	501,861
Affected by drawing restrictions related to minimum reserve and derivative margin requirements						
Interest earning demand deposits	20,569	1,003	21,572	17,894	—	17,894
Total short-term investments	449,246	92,917	542,163	398,570	121,185	519,755

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

Amortised 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 amortised cost.

	31 March 2017				31 December 2016			
	Amortised cost	Gross unrealised gains	Gross unrealised losses	Fair value	Amortised cost	Gross unrealised gains	Gross unrealised losses	Fair value
Trading								
Mutual funds	5,724	1,262	(516)	6,470	5,724	1,091	(502)	6,313
Total trading	5,724	1,262	(516)	6,470	5,724	1,091	(502)	6,313
Available-for-sale								
US government and federal agencies	2,411,700	8,763	(23,926)	2,396,537	2,448,207	6,773	(24,578)	2,430,402
Non-US governments debt securities	27,883	181	(378)	27,686	27,895	178	(1,053)	27,020
Corporate debt securities	510,563	2,417	(927)	512,053	513,881	2,139	(1,545)	514,475
Asset-backed securities - Student loans	13,290	—	(797)	12,493	13,290	—	(797)	12,493
Commercial mortgage-backed securities	151,552	111	(1,320)	150,343	151,855	43	(1,352)	150,546
Residential mortgage-backed securities	209,050	29	(1,980)	207,099	200,288	56	(2,542)	197,802
Total available-for-sale	3,324,038	11,501	(29,328)	3,306,211	3,355,416	9,189	(31,867)	3,332,738
Held-to-maturity¹								
US government and federal agencies	1,235,965	3,176	(16,357)	1,222,784	1,061,103	2,528	(16,803)	1,046,828
Total held-to-maturity	1,235,965	3,176	(16,357)	1,222,784	1,061,103	2,528	(16,803)	1,046,828

¹ For the three months ended 31 March 2017 and the year ended 31 December 2016, non-credit impairments recognised in accumulated other comprehensive loss ("AOCL") for HTM investments were nil.

Investments with Unrealised Loss Positions

The Bank does not believe that the AFS and HTM investment securities that were in an unrealised loss position as of 31 March 2017 (and 31 December 2016), which were comprised of 162 securities representing 64% of the AFS and HTM portfolios' fair value (31 December 2016: 170 and 76%, respectively), represent an other-than-temporary impairment ("OTTI"). Total gross unrealised losses were 1.6% of the fair value of affected securities (31 December 2016: 1.5%) 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 unrealised 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** securities do not have any credit losses, given the explicit guarantee provided by the issuing government.

The unrealised losses in **Corporate debt securities** relate primarily to 5 debt securities that are all of investment grade with ratings ranging from A- to AA-. Management believes that the value of these securities will recover and the current unrealised loss positions are a result of interest rate movements.

Investments in **Asset-backed securities - Student loans** are composed primarily of securities collateralised 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-collateralisation, 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 10 senior securities rated AAA and one senior security rated A 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 recognised on these securities as the credit support and/or the weighted average loan-to-value ratios ("LTV") range from 5% - 36% and 25% - 60%, respectively. Current credit support is significantly greater than any delinquencies experienced on the underlying mortgages.

Investments in **Residential mortgage-backed securities** relate to 15 securities which are rated AAA or AA+ and possess significant credit enhancement as described above. No credit losses were recognised on these securities as there are no delinquencies over 60 days on the underlying mortgages and the weighted average credit support and LTV ratios range from 5% - 18% and 56% - 68%, respectively.

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 unrealised losses that are not deemed to be OTTI are categorised 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 amortised cost basis. During 2016, Management revised the methodology for considering the time period during which an investment has been in an unrealized loss by looking at monthly positions rather than annually.

	<u>Less than 12 months</u>		<u>12 months or more</u>		<u>Total fair value</u>	<u>Total gross unrealised losses</u>
	<u>Fair value</u>	<u>Gross unrealised losses</u>	<u>Fair value</u>	<u>Gross unrealised losses</u>		
31 March 2017						
Available-for-sale securities with unrealised losses						
US government and federal agencies	1,301,698	(21,439)	268,347	(2,487)	1,570,045	(23,926)
Non-US governments debt securities	—	—	22,360	(378)	22,360	(378)
Corporate debt securities	65,063	(927)	—	—	65,063	(927)
Asset-backed securities - Student loans	—	—	12,493	(797)	12,493	(797)
Commercial mortgage-backed securities	133,951	(1,320)	—	—	133,951	(1,320)
Residential mortgage-backed securities	182,270	(1,980)	—	—	182,270	(1,980)
Total available-for-sale securities with unrealised losses	1,682,982	(25,666)	303,200	(3,662)	1,986,182	(29,328)
Held-to-maturity securities with unrealised losses						
US government and federal agencies	908,077	(16,357)	—	—	908,077	(16,357)
	<u>Less than 12 months</u>		<u>12 months or more</u>		<u>Total fair value</u>	<u>Total gross unrealised losses</u>
	<u>Fair value</u>	<u>Gross unrealised losses</u>	<u>Fair value</u>	<u>Gross unrealised losses</u>		
31 December 2016						
Available-for-sale securities with unrealised losses						
Non-US governments debt securities	1,558,636	(21,932)	266,094	(2,646)	1,824,730	(24,578)
US government and federal agencies	21,681	(1,053)	—	—	21,681	(1,053)
Corporate debt securities	214,506	(1,545)	—	—	214,506	(1,545)
Asset-backed securities - Student loans	—	—	12,493	(797)	12,493	(797)
Commercial mortgage-backed securities	134,195	(1,352)	—	—	134,195	(1,352)
Residential mortgage-backed securities	181,556	(2,542)	—	—	181,556	(2,542)
Total available-for-sale securities with unrealised losses	2,110,574	(28,424)	278,587	(3,443)	2,389,161	(31,867)
Held-to-maturity securities with unrealised losses						
US government and federal agencies	937,080	(16,803)	—	—	937,080	(16,803)

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 maturities of the Bank's securities. The maturities are contractual for securities other than mortgage-backed securities. For mortgage-backed securities (primarily US government agencies), management presents the maturity date as the mid-point between the reporting date and the contractual maturity date which is determined assuming no future prepayments. By using the aforementioned mid-point, this date represents management's best estimate of the date by which the remaining principal balance will be repaid given future principal repayments of such securities. The actual maturities may differ due to the uncertainty of the timing when borrowers make prepayments on the underlying mortgages.

	Remaining term to maturity						
	Within 3 months	3 to 12 months	1 to 5 years	5 to 10 years	Over 10 years	No specific maturity	Carrying amount
31 March 2017							
Trading							
Mutual funds	—	—	—	—	—	6,470	6,470
Available-for-sale							
US government and federal agencies	—	5,018	81,703	702,364	1,607,452	—	2,396,537
Non-US governments debt securities	685	685	3,956	22,360	—	—	27,686
Corporate debt securities	14,097	137,395	360,561	—	—	—	512,053
Asset-backed securities - Student loans	—	—	—	—	12,493	—	12,493
Commercial mortgage-backed securities	—	—	—	7,072	143,271	—	150,343
Residential mortgage-backed securities	—	—	—	—	207,099	—	207,099
Total available-for-sale	14,782	143,098	446,220	731,796	1,970,315	—	3,306,211
Held-to-maturity							
US government and federal agencies	—	—	10,669	30,297	1,194,999	—	1,235,965
Total investments	14,782	143,098	456,889	762,093	3,165,314	6,470	4,548,646
Total by currency							
US dollars	14,782	143,098	456,889	762,093	3,165,314	6,262	4,548,438
Other	—	—	—	—	—	208	208
Total investments	14,782	143,098	456,889	762,093	3,165,314	6,470	4,548,646
	Remaining term to maturity						
	Within 3 months	3 to 12 months	1 to 5 years	5 to 10 years	Over 10 years	No specific maturity	Carrying amount
31 December 2016							
Trading							
Mutual funds	—	—	—	—	—	6,313	6,313
Available-for-sale							
US government and federal agencies	—	6,364	87,257	653,603	1,683,178	—	2,430,402
Non-US governments debt securities	—	1,371	3,967	21,682	—	—	27,020
Corporate debt securities	22,009	88,169	404,297	—	—	—	514,475
Asset-backed securities - Student loans	—	—	—	—	12,493	—	12,493
Commercial mortgage-backed securities	—	—	38,418	112,128	—	—	150,546
Residential mortgage-backed securities	—	—	—	—	197,802	—	197,802
Total available-for-sale	22,009	95,904	533,939	787,413	1,893,473	—	3,332,738
Held-to-maturity							
US government and federal agencies	—	—	10,688	31,154	1,019,261	—	1,061,103
Total investments	22,009	95,904	544,627	818,567	2,912,734	6,313	4,400,154
Total by currency							
US dollars	22,009	95,904	544,627	818,567	2,912,734	6,091	4,399,932
Other	—	—	—	—	—	222	222
Total investments	22,009	95,904	544,627	818,567	2,912,734	6,313	4,400,154

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

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.

	31 March 2017		31 December 2016	
	Amortised cost	Fair value	Amortised cost	Fair value
Pledged Investments				
Available-for-sale	147,001	148,140	211,342	212,995
Held-to-maturity	247,783	244,025	320,942	315,635

Sale Proceeds and Realised Gains and Losses of AFS Securities

	Three months ended 31 March 2017		
	Sale proceeds	Gross realised gains	Gross realised (losses)
Pass-through note	86	69	—

	Three months ended 31 March 2016		
	Sale proceeds	Gross realised gains	Gross realised (losses)
US government and federal agencies	7,567	—	(76)

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 31 March 2017 is 4.91% (31 December 2016: 4.78%).

	31 March 2017			31 December 2016		
	Bermuda	Non-Bermuda	Total	Bermuda	Non-Bermuda	Total
Commercial loans						
Government	94,871	17,908	112,779	94,504	17,908	112,412
Commercial and industrial	136,114	182,908	319,022	130,171	201,652	331,823
Commercial overdrafts	19,673	3,010	22,683	22,594	2,767	25,361
Total gross commercial loans	250,658	203,826	454,484	247,269	222,327	469,596
Less specific allowance for credit losses	(577)	—	(577)	(577)	—	(577)
Net commercial loans	250,081	203,826	453,907	246,692	222,327	469,019
Commercial real estate loans						
Commercial mortgage	358,385	213,190	571,575	363,982	217,640	581,622
Construction	24,500	11,710	36,210	24,500	4,385	28,885
Total gross commercial real estate loans	382,885	224,900	607,785	388,482	222,025	610,507
Less specific allowance for credit losses	(750)	—	(750)	(750)	—	(750)
Net commercial real estate loans	382,135	224,900	607,035	387,732	222,025	609,757
Consumer loans						
Automobile financing	13,001	6,588	19,589	13,077	6,905	19,982
Credit card	55,792	19,416	75,208	57,730	20,811	78,541
Overdrafts	7,053	2,947	10,000	2,380	3,202	5,582
Other consumer	31,966	54,785	86,751	30,798	63,186	93,984
Total gross consumer loans	107,812	83,736	191,548	103,985	94,104	198,089
Less specific allowance for credit losses	(275)	(3)	(278)	(275)	(3)	(278)
Net consumer loans	107,537	83,733	191,270	103,710	94,101	197,811
Residential mortgage loans						
Residential mortgage loans	1,186,248	1,175,880	2,362,128	1,205,468	1,131,065	2,336,533
Less specific allowance for credit losses	(8,701)	(845)	(9,546)	(9,559)	(574)	(10,133)
Net residential mortgage loans	1,177,547	1,175,035	2,352,582	1,195,909	1,130,491	2,326,400
Total gross loans						
Total gross loans	1,927,603	1,688,342	3,615,945	1,945,204	1,669,521	3,614,725
Less specific allowance for credit losses	(10,303)	(848)	(11,151)	(11,161)	(577)	(11,738)
Less general allowance for credit losses	(24,399)	(7,606)	(32,005)	(24,950)	(7,559)	(32,509)
Net loans	1,892,901	1,679,888	3,572,789	1,909,093	1,661,385	3,570,478

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 summarise the past due status of the loans. 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.

31 March 2017	30 - 59 days	60 - 89 days	More than 90 days	Total past due loans	Total current	Total loans
Commercial loans						
Government	—	—	—	—	112,779	112,779
Commercial and industrial	1,031	5,265	2,237	8,533	310,489	319,022
Commercial overdrafts	—	—	65	65	22,618	22,683
Total commercial loans	1,031	5,265	2,302	8,598	445,886	454,484
Commercial real estate loans						
Commercial mortgage	9,155	—	6,289	15,444	556,131	571,575
Construction	—	—	—	—	36,210	36,210
Total commercial real estate loans	9,155	—	6,289	15,444	592,341	607,785
Consumer loans						
Automobile financing	86	14	214	314	19,275	19,589
Credit card	408	60	172	640	74,568	75,208
Overdrafts	—	—	7	7	9,993	10,000
Other consumer	934	368	651	1,953	84,798	86,751
Total consumer loans	1,428	442	1,044	2,914	188,634	191,548
Residential mortgage loans	34,480	5,878	46,801	87,159	2,274,969	2,362,128
Total gross loans	46,094	11,585	56,436	114,115	3,501,830	3,615,945
31 December 2016						
	30 - 59 days	60 - 89 days	More than 90 days	Total past due loans	Total current	Total loans
Commercial loans						
Government	—	—	—	—	112,412	112,412
Commercial and industrial	2,712	—	584	3,296	328,527	331,823
Commercial overdrafts	—	—	2	2	25,359	25,361
Total commercial loans	2,712	—	586	3,298	466,298	469,596
Commercial real estate loans						
Commercial mortgage	377	—	5,964	6,341	575,281	581,622
Construction	175	—	—	175	28,710	28,885
Total commercial real estate loans	552	—	5,964	6,516	603,991	610,507
Consumer loans						
Automobile financing	86	23	225	334	19,648	19,982
Credit card	366	177	392	935	77,606	78,541
Overdrafts	—	—	17	17	5,565	5,582
Other consumer	720	564	999	2,283	91,701	93,984
Total consumer loans	1,172	764	1,633	3,569	194,520	198,089
Residential mortgage loans	26,122	4,345	50,262	80,729	2,255,804	2,336,533
Total gross loans	30,558	5,109	58,445	94,112	3,520,613	3,614,725

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.

31 March 2017	Pass	Special mention	Substandard	Non-accrual	Total gross recorded investments
Commercial loans					
Government	104,990	289	7,500	—	112,779
Commercial and industrial	305,470	10,156	1,159	2,237	319,022
Commercial overdrafts	20,212	2,056	350	65	22,683
Total commercial loans	430,672	12,501	9,009	2,302	454,484
Commercial real estate loans					
Commercial mortgage	496,558	67,045	1,684	6,288	571,575
Construction	36,210	—	—	—	36,210
Total commercial real estate loans	532,768	67,045	1,684	6,288	607,785
Consumer loans					
Automobile financing	18,953	342	25	269	19,589
Credit card	75,036	—	172	—	75,208
Overdrafts	9,934	59	—	7	10,000
Other consumer	84,451	1,545	115	640	86,751
Total consumer loans	188,374	1,946	312	916	191,548
Residential mortgage loans	2,226,926	36,036	58,551	40,615	2,362,128
Total gross recorded loans	3,378,740	117,528	69,556	50,121	3,615,945

31 December 2016	Pass	Special mention	Substandard	Non-accrual	Total gross recorded investments
Commercial loans					
Government	104,611	301	7,500	—	112,412
Commercial and industrial	325,924	4,122	1,194	583	331,823
Commercial overdrafts	22,976	2,145	238	2	25,361
Total commercial loans	453,511	6,568	8,932	585	469,596
Commercial real estate loans					
Commercial mortgage	502,918	71,038	1,702	5,964	581,622
Construction	28,885	—	—	—	28,885
Total commercial real estate loans	531,803	71,038	1,702	5,964	610,507
Consumer loans					
Automobile financing	19,309	360	28	285	19,982
Credit card	78,149	—	392	—	78,541
Overdrafts	5,533	32	—	17	5,582
Other consumer	91,348	1,564	360	712	93,984
Total consumer loans	194,339	1,956	780	1,014	198,089
Residential mortgage loans	2,200,807	36,739	58,087	40,900	2,336,533
Total gross recorded loans	3,380,460	116,301	69,501	48,463	3,614,725

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

	31 March 2017		31 December 2016	
	Individually evaluated	Collectively evaluated	Individually evaluated	Collectively evaluated
Commercial	11,347	443,137	9,686	459,910
Commercial real estate	22,024	585,761	21,893	588,614
Consumer	1,402	190,146	1,746	196,343
Residential mortgage	113,436	2,248,692	113,065	2,223,468
Total gross loans	148,209	3,467,736	146,390	3,468,335

Changes in General and Specific Allowances For Credit Losses

	Three months ended 31 March 2017				
	Commercial	Commercial real estate	Consumer	Residential mortgage	Total
Allowances at beginning of period	3,377	16,224	965	23,681	44,247
Provision taken (released)	657	(831)	481	(646)	(339)
Recoveries	1	—	271	154	426
Charge-offs	—	—	(691)	(509)	(1,200)
Other	2	7	—	13	22
Allowances at end of period	4,037	15,400	1,026	22,693	43,156
Allowances at end of period: individually evaluated for impairment	577	750	278	9,546	11,151
Allowances at end of period: collectively evaluated for impairment	3,460	14,650	748	13,147	32,005

	Three months ended 31 March 2016				
	Commercial	Commercial real estate	Consumer	Residential mortgage	Total
Allowances at beginning of period	8,723	6,512	2,763	31,304	49,302
Provision taken	256	(498)	(735)	635	(342)
Recoveries	22	3	389	—	414
Charge-offs	(15)	(988)	(354)	(1,417)	(2,774)
Other	(10)	(73)	(26)	(20)	(129)
Allowances at end of period	8,976	4,956	2,037	30,502	46,471
Allowances at end of period: individually evaluated for impairment	590	1,604	274	14,228	16,696
Allowances at end of period: collectively evaluated for impairment	8,386	3,352	1,763	16,274	29,775

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)	31 March 2017			31 December 2016		
	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						
Commercial and industrial	2,237	—	2,237	583	—	583
Commercial overdrafts	65	—	65	2	—	2
Total commercial loans	2,302	—	2,302	585	—	585
Commercial real estate loans						
Commercial mortgage	6,288	—	6,288	5,964	—	5,964
Consumer loans						
Automobile financing	269	—	269	285	2	287
Credit card	—	172	172	—	392	392
Overdrafts	7	—	7	17	—	17
Other consumer	640	40	680	712	300	1,012
Total consumer loans	916	212	1,128	1,014	694	1,708
Residential mortgage loans	40,615	7,479	48,094	40,900	8,476	49,376
Total non-performing loans	50,121	7,691	57,812	48,463	9,170	57,633

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 31 March 2017, the amount of gross interest income that would have been recorded had impaired loans been current was \$0.7 million (31 March 2016: \$0.6 million).

31 March 2017	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							
Commercial and industrial	577	(577)	—	2,691	3,268	(577)	2,691
Commercial overdrafts	—	—	—	65	65	—	65
Total commercial loans	577	(577)	—	2,756	3,333	(577)	2,756
Commercial real estate loans							
Commercial mortgage	1,690	(750)	940	6,282	7,972	(750)	7,222
Consumer loans							
Automobile financing	150	(75)	75	119	269	(75)	194
Overdrafts	—	—	—	7	7	—	7
Other consumer	313	(203)	110	327	640	(203)	437
Total consumer loans	463	(278)	185	453	916	(278)	638
Residential mortgage loans	28,596	(9,181)	19,415	55,811	84,407	(9,181)	75,226
Total impaired loans	31,326	(10,786)	20,540	65,302	96,628	(10,786)	85,842

Specific allowance excludes \$0.4 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)

31 December 2016	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							
Commercial and industrial	579	(577)	2	1,048	1,627	(577)	1,050
Commercial overdrafts	—	—	—	2	2	—	2
Total commercial loans	579	(577)	2	1,050	1,629	(577)	1,052
Commercial real estate loans							
Commercial mortgage	1,722	(750)	972	5,944	7,666	(750)	6,916
Consumer loans							
Automobile financing	155	(75)	80	130	285	(75)	210
Overdrafts	—	—	—	17	17	—	17
Other consumer	253	(203)	50	459	712	(203)	509
Total consumer loans	408	(278)	130	606	1,014	(278)	736
Residential mortgage loans	30,330	(9,961)	20,369	52,043	82,373	(9,961)	72,412
Total impaired loans	33,039	(11,566)	21,473	59,643	92,682	(11,566)	81,116

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

Average Impaired Loan Balances and Related Recognised Interest Income

	31 March 2017		31 December 2016	
	Average gross recorded investment	Interest income recognised ¹	Average gross recorded investment	Interest income recognised ¹
Commercial loans				
Commercial and industrial	2,448	15	1,661	64
Commercial overdrafts	34	—	14	—
Total commercial loans	2,482	15	1,675	64
Commercial real estate loans				
Commercial mortgage	7,819	29	15,496	237
Consumer loans				
Automobile financing	277	—	192	—
Overdrafts	12	—	14	—
Other consumer	676	—	1,043	—
Total consumer loans	965	—	1,249	—
Residential mortgage loans	83,390	754	81,901	2,201
Total impaired loans	94,656	798	100,321	2,502

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

Loans Modified in a TDR

As at 31 March 2017, the Bank had nil loans 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). As at 31 December 2016, the Bank had one loan which was formerly a residential mortgage that was modified in a TDR during the preceding 12 months that subsequently defaulted with a recorded investment of \$0.9 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

	Three months ended 31 March 2017			
	Number of contracts	Pre-modification recorded investment	Modification: interest capitalisation	Post-modification recorded investment
Residential mortgage loans	6	3,341	301	3,642
Total loans modified in a TDR	6	3,341	301	3,642

	Three months ended 31 March 2016			
	Number of contracts	Pre-modification recorded investment	Modification: interest capitalisation	Post-modification recorded investment
Residential mortgage loans	7	4,843	—	4,843
Total loans modified in a TDR	7	4,843	—	4,843

	31 March 2017		31 December 2016	
	Accrual	Non-accrual	Accrual	Non-accrual
TDRs outstanding				
Commercial loans	1,031	—	1,044	—
Commercial real estate loans	1,684	1,528	1,702	1,539
Residential mortgage loans	43,792	4,995	41,473	5,006
Total TDRs outstanding	46,507	6,523	44,219	6,545

Purchased Credit-Impaired Loans

The Bank acquired certain credit-impaired loans as part of the 7 November 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 31 March 2017			
	Contractual principal	Non-accretable difference	Accretable difference	Carrying amount
Balance at beginning of period	8,016	(1,617)	(811)	5,588
Advances and increases in cash flows expected to be collected	61	—	—	61
Reductions resulting from repayments	(545)	1	7	(537)
Reductions resulting from changes in allowances for credit losses	—	(193)	—	(193)
Reductions resulting from charge-offs	(70)	70	—	—
Accretion	—	(6)	6	—
Balance at end of period	7,462	(1,745)	(798)	4,919

	Year ended 31 December 2016			
	Contractual principal	Non-accretable difference	Accretable difference	Carrying amount
Balance at beginning of period	8,709	(2,248)	(631)	5,830
Advances and increases in cash flows expected to be collected	166	408	(396)	178
Reductions resulting from repayments	(464)	—	216	(248)
Reductions resulting from changes in allowances for credit losses	—	(172)	—	(172)
Reductions resulting from charge-offs	(395)	395	—	—
Balance at end of period	8,016	(1,617)	(811)	5,588

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 summarise 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. During 2016, Management revised the method for determining the geographic location of cash and cash equivalents from the location of the branch to the location of the head office holding custody.

Business sector	31 March 2017			31 December 2016		
	Loans	Off-balance sheet	Total credit exposure	Loans	Off-balance sheet	Total credit exposure
Banks and financial services	310,475	358,817	669,292	321,680	393,148	714,828
Commercial and merchandising	264,993	142,634	407,627	266,976	139,264	406,240
Governments	113,543	1,112	114,655	112,857	709	113,566
Individuals	2,276,416	92,009	2,368,425	2,299,852	108,810	2,408,662
Primary industry and manufacturing	48,598	16,933	65,531	34,304	2,095	36,399
Real estate	441,844	12,664	454,508	418,946	12,467	431,413
Hospitality industry	143,136	4,153	147,289	142,707	4,353	147,060
Transport and communication	5,789	—	5,789	5,665	—	5,665
Sub-total	3,604,794	628,322	4,233,116	3,602,987	660,846	4,263,833
General allowance	(32,005)	—	(32,005)	(32,509)	—	(32,509)
Total	3,572,789	628,322	4,201,111	3,570,478	660,846	4,231,324

Geographic region	31 March 2017				31 December 2016			
	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	87,816	—	—	87,816	14,242	—	—	14,242
Barbados	—	7,500	—	7,500	—	7,500	—	7,500
Belgium	3,516	—	—	3,516	1,722	—	—	1,722
Bermuda	30,759	2,085,112	292,763	2,408,634	23,505	2,105,195	322,554	2,451,254
Canada	622,338	—	—	622,338	514,861	—	—	514,861
Cayman	45,357	698,848	221,216	965,421	40,356	706,994	231,211	978,561
Guernsey	1	314,349	114,343	428,693	1	337,037	107,081	444,119
Japan	22,230	—	—	22,230	20,963	—	—	20,963
New Zealand	668	—	—	668	785	—	—	785
Norway	142,460	—	—	142,460	42,477	—	—	42,477
Saint Lucia	—	65,188	—	65,188	—	65,117	—	65,117
Sweden	1,217	—	—	1,217	1,550	—	—	1,550
Switzerland	5,978	—	—	5,978	5,833	—	—	5,833
The Bahamas	2,371	23,134	—	25,505	2,822	23,860	—	26,682
United Kingdom	1,062,130	410,663	—	1,472,793	1,224,263	357,284	—	1,581,547
United States	445,163	—	—	445,163	876,642	—	—	876,642
Other	137	—	—	137	197	—	—	197
Sub-total	2,472,141	3,604,794	628,322	6,705,257	2,770,219	3,602,987	660,846	7,034,052
General allowance	—	(32,005)	—	(32,005)	—	(32,509)	—	(32,509)
Total	2,472,141	3,572,789	628,322	6,673,252	2,770,219	3,570,478	660,846	7,001,543

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

31 March 2017	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		
Customers									
Bermuda									
Demand or less than \$100k ¹	1,649,708	3,152,550	4,802,258	10,176	4,817	12,041	15,371	42,405	4,844,663
Term - \$100k or more	N/A	N/A	—	530,703	34,110	69,203	42,881	676,897	676,897
Total Bermuda	1,649,708	3,152,550	4,802,258	540,879	38,927	81,244	58,252	719,302	5,521,560
Non-Bermuda									
Demand or less than \$100k	613,594	2,793,373	3,406,967	21,407	3,270	4,799	556	30,032	3,436,999
Term and \$100k or more	N/A	N/A	—	729,255	113,584	30,354	7,663	880,856	880,856
Total non-Bermuda	613,594	2,793,373	3,406,967	750,662	116,854	35,153	8,219	910,888	4,317,855
Total customer deposits	2,263,302	5,945,923	8,209,225	1,291,541	155,781	116,397	66,471	1,630,190	9,839,415
Banks									
Bermuda									
Demand or less than \$100k	142	—	142	—	—	—	—	—	142
Non-Bermuda									
Demand or less than \$100k	—	5,854	5,854	—	—	—	—	—	5,854
Term and \$100k or more	N/A	N/A	—	4,016	—	—	—	4,016	4,016
Total non-Bermuda	—	5,854	5,854	4,016	—	—	—	4,016	9,870
Total bank deposits	142	5,854	5,996	4,016	—	—	—	4,016	10,012
Total deposits	2,263,444	5,951,777	8,215,221	1,295,557	155,781	116,397	66,471	1,634,206	9,849,427

31 December 2016	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		
Customers									
Bermuda									
Demand or less than \$100k ¹	1,733,684	3,013,401	4,747,085	14,091	4,309	9,068	16,380	43,848	4,790,933
Term - \$100k or more	N/A	N/A	—	1,013,159	37,550	60,952	44,507	1,156,168	1,156,168
Total Bermuda	1,733,684	3,013,401	4,747,085	1,027,250	41,859	70,020	60,887	1,200,016	5,947,101
Non-Bermuda									
Demand or less than \$100k	651,329	2,794,799	3,446,128	20,295	4,108	4,145	783	29,331	3,475,459
Term and \$100k or more	N/A	N/A	—	440,674	119,519	17,590	9,510	587,293	587,293
Total non-Bermuda	651,329	2,794,799	3,446,128	460,969	123,627	21,735	10,293	616,624	4,062,752
Total customer deposits	2,385,013	5,808,200	8,193,213	1,488,219	165,486	91,755	71,180	1,816,640	10,009,853
Banks									
Bermuda									
Demand or less than \$100k	340	—	340	4	—	—	—	4	344
Non-Bermuda									
Demand or less than \$100k	—	19,751	19,751	—	—	—	—	—	19,751
Term and \$100k or more	N/A	N/A	—	3,601	100	—	—	3,701	3,701
Total non-Bermuda	—	19,751	19,751	3,601	100	—	—	3,701	23,452
Total bank deposits	340	19,751	20,091	3,605	100	—	—	3,705	23,796
Total deposits	2,385,353	5,827,951	8,213,304	1,491,824	165,586	91,755	71,180	1,820,345	10,033,649

¹ As at 31 March 2017, \$75 million (31 December 2016: \$150 million) of the Demand deposits - Interest bearing bear a special negligible interest rate. The weighted-average interest rate on interest-bearing demand deposits as at 31 March 2017 is 0.07% (31 December 2016: 0.06%).

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	31 March 2017			31 December 2016		
	Payable on demand	Payable on a fixed date	Total	Payable on demand	Payable on a fixed date	Total
Bermuda						
Customers	4,802,259	719,302	5,521,561	4,747,086	1,200,016	5,947,102
Banks	142	—	142	341	4	345
Cayman						
Customers	2,471,493	467,623	2,939,116	2,606,305	417,750	3,024,055
Banks	5,854	4,016	9,870	19,615	3,701	23,316
Guernsey						
Customers	891,504	418,856	1,310,360	781,119	185,457	966,576
The Bahamas						
Customers	43,969	24,409	68,378	58,703	13,417	72,120
United Kingdom						
Banks	—	—	—	135	—	135
Total Customers	8,209,225	1,630,190	9,839,415	8,193,213	1,816,640	10,009,853
Total Banks	5,996	4,016	10,012	20,091	3,705	23,796
Total deposits	8,215,221	1,634,206	9,849,427	8,213,304	1,820,345	10,033,649

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 expense related to these plans is included in the consolidated statements of operations under Salaries and other employee benefits. 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 2017 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 31 December 2016. During the three months ended 31 March 2017, there have been no material revisions to these estimates.

	Three months ended	
	31 March 2017	31 March 2016
Defined benefit pension expense (income)		
Interest cost	1,318	1,493
Expected return on plan assets	(2,015)	(2,302)
Amortisation of net actuarial loss	568	426
Total defined benefit pension expense (income)	(129)	(383)
Post-retirement medical benefit expense (income)		
Service cost	16	30
Interest cost	1,176	1,198
Amortisation of net actuarial losses	879	683
Amortisation of prior service credit	(190)	(1,586)
Total post-retirement medical benefit expense (income)	1,881	325

Note 10: Credit related arrangements, repurchase agreements and commitments

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, whilst 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 recognised 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	31 March 2017			31 December 2016		
	Gross	Collateral	Net	Gross	Collateral	Net
Standby letters of credit	221,780	213,213	8,567	242,437	242,437	—
Letters of guarantee	4,340	4,254	86	4,772	4,772	—
Total	226,120	217,467	8,653	247,209	247,209	—

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 utilised facility. At 31 March 2017, \$109.7 million (31 December 2016: \$110.3 million) of standby letters of credit were issued under this facility.

Outstanding unfunded commitments to extend credit	31 March 2017	31 December 2016
Commitments to extend credit	400,526	412,568
Documentary and commercial letters of credit	1,676	1,069
Total unfunded commitments to extend credit	402,202	413,637

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 31 March 2017, the Bank had three open positions (31 December 2016: eight) in resell agreements with a remaining maturity of less than 30 days involving pools of mortgages issued by US federal agencies. The amortised cost of these resell agreements is \$62.7 million (31 December 2016: \$148.8 million) and are included in securities purchased under agreement to resell on the consolidated balance sheets. As at 31 March 2017, there were 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 31 March 2017, a provision of \$5.5 million (31 December 2016: \$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: Exit cost obligations

During December 2015, the Bank agreed to commence an orderly wind down of the deposit taking and investment management businesses in the United Kingdom segment as reflected in management segment reporting described in Note 12: Segmented Information. In making this determination, the Bank considered the increasing regulatory pressure along with periods of negative profitability and made the determination that an orderly wind down of the deposit taking and investment management businesses in the United Kingdom was prudent for Butterfield as a group. The orderly wind down was largely completed by the end of 2016 with the change in business operations to mortgage lending services and the change in name from Butterfield Bank (UK) Limited to Butterfield Mortgages Limited. The amounts expensed shown in the following table are all included in the consolidated statements of operations as restructuring costs under non-interest expenses.

Related to this orderly wind down, it was determined that the core banking system utilized in the operations of the United Kingdom segment was impaired (included in premises, equipment and computer software on the consolidated balance sheets). This determination was based upon the realisable value of this software upon completion of the orderly wind down. A total of \$5.1 million was expensed in the fourth quarter of the year ended 31 December 2015 and was included in impairment of fixed assets on the consolidated statements of operations of the relevant period.

	Expense recognised by period					Amounts paid by period			Exit cost liability	
	Three months ended 31 March 2017	Year ended 31 December 2016	Year ended 31 December 2015	Costs to be recognised in the future	Total exit costs expected to be incurred	Three months ended 31 March 2017	Year ended 31 December 2016	As at 31 March 2017	As at 31 December 2016	
Staff redundancy expenses	—	2,810	634	118	3,562	115	3,329	—	115	
Professional services	225	2,284	1,549	40	4,098	295	3,763	—	70	
Lease termination expenses	101	—	—	1,916	2,017	101	—	—	—	
Other expenses	115	1,172	—	627	1,914	115	1,172	—	—	
Total	441	6,266	2,183	2,701	11,591	626	8,264	—	185	

Note 12: Segmented information

The Bank is managed by its CEO on a geographic basis. The Bank's six geographic segments are Bermuda, Cayman, Guernsey, Switzerland, The Bahamas and the United Kingdom. The geographic segments are determined based on the country's balance sheet size and by regulatory reporting requirements in the respective jurisdiction. Each region has a managing director who reports directly to the CEO. The Group 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 upon 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 31 December 2016. 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.

Bermuda provides a full range of retail, commercial and private banking services. Retail services are offered to individuals and small to medium-sized businesses through five 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 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 **Guernsey** segment provides a broad range of services to private clients and financial institutions including private banking and treasury services, Internet banking, administered bank services, wealth management and fiduciary services.

The **Switzerland** segment provides fiduciary services. The **Bahamas** segment provides fiduciary and ancillary services.

The **United Kingdom** segment previously provided a broad range of services including private banking and treasury services, Internet banking and wealth management and fiduciary services to high net worth individuals and privately owned businesses. As described in Note 11, during the year-ended 31 December 2015, the Bank commenced an orderly wind down of the deposit taking and investment management businesses in the United Kingdom segment. The United Kingdom segment now provides mortgage services for high value residential properties.

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

Total Assets by Segment	31 March 2017	31 December 2016
Bermuda	6,220,982	6,765,125
Cayman	3,225,477	3,393,256
Guernsey	1,511,435	1,132,663
Switzerland	2,304	2,173
The Bahamas	79,116	81,604
United Kingdom	42,575	151,866
Total assets before inter-segment eliminations	11,081,889	11,526,687
Less: inter-segment eliminations	(138,329)	(423,142)
Total	10,943,560	11,103,545

Three months ended 31 March 2017	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	42,265	251	546	19,575	62,637	314	62,951	43,940	19,011
Cayman	21,060	(11)	(311)	11,554	32,292	(7)	32,285	15,328	16,957
Guernsey	4,414	(211)	104	5,653	9,960	(65)	9,895	9,113	782
Switzerland	—	—	—	955	955	—	955	773	182
The Bahamas	15	11	—	1,021	1,047	—	1,047	1,122	(75)
United Kingdom	179	(40)	—	581	720	(19)	701	1,701	(1,000)
Total before eliminations	67,933	—	339	39,339	107,611	223	107,834	71,977	35,857
Inter-segment eliminations	—	—	—	(801)	(801)	—	(801)	(801)	—
Total	67,933	—	339	38,538	106,810	223	107,033	71,176	35,857

Three months ended 31 March 2016	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	38,416	389	(390)	14,226	52,641	(165)	52,476	35,568	16,908
Cayman	18,644	142	(199)	10,677	29,264	(815)	28,449	15,162	13,287
Guernsey	3,781	(67)	(26)	6,491	10,179	(490)	9,689	9,137	552
Switzerland	—	—	—	904	904	—	904	810	94
The Bahamas	10	10	—	1,274	1,294	—	1,294	1,381	(87)
United Kingdom	1,486	(474)	957	1,528	3,497	1,231	4,728	8,721	(3,993)
Total before eliminations	62,337	—	342	35,100	97,779	(239)	97,540	70,779	26,761
Inter-segment eliminations	—	—	—	(582)	(582)	—	(582)	(582)	—
Total	62,337	—	342	34,518	97,197	(239)	96,958	70,197	26,761

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 privately negotiated 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 minimise 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 investments hedges and derivatives not formally designated as hedges as described below.

Fair value hedges consist of designated interest rate swaps and are used to minimise 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 31 December 2011, the Bank cancelled 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 amortised 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 minimise 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 recognised 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 minimise 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 19 for details on the amount recognised 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 recognised 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 recognised in foreign exchange income.

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 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.

31 March 2017	Derivative instrument	Number of contracts	Notional amounts	Gross positive fair value	Gross negative fair value	Net fair value
Risk management derivatives						
Net investment hedges	Currency swaps	1	77,670	14,803	—	14,803
Derivatives not formally designated as hedging instruments	Currency swaps	9	486,660	1,007	(5,733)	(4,726)
Subtotal risk management derivatives			564,330	15,810	(5,733)	10,077
Client services derivatives						
	Spot and forward foreign exchange	144	2,802,550	11,007	(10,822)	185
Total derivative instruments			3,366,880	26,817	(16,555)	10,262
<hr/>						
31 December 2016	Derivative instrument	Number of contracts	Notional amounts	Gross positive fair value	Gross negative fair value	Net fair value
Risk management derivatives						
Net investment hedges	Currency swaps	1	77,670	15,744	—	15,744
Derivatives not formally designated as hedging instruments	Currency swaps	11	676,856	5,901	(3,013)	2,888
Subtotal risk management derivatives			754,526	21,645	(3,013)	18,632
Client services derivatives						
	Spot and forward foreign exchange	106	2,039,141	15,410	(15,267)	143
Total derivative instruments			2,793,667	37,055	(18,280)	18,775

In addition to the above, as at 31 March 2017 foreign denominated deposits of £34.5 million (31 December 2016: £34.5 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.

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

31 March 2017	Gross fair value recognised	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	26,817	(11,580)	15,237	—	(3,485)	11,752
Derivative liabilities						
Spot and forward foreign exchange and currency swaps	16,555	(11,580)	4,975	—	—	4,975
Net positive fair value			10,262			

31 December 2016	Gross fair value recognised	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	37,055	(6,959)	30,096	(6,811)	(8,292)	14,993
Derivative liabilities						
Spot and forward foreign exchange and currency swaps	18,280	(6,959)	11,321	(6,811)	—	4,510
Net positive fair value			18,775			

The following tables shows 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. During 2016, Management revised the following disclosures to segregate the gains and losses attributable to the specific types of derivatives.

Derivative instrument	Consolidated statements of operations line item	Three months ended	
		31 March 2017	31 March 2016
Spot and forward foreign exchange	Foreign exchange revenue	43	79
Currency swaps, not designated as hedge	Foreign exchange revenue	(7,615)	(1,044)
Currency swaps - Net investment hedge	Foreign exchange revenue	424	(499)
Total net gains (losses) recognised in net income		(7,148)	(1,464)
Derivative instrument	Consolidated statements of comprehensive income line item	31 March 2017	31 March 2016
Currency swaps - Net investment hedge	Net change in unrealised gains and (losses) on translation of net investment in foreign operations	(1,365)	1,882
Total net gains (losses) recognised in comprehensive income		(1,365)	1,882

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 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 31 December 2016.

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 the Group Asset and Liability Committee.

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 31 March 2017 and the year ended 31 December 2016.

	31 March 2017			Total carrying amount / fair value	31 December 2016			Total carrying amount / fair value
	Fair value				Fair value			
	Level 1	Level 2	Level 3		Level 1	Level 2	Level 3	
Items that are recognised at fair value on a recurring basis:								
Financial assets								
Trading investments								
Mutual funds	6,262	208	—	6,470	6,091	222	—	6,313
Total trading	6,262	208	—	6,470	6,091	222	—	6,313
Available-for-sale investments								
US government and federal agencies	—	2,396,537	—	2,396,537	—	2,430,402	—	2,430,402
Non-US governments debt securities	—	27,686	—	27,686	—	27,020	—	27,020
Corporate debt securities	—	512,053	—	512,053	—	514,475	—	514,475
Asset-backed securities - Student loans	—	—	12,493	12,493	—	—	12,493	12,493
Commercial mortgage-backed securities	—	150,343	—	150,343	—	150,546	—	150,546
Residential mortgage-backed securities	—	207,099	—	207,099	—	197,802	—	197,802
Total available-for-sale	—	3,293,718	12,493	3,306,211	—	3,320,245	12,493	3,332,738
Other assets - Derivatives	—	15,237	—	15,237	—	30,096	—	30,096
Financial liabilities								
Other liabilities - Derivatives	—	4,975	—	4,975	—	11,321	—	11,321

Level 3 Reconciliation

The Level 3 Asset-backed securities - Student loans is a federal family education loan programme 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.

Significant increases (decreases) in any of the preceding inputs in isolation could result in a significantly different fair value measurement. Generally a change in assumption used for the probability of defaults is accompanied by a directionally similar change in the assumption used for the loss severity.

	Three months ended 31 March 2017	Year ended 31 December 2016
Carrying amount at beginning of period	12,493	12,161
Realised and unrealised gains (losses) recognised in other comprehensive income	—	332
Carrying amount at end of period	12,493	12,493

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

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

	Level	31 March 2017			31 December 2016		
		Carrying amount	Fair value	Appreciation / (depreciation)	Carrying amount	Fair value	Appreciation / (depreciation)
Financial assets							
Cash due from banks	Level 1	1,867,309	1,867,309	—	2,101,651	2,101,651	—
Securities purchased under agreement to resell	Level 2	62,669	62,669	—	148,813	148,813	—
Short-term investments	Level 1	542,163	542,163	—	519,755	519,755	—
Investments held-to-maturity	Level 2	1,235,965	1,222,784	(13,181)	1,061,103	1,046,828	(14,275)
Loans, net of allowance for credit losses	Level 2	3,572,789	3,567,118	(5,671)	3,570,478	3,566,812	(3,666)
Other real estate owned ¹	Level 2	14,088	14,088	—	14,199	14,199	—
Financial liabilities							
Customer deposits							
Demand deposits	Level 2	8,209,225	8,209,225	—	8,193,213	8,193,213	—
Term deposits	Level 2	1,630,190	1,631,098	(908)	1,816,640	1,817,564	(924)
Deposits from banks	Level 2	10,012	10,012	—	23,796	23,796	—
Long-term debt	Level 2	117,000	118,318	(1,318)	117,000	117,683	(683)

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.

31 March 2017	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	1,782	—	—	—	—	85	1,867
Securities purchased under agreement to resell	63	—	—	—	—	—	63
Short-term investments	450	92	—	—	—	—	542
Investments	1,285	15	128	607	2,508	6	4,549
Loans	3,339	88	28	75	39	4	3,573
Other assets	—	—	—	—	—	350	350
Total assets	6,919	195	156	682	2,547	445	10,944
Liabilities and shareholders' equity							
Shareholders' equity	—	—	—	—	—	741	741
Demand deposits	5,951	—	—	—	—	2,264	8,215
Term deposits	1,296	156	116	66	—	—	1,634
Other liabilities	—	—	—	—	—	237	237
Long-term debt	92	—	—	25	—	—	117
Total liabilities and shareholders' equity	7,339	156	116	91	—	3,242	10,944
Interest rate sensitivity gap	(420)	39	40	591	2,547	(2,797)	—
Cumulative interest rate sensitivity gap	(420)	(381)	(341)	250	2,797	—	—

31 December 2016	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	1,991	—	—	—	—	111	2,102
Securities purchased under agreement to resell	149	—	—	—	—	—	149
Short-term investments	135	385	—	—	—	—	520
Investments	1,343	15	81	704	2,251	6	4,400
Loans	3,339	53	57	81	38	2	3,570
Other assets	—	—	—	—	—	363	363
Total assets	6,957	453	138	785	2,289	482	11,104
Liabilities and shareholders' equity							
Shareholders' equity	—	—	—	—	—	711	711
Demand deposits	5,828	—	—	—	—	2,385	8,213
Term deposits	1,492	166	92	71	—	—	1,821
Other liabilities	—	—	—	—	—	242	242
Long-term debt	92	—	—	25	—	—	117
Total liabilities and shareholders' equity	7,412	166	92	96	—	3,338	11,104
Interest rate sensitivity gap	(455)	287	46	689	2,289	(2,856)	—
Cumulative interest rate sensitivity gap	(455)	(168)	(122)	567	2,856	—	—

Note 16: 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.

Prior to their conversion into common shares on 31 March 2015, outstanding contingent value convertible preference ("CVCP") shares were classified as participating securities as they were entitled to dividends declared to common shareholders on a 1:1 basis and were therefore included in the basic earnings per share calculation.

During the three months ended 31 March 2017, options to purchase an average of 1.7 million (31 March 2016: 2.8 million) common shares were outstanding. During the three months ended 31 March 2017, the average number of outstanding awards of unvested common shares was 0.9 million (31 March 2016: 0.8 million). Only awards for which the sum of 1) the expense that will be recognised in the future (i.e. the unrecognised 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 unrecognised 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.

A warrant, outstanding until the Bank repurchased it in December 2016, to purchase 0.43 million common shares issued to the Government of Bermuda in exchange for the Government's guarantee of the preference shares, with an exercise price per share of \$34.72 was not included in the computation of earnings per share for any period during the year ended 31 December 2016 because the exercise price was greater than the average market price of the Bank's common shares.

	Three months ended	
	31 March 2017	31 March 2016
Net income	35,857	26,761
Less: Preference dividends declared and guarantee fee	—	(4,119)
Net income attributable for common shareholders	35,857	22,642
Basic Earnings Per Share		
Weighted average number of common shares issued	53,628	47,293
Weighted average number of common shares held as treasury stock	(1)	(828)
Weighted average number of common shares (in thousands)	53,627	46,465
Basic Earnings Per Share	0.67	0.49
Diluted Earnings Per Share		
Weighted average number of common shares	53,627	46,465
Net dilution impact related to options to purchase common shares	982	456
Net dilution impact related to awards of unvested common shares	612	481
Weighted average number of diluted common shares (in thousands)	55,221	47,402
Diluted Earnings Per Share	0.65	0.48

Note 17: 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 2 March 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:

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

Time vesting condition

50% of each option award is granted in the form of time vested options and vests 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 is granted in the form of performance options and vests (partially or fully) on a "valuation event" date (date any of the 2 March 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 realises a predetermined multiple of invested capital ("MOIC")). On 21 September 2016, it was determined that a valuation event occurred during which a new investor realised a MOIC of more than 200% of the original invested capital of \$12.09 per share and accordingly, all outstanding unvested performance options vested.

Changes in Outstanding Stock Options

Three months ended 31 March 2017	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	116	1,950	2,066	132.13	11.57			
Exercised	—	(942)	(942)	—	11.52			20,046
Forfeitures and cancellations	(44)	—	(44)	162.59	—			
Outstanding at end of period	72	1,008	1,080	113.26	11.61	1.39	3.16	20,466
Vested and exercisable at end of period	72	1,008	1,080	113.26	11.61	1.39	3.16	

Three months ended 31 March 2016	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	218	2,608	2,826	135.19	11.60			
Exercised	—	(14)	(14)	—	11.50			70
Forfeitures and cancellations	(45)	—	(45)	150.87	—			
Resignations, retirements, redundancies	—	(13)	(13)	—	11.50			
Outstanding at end of period	173	2,581	2,754	131.12	11.60	1.94	4.42	13,674
Vested and exercisable at end of period	173	1,259	1,432	131.12	11.60	1.94	4.69	

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.

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 2012 and 2011

Under the Bank's 2012 and 2011 ELTIP, shares were awarded to Bank employees and executive management, based on predetermined vesting conditions. Two types of vesting conditions upon which the shares were awarded comprise the ELTIP: 1) 50% of each share award was granted in the form of time vested shares, generally vesting equally over a three-year period from the effective grant date; and 2) 50% of each share award was granted in the form of performance shares, generally vesting upon the achievement of certain performance targets in the three-year period from the effective grant date.

Executive Long-Term Incentive Share Plan ("ELTIP") - Years 2017, 2016, 2015, 2014 and 2013

The 2017 ELTIP was approved on 27 February 2017. Under the Bank's 2017, 2016, 2015, 2014 and 2013 ELTIP, performance shares were awarded to executive management. These shares will generally vest upon the achievement of certain performance targets in 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			
	31 March 2017		31 March 2016	
	EDIP	ELTIP	EDIP	ELTIP
Outstanding at beginning of period	215	640	226	606
Granted	125	216	111	210
Vested (fair value in 2017: \$8.5 million, 2016: \$6.3 million)	(102)	(148)	(109)	(267)
Resignations, retirements, redundancies	—	—	(2)	(8)
Outstanding at end of period	238	708	226	541

Share-based Compensation Cost Recognised in Net Income

	Three months ended					
	31 March 2017			31 March 2016		
	Stock option plans	EDIP and ELTIP	Total	Stock option plans	EDIP and ELTIP	Total
Cost recognised in net income	—	1,741	1,741	129	1,662	1,791

Unrecognised Share-based Compensation Cost

	31 March 2017	31 December 2016
EDIP	1,798	2,040
ELTIP		
Time vesting shares	2,744	2,988
Performance vesting shares	3,176	3,802
Total unrecognised expense	7,718	8,830

Note 18: Share buy-back plans

The Bank initially introduced two share buy-back programmes on 1 May 2012 as a means to improve shareholder liquidity and facilitate growth in share value. Each programme 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 programme.

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 programme, 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 programme 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 Programme

On 19 February 2016, the Board approved, with effect from 1 April 2016, the 2016 common share buy-back programme, authorising the purchase for treasury of up to 0.8 million common shares.

Common share buy-backs	Three months ended		Year ended 31 December					Total
	31 March 2017	2016	2015	2014	2013	2012		
Acquired number of shares (to the nearest 1)	—	97,053	250,371	856,734	403,848	726,005	2,334,011	
Average cost per common share	—	16.36	19.42	19.86	13.89	12.40	16.31	
Total cost (in US dollars)	—	1,588,189	4,862,248	17,018,412	5,610,907	8,999,061	38,078,817	

Preference Share Buy-Back Programme

On 26 February 2015, the Board approved, with effect from 5 May 2015, the 2015 preference share buy-back programme, authorising the purchase for cancellation of up to 5,000 preference shares.

Preference share buy-backs	Three months ended		Year ended 31 December					Total
	31 March 2017	2016	2015	2014	2013	2012		
Acquired number of shares (to the nearest 1)	—	—	183	560	11,972	4,422	17,137	
Average cost per preference share	—	—	1,151.55	1,172.26	1,230.26	1,218.40	1,224.46	
Total cost (in US dollars)	—	—	210,734	656,465	14,728,624	5,387,777	20,983,600	

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 19: Accumulated other comprehensive loss

31 March 2017	Unrealised (losses) on translation of net investment in foreign operations	HTM investments	Unrealised gains (losses) on AFS investments	Employee benefit plans			Total AOCL
				Pension	Post-retirement healthcare	Subtotal - employee benefits plans	
Balance at beginning of period	(20,152)	(979)	(22,680)	(63,232)	(37,637)	(100,869)	(144,680)
Other comprehensive income (loss), net of taxes	358	48	4,851	329	689	1,018	6,275
Balance at end of period	(19,794)	(931)	(17,829)	(62,903)	(36,948)	(99,851)	(138,405)

31 March 2016	Unrealised (losses) on translation of net investment in foreign operations	HTM investments	Unrealised gains (losses) on AFS investments	Employee benefit plans			Total AOCL
				Pension	Post-retirement healthcare	Subtotal - employee benefits plans	
Balance at beginning of period	(13,645)	(2,350)	(57)	(46,331)	(28,114)	(74,445)	(90,497)
Other comprehensive income (loss), net of taxes	(1,587)	(245)	19,129	467	(903)	(436)	16,861
Balance at end of period	(15,232)	(2,595)	19,072	(45,864)	(29,017)	(74,881)	(73,636)

Net Change of AOCL Components

	Line item in the consolidated statements of operations, if any	Three months ended	
		31 March 2017	31 March 2016
Net unrealised gains (losses) on translation of net investment in foreign operations adjustments			
Foreign currency translation adjustments	N/A	2,026	(4,399)
Gains (loss) on net investment hedge	N/A	(1,668)	2,812
Net change		358	(1,587)
Held-to-maturity investment adjustments			
Amortisation of net gains (losses) to net income	Interest income on investments	48	(245)
Net change		48	(245)
Available-for-sale investment adjustments			
Gross unrealised gains (losses)	N/A	4,920	19,053
Transfer of realised (gains) losses to net income	Net realised gains (losses) on AFS investments	(69)	76
Net change		4,851	19,129
Employee benefit plans adjustments			
Defined benefit pension plan			
Amortisation of actuarial losses	Salaries and other employee benefits	568	426
Foreign currency translation adjustments of related balances	N/A	(239)	41
Net change		329	467
Post-retirement healthcare plan			
Amortisation of net actuarial losses	Salaries and other employee benefits	879	683
Amortisation of prior service credit	Salaries and other employee benefits	(190)	(1,586)
Net change		689	(903)
Other comprehensive income (loss), net of taxes		6,275	16,861

Note 20: Capital structure

Authorised Capital

On 16 September 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 25 July 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 6 September 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 6 September 2016, the par value of each issued common share and each authorised but unissued common share was reduced from BM\$0.10 to BM\$0.01 and the authorised 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

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

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 following the Reduction in Par Value, 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 authorised 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) 100,200,001 preference shares of par value US\$0.01 and (iv) 50 million preference shares of par value £0.01.

Preference Shares

On 22 June 2009, the Bank issued 200,000 Government guaranteed, 8.00% non-cumulative perpetual limited voting preference shares (the "preference shares"). The issuance price was US\$1,000 per share. The preference share buy-backs are disclosed in Note 18: Share Buy-Back Plans.

The preference share principal and dividend payments are guaranteed by the Government of Bermuda. At any time after the expiry of the guarantee offered by the Government of Bermuda, and subject to the approval of the BMA, the Bank would have been able to redeem, in whole or in part, any preference shares at the time issued and outstanding, at a redemption price equal to the liquidation preference plus any unpaid dividends at the time.

Holders of preference shares were entitled to receive, on each preference share only when, as and if declared by the Board of Directors, non-cumulative cash dividends at a rate per annum equal to 8.00% on the liquidation preference of US\$1,000 per preference share payable quarterly in arrears. In exchange for the Government's commitment, the Bank issued to the Government a warrant that, upon issuance, allowed the purchase of 427,960 common shares of the Bank at an exercise price of \$70.10 per share. The warrant which, after adjustments in accordance with anti-dilution terms allowed for the purchase of 432,028 shares with an exercise price of \$34.72 per share was repurchased and cancelled by the Bank in December 2016.

On 15 December 2016, the Bank effected a mandatory redemption of its preference shares by paying a make-whole redemption payment (the "make-whole redemption price") of USD \$1,180.00 per preference share to preference shareholders of record as at 1 December 2016. The make-whole redemption price comprises the sum of the dividend per preference share for the current quarter, the \$1,000 liquidation preference per preference share, discounted for present value, and the present value of future dividend payments through 22 June 2019. Following the payment of the make-whole redemption price, all issued and outstanding preference shares were redeemed, cancelled and reverted to authorised but unissued preference shares of the Bank. The preference shares were also delisted from both the BSX and the Luxembourg Stock Exchange.

Dividends Declared

During the three months ended 31 March 2017, the Bank paid cash dividends of \$0.32 (31 March 2016: \$0.10) for each common share as of the related record dates. During the three months ended 31 March 2016, the Bank declared the full 8.00% cash dividends on preference shares. As the preference shares were completely redeemed on 15 December 2016, there were nil cash dividends on preference shares for the three months ended 31 March 2017.

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 approval 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 approval for all dividends declared during the periods under review.

Regulatory Capital

Effective 1 January 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 1 January 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 31 March 2017 and 31 December 2016. The following table sets forth the Bank's capital adequacy in accordance with the Basel III framework:

	31 March 2017		31 December 2016	
	Actual	Regulatory minimum	Actual	Regulatory minimum
Capital				
Common Equity Tier 1	690,803	N/A	666,847	N/A
Tier 1 capital	690,803	N/A	666,847	N/A
Tier 2 capital	90,505	N/A	102,709	N/A
Total capital	781,308	N/A	769,556	N/A
Risk Weighted Assets	4,359,884	N/A	4,365,440	N/A
Leverage Ratio Exposure Measure	11,351,910	N/A	11,516,303	N/A
Capital Ratios (%)				
Common Equity Tier 1	15.8%	8.8%	15.3%	8.1%
Total Tier 1	15.8%	10.3%	15.3%	9.6%
Total Capital	17.9%	15.9%	17.6%	15.3%
Leverage ratio	6.1%	5.0%	5.8%	5.0%

Note 21: Business combinations

Bermuda Trust Company Limited and the Private Banking Investment Management of Operations of HSBC Bank Bermuda Limited Acquisition

On 29 April 2016, the Bank and two of its subsidiaries, Butterfield Trust (Bermuda) Limited ("BTBL") and Butterfield Asset Management Limited ("BAM"), acquired for a total purchase price of \$21.8 million: 1) all outstanding shares of Bermuda Trust Company Limited ("BTCL", a wholly-owned subsidiary of HSBC Bank Bermuda Limited ("HSBCBB")), 2) certain assets of the asset management services operations of HSBCBB and 3) certain assets of the private banking services operations of HSBCBB. The acquisition is in line with the Bank's growth strategy of developing core businesses in existing markets and was undertaken to add scale to the Bank capacity in these market segments where the Bank had already a significant presence and a long history.

The acquisition date fair value of consideration transferred amounted to \$21.8 million comprising cash settlement of \$7.0 million paid on 29 April 2016, a second payment of \$2.1 million made on 6 May 2016, and contingent considerations payable in the second half of 2016 and evaluated at \$12.7 million. The contingent considerations were dependent on the trust and asset management clients retention by BNTB before the end of the contingency period in September 2016 and the amount paid was \$12.7 million.

The fair value of the net assets acquired and allocation of purchase is summarised as follows:

	As at 29 April 2016
Total consideration transferred	21,778
Assets acquired	
Intangible assets	21,443
Other assets	3,345
Total assets acquired	24,788
Liabilities acquired	3,010
Excess purchase price (goodwill)	—

The purchase price paid by the Bank was for BTCL's net tangible value as well as intangible assets of \$21.4 million in the form of customer relationships in all three segments with an estimated finite useful life of 15 years.

The Bank incurred transaction expenses related to this acquisition in the amount of \$4.3 million, of which \$3.3 million were expensed during the year ended 31 December 2016 (including \$0.7 million of legal and professional fees) and \$1.0 million were expensed during the year ended 31 December 2015 (including \$1.0 million of legal and professional fees).

For the year ended 31 December 2016, the amount of revenues and earnings relating to the acquired HSBC Bermuda operations that are not inextricably merged into the Bank's operations are \$9.8 million and \$5.0 million respectively.

The following selected unaudited pro forma financial information has been provided to present a summary of the combined results of the Bank and the acquired operations from HSBC Bermuda, assuming the transaction had been effected on 1 January 2016. The unaudited pro forma data is for informational purposes only and does not necessarily represent results that would have occurred if the transaction had taken place on the basis assumed above. The pro forma have been prepared based on the actual results realised by the Bank from operating the acquired activities, when such activities were not yet inextricably merged into the Bank's operations.

	Three months ended 31 March 2016
Unaudited pro forma financial information	
Total net revenue	100,622
Total non-interest operating expense	71,992
Pro forma net income post business combination	28,630

Note 22: Related party transactions

Financing Transactions

As of 17 May 2005, the Bank established a programme to offer loans with preferential rates to eligible Bank employees, subject to certain conditions set by the Bank and provided that such employees meet certain credit criteria. Loan payments are serviced by automatically debiting the employee's chequing or savings account with the Bank. Applications for loans are handled according to the same policies as those for the Bank's retail banking clients. The Bank's ability to offer preferential rates on loans depends upon a number of factors, including market conditions, regulations and the Bank's overall profitability. The Bank has the right to change its employee loan policy at any time after notifying participants.

Certain directors and executives of the Bank, companies in which they are principal owners, 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 described in the preceding paragraph. As at 31 March 2017, related party director and executive loan balances were \$26.6 million (31 December 2016: \$12.1 million). During the three months ended 31 March 2017, new issuance of loans and change in directorships to directors and executives were \$15.0 million and repayments and change in directorships were \$0.5 million (year ended 31 December 2016: \$27.6 and \$25.1 million). All of these loans were considered performing loans as at 31 March 2017 and 31 December 2016.

Capital Transaction

Up to 28 February 2017, investments partnerships associated with The Carlyle Group held approximately 14% of the Bank's equity voting power along with the right to designate two persons for nomination for election by the shareholders as members of the Bank's Board of Directors. On 28 February 2017, as a result of a secondary public offering, the Carlyle Group sold their holdings in the Bank, and as a result, the investment agreement between the Bank and the Carlyle Group, which provided, amongst other rights, the right to designate two persons for nomination for election by the shareholders as members of the Bank's Board of Directors, was terminated. Prior to 30 April 2015, Canadian Imperial Bank of Commerce ("CIBC") held approximately 19% of the Bank's equity voting power. On 30 April 2015, the Bank completed the transaction with CIBC to repurchase for cancellation approximately 77% of CIBC's shares for \$15.00 per share, or a total of \$120 million, representing 8,000,000 common shares. The remaining 23% of CIBC's shareholding in Butterfield (representing 2.3 million shares) were acquired by Carlyle Global Financial Services, L.P. and subsequently sold to other investors.

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 31 March 2017, these investments have a fair value of \$5.0 million with an unrealized gain of \$1.3 million (31 December 2016: \$5.0 million and \$1.1 million) and were included in trading investments at their fair value. During the three months ended 31 March 2017, the Bank earned \$1.6 million (31 March 2016: \$1.3 million) in asset management revenue from funds managed by a wholly-owned subsidiary of the Bank.

Note 23: Subsequent events

On 25 April 2017, the Board of Directors declared an interim dividend of \$0.32 per common share to be paid on 30 May 2017 to shareholders of record on 15 May 2017.

The Bank has performed an evaluation of subsequent events through to 25 April 2017, the date the consolidated financial statements were approved for issuance.