

FINANCIAL REPORT FOR THE NINE MONTHS ENDED SEPTEMBER 30, 2019
The Bank of N.T. Butterfield & Son Limited



Butterfield

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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	
	September 30, 2019	December 31, 2018
Assets		
Cash and demand deposits with banks - Non-interest bearing	398,568	124,182
Demand deposits with banks - Interest bearing	1,109,284	487,588
Cash equivalents - Interest bearing	2,097,196	1,442,113
Cash due from banks	3,605,048	2,053,883
Securities purchased under agreement to resell	61,921	27,341
Short-term investments	793,348	52,336
Investment in securities		
Trading	7,206	6,495
Available-for-sale	2,356,325	2,182,749
Held-to-maturity (fair value: \$2,355,098 (2018: \$2,036,214))	2,298,820	2,066,120
Total investment in securities	4,662,351	4,255,364
Loans		
Loans	4,697,212	4,068,991
Allowance for credit losses	(23,906)	(25,102)
Loans, net of allowance for credit losses	4,673,306	4,043,889
Premises, equipment and computer software, net of accumulated depreciation	157,488	158,060
Accrued interest	22,214	20,870
Goodwill	23,197	23,991
Intangible assets	70,192	50,751
Equity method investments	14,479	14,660
Other real estate owned	3,908	5,346
Other assets	128,843	66,687
Total assets	14,216,295	10,773,178
Liabilities		
Customer deposits		
Bermuda		
Non-interest bearing	1,375,352	1,378,539
Interest bearing	2,786,086	3,117,063
Non-Bermuda		
Non-interest bearing	679,549	732,957
Interest bearing	7,786,548	4,189,860
Total customer deposits	12,627,535	9,418,419
Bank deposits		
Bermuda	6,201	8,100
Non-Bermuda	28,809	25,722
Total deposits	12,662,545	9,452,241
Employee benefit plans	117,652	117,203
Accrued interest	10,233	5,072
Other liabilities	317,855	172,997
Total other liabilities	445,740	295,272
Long-term debt	143,456	143,322
Total liabilities	13,251,741	9,890,835
Commitments, contingencies and guarantees (Note 10)		
Shareholders' equity		
Common share capital (BMD 0.01 par; authorized voting ordinary shares 2,000,000,000 and non-voting ordinary shares 6,000,000,000) issued and outstanding: 53,788,054 (2018: 55,359,218)	538	554
Additional paid-in capital	1,106,551	1,171,435
Accumulated deficit	(29,793)	(92,676)
Less: treasury common shares, at cost: 619,212 (2018: 1,254,212)	(23,069)	(48,443)
Accumulated other comprehensive loss	(89,673)	(148,527)
Total shareholders' equity	964,554	882,343
Total liabilities and shareholders' equity	14,216,295	10,773,178

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

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

	Three months ended		Nine months ended	
	September 30, 2019	September 30, 2018	September 30, 2019	September 30, 2018
Non-interest income				
Asset management	7,370	6,489	20,961	19,056
Banking	12,130	10,564	35,351	32,193
Foreign exchange revenue	10,026	7,842	27,155	24,301
Trust	12,698	13,128	38,269	37,230
Custody and other administration services	3,645	2,243	9,392	6,880
Other non-interest income	777	1,007	3,137	3,313
Total non-interest income	46,646	41,273	134,265	122,973
Interest income				
Interest and fees on loans	59,629	56,567	173,083	160,839
<i>Investments (none of the investment securities are intrinsically tax-exempt)</i>				
Available-for-sale	15,429	17,988	45,998	53,383
Held-to-maturity	17,444	14,662	51,767	38,919
Deposits with banks	12,532	5,788	30,709	18,748
Total interest income	105,034	95,005	301,557	271,889
Interest expense				
Deposits	16,747	4,811	36,130	11,336
Long-term debt	1,959	1,918	5,965	4,968
Securities sold under agreement to resell	—	—	—	18
Total interest expense	18,706	6,729	42,095	16,322
Net interest income before provision for credit losses	86,328	88,276	259,462	255,567
Provision for credit recoveries (losses)	(411)	2,811	552	5,277
Net interest income after provision for credit losses	85,917	91,087	260,014	260,844
Net trading gains (losses)	54	161	710	124
Net realized gains (losses) on available-for-sale investments	537	458	1,509	1,352
Net gains (losses) on other real estate owned	(67)	9	61	(251)
Net other gains (losses)	(1)	26	187	(1,795)
Total other gains (losses)	523	654	2,467	(570)
Total net revenue	133,086	133,014	396,746	383,247
Non-interest expense				
Salaries and other employee benefits	44,272	42,425	136,503	117,635
Technology and communications	16,320	15,569	46,119	45,368
Professional and outside services	9,473	5,092	21,272	19,909
Property	6,060	5,281	17,169	15,709
Indirect taxes	5,296	4,836	15,839	14,748
Non-service employee benefits expense	1,339	1,332	3,999	3,970
Marketing	1,580	1,470	4,915	3,848
Amortization of intangible assets	1,494	1,358	3,997	3,751
Other expenses	4,577	4,854	13,213	12,912
Total non-interest expense	90,411	82,217	263,026	237,850
Net income before income taxes	42,675	50,797	133,720	145,397
Income tax expense	(238)	(428)	(534)	(1,119)
Net income	42,437	50,369	133,186	144,278
Earnings per common share				
Basic earnings per share	0.80	0.91	2.50	2.62
Diluted earnings per share	0.79	0.90	2.48	2.58

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		Nine months ended	
	September 30, 2019	September 30, 2018	September 30, 2019	September 30, 2018
Net income	42,437	50,369	133,186	144,278
Other comprehensive income (loss), net of taxes				
Net change in unrealized gains and losses on translation of net investment in foreign operations	(1,345)	(479)	(1,608)	(1,501)
Accretion of net unrealized (gains) losses on held-to-maturity investments transferred from available-for-sale investments	12	7	38	31
Net change in unrealized gains and losses on available-for-sale investments	13,528	(11,732)	57,597	(46,193)
Employee benefit plans adjustments	1,211	1,345	2,827	2,417
Other comprehensive income (loss), net of taxes	13,406	(10,859)	58,854	(45,246)
Total comprehensive income	55,843	39,510	192,040	99,032

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				Nine months ended			
	September 30, 2019		September 30, 2018		September 30, 2019		September 30, 2018	
	Number of shares	In thousands of US dollars	Number of shares	In thousands of US dollars	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	54,606,982	546	55,172,295	552	55,359,218	554	54,692,630	547
Retirement of shares	(1,000,000)	(10)	—	—	(2,120,000)	(21)	—	—
Issuance of common shares	181,072	2	166,536	1	548,836	5	646,201	6
Balance at end of period	53,788,054	538	55,338,831	553	53,788,054	538	55,338,831	553
Additional paid-in capital								
Balance at beginning of period		1,140,393		1,163,673		1,171,435		1,155,542
Share-based compensation		3,358		3,282		13,906		8,558
Share-based settlements		—		—		240		918
Retirement of common shares		(37,245)		—		(79,082)		—
Issuance of common shares, net of underwriting discounts and commissions		45		1,219		52		3,156
Balance at end of period		1,106,551		1,168,174		1,106,551		1,168,174
Accumulated deficit								
Balance at beginning of period		(48,855)		(152,148)		(92,676)		(204,156)
Net income for period		42,437		50,369		133,186		144,278
Common share cash dividends declared and paid, \$0.44 and \$1.32 per share (2018: \$0.38 and \$1.14 per share)		(23,375)		(20,994)		(70,303)		(62,895)
Balance at end of period		(29,793)		(122,773)		(29,793)		(122,773)
Treasury common shares								
Balance at beginning of period	1,619,212	(60,324)	—	—	1,254,212	(48,443)	—	—
Purchase of treasury common shares	—	—	—	—	1,485,000	(53,729)	—	—
Retirement of shares	(1,000,000)	37,255	—	—	(2,120,000)	79,103	—	—
Balance at end of period	619,212	(23,069)	—	—	619,212	(23,069)	—	—
Accumulated other comprehensive income (loss)								
Balance at beginning of period		(103,079)		(163,439)		(148,527)		(129,052)
Other comprehensive income (loss), net of taxes		13,406		(10,859)		58,854		(45,246)
Balance at end of period		(89,673)		(174,298)		(89,673)		(174,298)
Total shareholders' equity		964,554		871,656		964,554		871,656

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)

Nine months ended

	September 30, 2019	September 30, 2018
Cash flows from operating activities		
Net income	133,186	144,278
Adjustments to reconcile net income to operating cash flows		
Depreciation and amortization	35,337	34,814
Provision for credit (recovery) losses	(552)	(5,277)
Share-based payments and settlements	14,146	9,476
Net realized (gains) losses on available-for-sale investments	(1,509)	(1,352)
Net (gains) losses on other real estate owned	(61)	251
(Increase) decrease in carrying value of equity method investments	(314)	(281)
Dividends received from equity method investments	495	48
Changes in operating assets and liabilities		
(Increase) decrease in accrued interest receivable	(795)	(2,393)
(Increase) decrease in other assets	(340)	(11,989)
Increase (decrease) in accrued interest payable	5,323	2,741
Increase (decrease) in employee benefit plans and other liabilities	115,776	42,847
Cash provided by (used in) operating activities	300,692	213,163
Cash flows from investing activities		
(Increase) decrease in securities purchased under agreement to resell	(34,580)	107,076
Short-term investments other than restricted cash: proceeds from maturities and sales	233,928	228,113
Short-term investments other than restricted cash: purchases	(974,828)	(57,448)
Net change in trading investments	(710)	(124)
Available-for-sale investments: proceeds from sale	189,940	646,104
Available-for-sale investments: proceeds from maturities and pay downs	249,440	400,440
Available-for-sale investments: purchases	(563,007)	(242,087)
Held-to-maturity investments: proceeds from maturities and pay downs	184,374	119,787
Held-to-maturity investments: purchases	(420,018)	(845,921)
Net (increase) decrease in loans	(26,064)	(346,701)
Additions to premises, equipment and computer software	(16,351)	(11,886)
Proceeds from sale of other real estate owned	1,102	5,538
Gross cash received (disbursed for) from business acquisition	2,815,752	(20,722)
Cash provided by (used in) investing activities	1,638,978	(17,831)
Cash flows from financing activities		
Net increase (decrease) in demand and term deposit liabilities	(154,754)	(440,665)
Issuance of subordinated capital, net of underwriting fees	—	73,218
Repayment of long-term debt	—	(47,000)
Common shares repurchased	(53,729)	—
Proceeds from stock option exercises	57	3,162
Cash dividends paid on common shares	(70,303)	(62,895)
Cash provided by (used in) financing activities	(278,729)	(474,180)
Net effect of exchange rates on cash, cash equivalent and restricted cash	(106,812)	1,311
Net increase (decrease) in cash, cash equivalent and restricted cash	1,554,129	(277,537)
Cash, cash equivalent and restricted cash: beginning of period	2,070,120	1,557,733
Cash, cash equivalent and restricted cash: end of period	3,624,249	1,280,196
Components of cash, cash equivalent and restricted cash at end of period		
Cash due from banks	3,605,048	1,259,098
Restricted cash included in short-term investments on the consolidated balance sheets	19,201	21,098
Total cash, cash equivalent and restricted cash at end of period	3,624,249	1,280,196

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

Note 1: Nature of business

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

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

The Bank's common shares trade on the New York Stock Exchange under the symbol "NTB".

Note 2: Significant accounting policies

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

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

The preparation of financial statements in conformity with US GAAP requires Management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. While Management believes that the amounts included in the unaudited interim consolidated financial statements reflect its best estimates and assumptions, actual results could differ from those estimates. Management believes that the most critical accounting policies upon which the financial condition depends, and which involve the most complex or subjective decisions or assessments, are as follows:

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

Leases

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

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

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

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

New Accounting Pronouncements

The following accounting developments were issued during the nine months ended September 30, 2019 or are accounting standards pending adoption:

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

In April 2019, the FASB published Accounting Standards Update No. 2019-04 Codification Improvements to Topic 326, Financial Instruments—Credit Losses, Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments. The amendments in this update clarify, correct and improve various aspects of the guidance in the following ASU's related to financial instruments: ASU 2016-01 Financial Instruments—Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Liabilities, ASU 2016-13, Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments, and ASU 2017-12, Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities. The amendments in this ASU relating to ASU 2016-01 are effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years, early adoption is permitted and it should be applied on a modified-retrospective transition basis. The amendments in this ASU relating to ASU 2016-13 are effective as noted in ASU 2016-13. The amendments in this ASU relating to ASU 2017-12 are effective as noted in ASU 2017-12. The Bank is assessing the impact of the adoption of this guidance but does not expect it to be material.

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 May 2019, the FASB published Accounting Standards Update No. 2019-05 Financial Instruments - Credit Losses (Topic 326) - Targeted Transition Relief. The amendments in this update provide targeted transition relief that is an option for, and will be available to, all reporting entities within the scope of Topic 326. It provides entities with an option to irrevocably elect the fair value option in Subtopic 825-10, applied on an instrument-by-instrument basis for eligible instruments that are within the scope of Subtopic 326-20 upon adoption of Topic 326. The fair value option election does not apply to held-to-maturity debt securities. The effective date and transition methodology for the amendments in this update are the same as in ASU 2016-13. The Bank is currently evaluating whether to elect the adoption of this guidance but does not expect it to be material.

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

Note 3: Cash due from banks

	September 30, 2019			December 31, 2018		
	Bermuda	Non-Bermuda	Total	Bermuda	Non-Bermuda	Total
Non-interest bearing						
Cash and demand deposits with banks	25,197	373,371	398,568	21,677	102,505	124,182
Interest bearing¹						
Demand deposits with banks	291,186	818,098	1,109,284	335,841	151,747	487,588
Cash equivalents	243,722	1,853,474	2,097,196	364,714	1,077,399	1,442,113
Sub-total - Interest bearing	534,908	2,671,572	3,206,480	700,555	1,229,146	1,929,701
Total cash due from banks	560,105	3,044,943	3,605,048	722,232	1,331,651	2,053,883

¹ Interest bearing cash due from banks includes certain demand deposits with banks as at September 30, 2019 in the amount of \$809.7 million (December 31, 2018: \$204.2 million) that are earning interest at a negligible rate.

Note 4: Short-term investments

	September 30, 2019			December 31, 2018		
	Bermuda	Non-Bermuda	Total	Bermuda	Non-Bermuda	Total
Unrestricted						
Maturing within three months	—	318,158	318,158	—	25,459	25,459
Maturing between three to six months	—	451,254	451,254	—	9,641	9,641
Maturing between six to twelve months	—	4,735	4,735	—	—	—
Total unrestricted short-term investments	—	774,147	774,147	—	35,100	35,100
Affected by drawing restrictions related to minimum reserve and derivative margin requirements						
Non-interest earning demand deposits	—	1,697	1,697	—	2,401	2,401
Interest earning demand and term deposits	13,585	3,919	17,504	13,836	999	14,835
Total restricted short-term investments	13,585	5,616	19,201	13,836	3,400	17,236
Total short-term investments	13,585	779,763	793,348	13,836	38,500	52,336

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

Note 5: Investment in securities

Amortized Cost, Carrying Amount and Fair Value

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

	September 30, 2019				December 31, 2018			
	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
Trading								
Mutual funds	5,724	1,915	(433)	7,206	5,724	1,176	(405)	6,495
Total trading	5,724	1,915	(433)	7,206	5,724	1,176	(405)	6,495
Available-for-sale								
US government and federal agencies	2,162,741	21,031	(6,362)	2,177,410	1,820,808	3,355	(37,656)	1,786,507
Non-US governments debt securities	25,770	27	(521)	25,276	25,804	19	(398)	25,425
Corporate debt securities	—	—	—	—	80,177	—	(1,464)	78,713
Asset-backed securities - Student loans	13,290	—	(465)	12,825	13,290	—	(664)	12,626
Commercial mortgage-backed securities	—	—	—	—	125,806	6	(2,603)	123,209
Residential mortgage-backed securities	140,555	756	(497)	140,814	160,492	—	(4,223)	156,269
Total available-for-sale	2,342,356	21,814	(7,845)	2,356,325	2,226,377	3,380	(47,008)	2,182,749
Held-to-maturity¹								
US government and federal agencies	2,298,820	56,736	(458)	2,355,098	2,066,120	5,012	(34,918)	2,036,214
Total held-to-maturity	2,298,820	56,736	(458)	2,355,098	2,066,120	5,012	(34,918)	2,036,214

¹ For the nine months ended September 30, 2019 and the year ended December 31, 2018, non-credit impairments recognized in accumulated other comprehensive loss ("AOCL") for HTM investments were nil.

Investments with Unrealized Loss Positions

The Bank does not believe that the AFS and HTM investment securities that were in an unrealized loss position as of September 30, 2019 (and December 31, 2018), which were composed of 60 securities representing 20% of the AFS and HTM portfolios' carrying value (December 31, 2018: 198 and 75%, respectively), represent an other-than-temporary impairment ("OTTI"). Total gross unrealized losses were 0.9% of the fair value of affected securities (December 31, 2018: 2.6%) and were attributable primarily to changes in market interest rates, relative to when the investment securities were purchased, and not due to the credit quality of the investment securities. The following describes the processes for identifying credit impairment in security types with the most significant unrealized losses as shown in the preceding tables.

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

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

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

Investments in **Residential mortgage-backed securities** relate to seven securities which are rated AAA and possess similar significant credit enhancement as described above. No credit losses were recognized on these securities as the weighted average credit support and the weighted average LTV ratios range from 10% - 22% and 54% - 64%, respectively. Current credit support is significantly greater than any delinquencies experienced on the underlying mortgages.

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

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

	Less than 12 months		12 months or more			
September 30, 2019	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses	Total fair value	Total gross unrealized losses
Available-for-sale securities with unrealized losses						
US government and federal agencies	309,010	(1,501)	446,100	(4,861)	755,110	(6,362)
Non-US governments debt securities	—	—	22,246	(521)	22,246	(521)
Asset-backed securities - Student loans	—	—	12,825	(465)	12,825	(465)
Residential mortgage-backed securities	6,360	(2)	57,579	(495)	63,939	(497)
Total available-for-sale securities with unrealized losses	315,370	(1,503)	538,750	(6,342)	854,120	(7,845)
Held-to-maturity securities with unrealized losses						
US government and federal agencies	31,270	(46)	48,289	(412)	79,559	(458)

	Less than 12 months		12 months or more			
	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses	Total fair value	Total gross unrealized losses
December 31, 2018						
Available-for-sale securities with unrealized losses						
US government and federal agencies	372,283	(1,586)	1,027,638	(36,070)	1,399,921	(37,656)
Non-US governments debt securities	—	—	22,360	(398)	22,360	(398)
Corporate debt securities	14,914	(114)	63,799	(1,350)	78,713	(1,464)
Asset-backed securities - Student loans	—	—	12,626	(664)	12,626	(664)
Commercial mortgage-backed securities	812	—	117,379	(2,603)	118,191	(2,603)
Residential mortgage-backed securities	49,804	(1,313)	106,465	(2,910)	156,269	(4,223)
Total available-for-sale securities with unrealized losses	437,813	(3,013)	1,350,267	(43,995)	1,788,080	(47,008)
Held-to-maturity securities with unrealized losses						
US government and federal agencies	647,484	(11,468)	724,974	(23,450)	1,372,458	(34,918)

Investment Maturities

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

	Remaining term to maturity					
	Within 3 months	3 to 12 months	1 to 5 years	5 to 10 years	No specific or single maturity	Carrying amount
September 30, 2019						
Trading						
Mutual funds	—	—	—	—	7,206	7,206
Available-for-sale						
US government and federal agencies	—	—	34,929	—	2,142,481	2,177,410
Non-US governments debt securities	3,030	—	22,246	—	—	25,276
Asset-backed securities - Student loans	—	—	—	—	12,825	12,825
Residential mortgage-backed securities	—	—	—	—	140,814	140,814
Total available-for-sale	3,030	—	57,175	—	2,296,120	2,356,325
Held-to-maturity						
US government and federal agencies	—	—	—	—	2,298,820	2,298,820
Total investments	3,030	—	57,175	—	4,602,146	4,662,351
Total by currency						
US dollars	3,030	—	57,175	—	4,601,854	4,662,059
Other	—	—	—	—	292	292
Total investments	3,030	—	57,175	—	4,602,146	4,662,351

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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.

	September 30, 2019		December 31, 2018	
	Amortized cost	Fair value	Amortized cost	Fair value
Pledged Investments				
Available-for-sale	6,888	7,017	42,531	42,400
Held-to-maturity	6,464	6,605	70,818	69,030

Sale Proceeds and Realized Gains and Losses of AFS Securities

	Nine months ended September 30, 2019			Nine months ended September 30, 2018		
	Sale proceeds	Gross realized gains	Gross realized (losses)	Sale proceeds	Gross realized gains	Gross realized (losses)
US government and federal agencies	—	—	—	621,467	1,271	(1,037)
Corporate debt securities	64,787	49	(141)	24,975	—	(87)
Commercial mortgage-backed securities	124,545	901	(272)	—	—	—
Pass-through note	972	972	—	1,205	1,205	—
Total	190,304	1,922	(413)	647,647	2,476	(1,124)

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.

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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 September 30, 2019 is 4.93% (December 31, 2018: 5.53%).

	September 30, 2019			December 31, 2018		
	Bermuda	Non-Bermuda	Total	Bermuda	Non-Bermuda	Total
Commercial loans						
Government	145,973	12,298	158,271	92,994	12,670	105,664
Commercial and industrial	287,707	224,043	511,750	291,470	222,393	513,863
Commercial overdrafts	19,643	13,340	32,983	16,342	16,752	33,094
Total gross commercial loans	453,323	249,681	703,004	400,806	251,815	652,621
Less specific allowance for credit losses	(4,207)	(1,687)	(5,894)	(2,766)	(1,687)	(4,453)
Net commercial loans	449,116	247,994	697,110	398,040	250,128	648,168
Commercial real estate loans						
Commercial mortgage	296,854	297,989	594,843	304,519	192,456	496,975
Construction	30,000	45,210	75,210	29,760	48,909	78,669
Total gross commercial real estate loans	326,854	343,199	670,053	334,279	241,365	575,644
Less specific allowance for credit losses	(515)	—	(515)	(600)	—	(600)
Net commercial real estate loans	326,339	343,199	669,538	333,679	241,365	575,044
Consumer loans						
Automobile financing	13,498	7,144	20,642	13,249	6,975	20,224
Credit card	60,003	24,706	84,709	60,466	23,623	84,089
Overdrafts	2,267	6,924	9,191	10,511	2,375	12,886
Other consumer	32,980	99,503	132,483	28,415	35,076	63,491
Total gross consumer loans	108,748	138,277	247,025	112,641	68,049	180,690
Less specific allowance for credit losses	(683)	—	(683)	(274)	—	(274)
Net consumer loans	108,065	138,277	246,342	112,367	68,049	180,416
Residential mortgage loans	1,113,530	1,963,600	3,077,130	1,121,288	1,538,748	2,660,036
Less specific allowance for credit losses	(9,659)	(984)	(10,643)	(8,575)	(1,013)	(9,588)
Net residential mortgage loans	1,103,871	1,962,616	3,066,487	1,112,713	1,537,735	2,650,448
Total gross loans	2,002,455	2,694,757	4,697,212	1,969,014	2,099,977	4,068,991
Less specific allowance for credit losses	(15,064)	(2,671)	(17,735)	(12,215)	(2,700)	(14,915)
Less general allowance for credit losses	(5,004)	(1,167)	(6,171)	(7,098)	(3,089)	(10,187)
Net loans	1,982,387	2,690,919	4,673,306	1,949,701	2,094,188	4,043,889

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

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

September 30, 2019	30 - 59 days	60 - 89 days	More than 90 days	Total past due loans	Total current	Total loans
Commercial loans						
Government	—	—	3,750	3,750	154,521	158,271
Commercial and industrial	1,398	181	7,492	9,071	502,679	511,750
Commercial overdrafts	—	—	74	74	32,909	32,983
Total commercial loans	1,398	181	11,316	12,895	690,109	703,004
Commercial real estate loans						
Commercial mortgage	450	—	2,792	3,242	591,601	594,843
Construction	—	—	—	—	75,210	75,210
Total commercial real estate loans	450	—	2,792	3,242	666,811	670,053
Consumer loans						
Automobile financing	11	15	172	198	20,444	20,642
Credit card	690	392	350	1,432	83,277	84,709
Overdrafts	—	—	24	24	9,167	9,191
Other consumer	24	72	1,078	1,174	131,309	132,483
Total consumer loans	725	479	1,624	2,828	244,197	247,025
Residential mortgage loans	33,001	5,528	45,714	84,243	2,992,887	3,077,130
Total gross loans	35,574	6,188	61,446	103,208	4,594,004	4,697,212

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

Loans' Credit Quality

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

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

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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.

September 30, 2019	Pass	Special mention	Substandard	Non-accrual	Total gross recorded loans
Commercial loans					
Government	154,521	—	—	3,750	158,271
Commercial and industrial	498,335	4,705	1,125	7,585	511,750
Commercial overdrafts	29,196	3,197	516	74	32,983
Total commercial loans	682,052	7,902	1,641	11,409	703,004
Commercial real estate loans					
Commercial mortgage	517,096	72,008	2,947	2,792	594,843
Construction	75,210	—	—	—	75,210
Total commercial real estate loans	592,306	72,008	2,947	2,792	670,053
Consumer loans					
Automobile financing	20,352	96	—	194	20,642
Credit card	84,359	—	350	—	84,709
Overdrafts	4,817	4,350	—	24	9,191
Other consumer	127,744	3,494	139	1,106	132,483
Total consumer loans	237,272	7,940	489	1,324	247,025
Residential mortgage loans	2,909,538	46,753	84,499	36,340	3,077,130
Total gross recorded loans	4,421,168	134,603	89,576	51,865	4,697,212

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

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Evaluation of Loans For Impairment

	September 30, 2019		December 31, 2018	
	Individually evaluated	Collectively evaluated	Individually evaluated	Collectively evaluated
Commercial	12,352	690,652	12,096	640,525
Commercial real estate	5,739	664,314	7,188	568,456
Consumer	1,333	245,692	1,023	179,667
Residential mortgage	104,399	2,972,731	102,127	2,557,909
Total gross loans	123,823	4,573,389	122,434	3,946,557

Changes in General and Specific Allowances For Credit Losses

	Nine months ended September 30, 2019				
	Commercial	Commercial real estate	Consumer	Residential mortgage	Total
Allowances at beginning of period	6,913	4,092	802	13,295	25,102
Provision taken (released)	652	(1,637)	1,278	(845)	(552)
Recoveries	6	—	929	407	1,342
Charge-offs	—	—	(1,662)	(288)	(1,950)
Other	—	(1)	4	(39)	(36)
Allowances at end of period	7,571	2,454	1,351	12,530	23,906
Allowances at end of period: individually evaluated for impairment	5,894	515	683	10,643	17,735
Allowances at end of period: collectively evaluated for impairment	1,677	1,939	668	1,887	6,171

	Nine months ended September 30, 2018				
	Commercial	Commercial real estate	Consumer	Residential mortgage	Total
Allowances at beginning of period	6,309	10,360	888	17,910	35,467
Provision taken (released)	1,282	(4,228)	137	(2,468)	(5,277)
Recoveries	8	28	439	177	652
Charge-offs	—	—	(589)	(1,942)	(2,531)
Other	(7)	(3)	—	(36)	(46)
Allowances at end of period	7,592	6,157	875	13,641	28,265
Allowances at end of period: individually evaluated for impairment	4,516	600	295	8,601	14,012
Allowances at end of period: collectively evaluated for impairment	3,076	5,557	580	5,040	14,253

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Non-Performing Loans (excluding purchased credit-impaired loans)	September 30, 2019			December 31, 2018		
	Non-accrual	Past due more than 90 days and accruing	Total non-performing loans	Non-accrual	Past due more than 90 days and accruing	Total non-performing loans
Commercial loans						
Government	3,750	—	3,750	3,750	—	3,750
Commercial and industrial	7,585	—	7,585	7,379	—	7,379
Commercial overdrafts	74	—	74	2	—	2
Total commercial loans	11,409	—	11,409	11,131	—	11,131
Commercial real estate loans						
Commercial mortgage	2,792	—	2,792	4,062	—	4,062
Consumer loans						
Automobile financing	194	—	194	162	—	162
Credit card	—	350	350	—	126	126
Overdrafts	24	—	24	4	—	4
Other consumer	1,106	131	1,237	846	—	846
Total consumer loans	1,324	481	1,805	1,012	126	1,138
Residential mortgage loans	36,340	12,514	48,854	32,486	6,332	38,818
Total non-performing loans	51,865	12,995	64,860	48,691	6,458	55,149

Impaired Loans (excluding purchased credit-impaired loans)

A loan is considered to be impaired when, based on current information and events, the Bank determines that it will not be able to collect all amounts due according to the original loan contract, including scheduled interest payments. Impaired loans include all non-accrual loans and all loans modified in a troubled debt restructuring ("TDR") even if full collectability is expected following the restructuring. During the nine months ended September 30, 2019, the amount of gross interest income that would have been recorded had impaired loans been current was \$2.6 million (September 30, 2018: \$2.0 million).

September 30, 2019	Impaired loans with an allowance			Gross recorded impaired loans without an allowance	Total impaired loans		
	Gross recorded loans	Specific allowance	Net loans		Gross recorded loans	Specific allowance	Net loans
Commercial loans							
Government	3,750	(1,687)	2,063	—	3,750	(1,687)	2,063
Commercial and industrial	7,492	(4,207)	3,285	1,036	8,528	(4,207)	4,321
Commercial overdrafts	—	—	—	74	74	—	74
Total commercial loans	11,242	(5,894)	5,348	1,110	12,352	(5,894)	6,458
Commercial real estate loans							
Commercial mortgage	1,029	(515)	514	4,710	5,739	(515)	5,224
Consumer loans							
Automobile financing	—	—	—	194	194	—	194
Overdrafts	—	—	—	24	24	—	24
Other consumer	683	(683)	—	423	1,106	(683)	423
Total consumer loans	683	(683)	—	641	1,324	(683)	641
Residential mortgage loans	53,014	(10,643)	42,371	49,581	102,595	(10,643)	91,952
Total impaired loans	65,968	(17,735)	48,233	56,042	122,010	(17,735)	104,275

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

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

Average Impaired Loan Balances and Related Recognized Interest Income

	September 30, 2019		December 31, 2018	
	Average gross recorded loans	Interest income recognized ¹	Average gross recorded loans	Interest income recognized ¹
Commercial loans				
Government	3,750	—	3,750	—
Commercial and industrial	8,436	53	8,415	68
Commercial overdrafts	38	—	2	—
Total commercial loans	12,224	53	12,167	68
Commercial real estate loans				
Commercial mortgage	6,464	197	7,539	287
Consumer loans				
Automobile financing	178	—	194	—
Overdrafts	14	—	4	—
Other consumer	976	—	665	—
Total consumer loans	1,168	—	863	—
Residential mortgage loans	100,799	3,489	97,378	4,568
Total impaired loans	120,655	3,739	117,947	4,923

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

Loans Modified in a TDR

As at September 30, 2019, the Bank had no 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 December 31, 2018, the Bank had two loans which were formerly residential mortgages that were modified in a TDR during the preceding 12 months that subsequently defaulted with a combined recorded carrying value of \$0.8 million.

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TDRs entered into during the period

	Nine months ended September 30, 2019			
	Number of contracts	Pre-modification recorded loans	Modification: interest capitalization	Post-modification recorded loans
Residential mortgage loans	3	1,381	101	1,482
Total loans modified in a TDR	3	1,381	101	1,482

	Nine months ended September 30, 2018			
	Number of contracts	Pre-modification recorded loans	Modification: interest capitalization	Post-modification recorded loans
Residential mortgage loans	16	7,106	750	7,856
Total loans modified in a TDR	16	7,106	750	7,856

TDRs outstanding	September 30, 2019		December 31, 2018	
	Accrual	Non-accrual	Accrual	Non-accrual
Commercial loans	943	—	965	—
Commercial real estate loans	2,947	1,325	3,127	1,336
Residential mortgage loans	66,255	9,217	66,516	8,154
Total TDRs outstanding	70,145	10,542	70,608	9,490

Purchased Credit-Impaired Loans

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

	Nine months ended September 30, 2019			
	Contractual principal	Non-accretable difference	Accretable difference	Carrying amount
Balance at beginning of period	4,531	(901)	(661)	2,969
Advances and increases in cash flows expected to be collected	40	(10)	10	40
Reductions resulting from repayments	(1,548)	247	170	(1,131)
Increase (reduction) resulting from changes in allowances for credit losses	—	166	—	166
Reductions resulting from charge-offs	(495)	262	—	(233)
Balance at end of period	2,528	(236)	(481)	1,811

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

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(In thousands of US dollars, unless otherwise stated)

Note 7: Credit risk concentrations

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

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

Business sector	September 30, 2019			December 31, 2018		
	Loans	Off-balance sheet	Total credit exposure	Loans	Off-balance sheet	Total credit exposure
Banks and financial services	659,582	403,694	1,063,276	611,404	415,124	1,026,528
Commercial and merchandising	613,855	229,200	843,055	316,349	182,440	498,789
Governments	157,877	59,164	217,041	104,857	—	104,857
Individuals	2,368,197	138,762	2,506,959	2,339,854	89,931	2,429,785
Primary industry and manufacturing	340,621	76,073	416,694	120,088	1,003	121,091
Real estate	359,241	3,972	363,213	395,086	1,547	396,633
Hospitality industry	170,710	432	171,142	160,680	3,497	164,177
Transport and communication	9,394	75	9,469	5,758	75	5,833
Sub-total	4,679,477	911,372	5,590,849	4,054,076	693,617	4,747,693
General allowance	(6,171)	—	(6,171)	(10,187)	—	(10,187)
Total	4,673,306	911,372	5,584,678	4,043,889	693,617	4,737,506

Geographic region	September 30, 2019				December 31, 2018			
	Cash due from banks, resell agreements and short-term investments	Loans	Off-balance sheet	Total credit exposure	Cash due from banks, resell agreements and short-term investments	Loans	Off-balance sheet	Total credit exposure
Australia	170,191	—	—	170,191	145,675	—	—	145,675
Barbados	784	2,063	—	2,847	—	2,063	—	2,063
Belgium	2,373	—	—	2,373	3,007	—	—	3,007
Bermuda	25,125	2,144,941	361,124	2,531,190	36,827	2,133,859	333,845	2,504,531
Canada	618,104	—	—	618,104	759,437	—	—	759,437
Cayman	21,714	729,920	235,776	987,410	18,138	730,418	222,189	970,745
Guernsey	4	915,453	142,024	1,057,481	6	290,578	22,619	313,203
Japan	12,931	—	—	12,931	14,271	—	—	14,271
Jersey	—	1,665	9,806	11,471	—	9,083	449	9,532
Netherlands	508,846	—	—	508,846	—	—	—	—
New Zealand	942	—	—	942	1,082	—	—	1,082
Norway	1,113	—	—	1,113	8,750	—	—	8,750
Saint Lucia	—	29,475	—	29,475	—	90,000	—	90,000
Switzerland	8,882	—	—	8,882	6,637	—	—	6,637
The Bahamas	1,600	13,332	—	14,932	1,534	14,367	—	15,901
United Kingdom	1,840,486	842,628	162,642	2,845,756	725,634	783,708	114,515	1,623,857
United States	1,245,276	—	—	1,245,276	411,248	—	—	411,248
Other	1,946	—	—	1,946	1,314	—	—	1,314
Sub-total	4,460,317	4,679,477	911,372	10,051,166	2,133,560	4,054,076	693,617	6,881,253
General allowance	—	(6,171)	—	(6,171)	—	(10,187)	—	(10,187)
Total	4,460,317	4,673,306	911,372	10,044,995	2,133,560	4,043,889	693,617	6,871,066

The Bank of N.T. Butterfield & Son Limited
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Note 8: Customer deposits and deposits from banks

By Maturity

	Demand		Total demand deposits	Term				Total term deposits	Total deposits
September 30, 2019	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 \$100k¹	1,375,352	1,793,452	3,168,804	10,244	6,916	6,839	15,309	39,308	3,208,112
Term - \$100k or more	N/A	N/A	—	603,553	111,015	157,596	81,162	953,326	953,326
Total Bermuda	1,375,352	1,793,452	3,168,804	613,797	117,931	164,435	96,471	992,634	4,161,438
Non-Bermuda									
Demand or less than \$100k¹	679,549	5,756,416	6,435,965	20,835	4,713	6,410	804	32,762	6,468,727
Term and \$100k or more	N/A	N/A	—	1,451,209	162,988	377,249	5,924	1,997,370	1,997,370
Total non-Bermuda	679,549	5,756,416	6,435,965	1,472,044	167,701	383,659	6,728	2,030,132	8,466,097
Total customer deposits	2,054,901	7,549,868	9,604,769	2,085,841	285,632	548,094	103,199	3,022,766	12,627,535
Banks									
Bermuda									
Demand or less than \$100k	6,201	—	6,201	—	—	—	—	—	6,201
Non-Bermuda									
Demand or less than \$100k	—	24,891	24,891	—	—	—	—	—	24,891
Term and \$100k or more	N/A	N/A	—	3,815	—	103	—	3,918	3,918
Total non-Bermuda	—	24,891	24,891	3,815	—	103	—	3,918	28,809
Total bank deposits	6,201	24,891	31,092	3,815	—	103	—	3,918	35,010
Total deposits	2,061,102	7,574,759	9,635,861	2,089,656	285,632	548,197	103,199	3,026,684	12,662,545

December 31, 2018	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	1,378,539	2,158,971	3,537,510	12,387	4,306	8,049	14,644	39,386	3,576,896
Term - \$100k or more	N/A	N/A	—	598,528	92,427	184,337	43,414	918,706	918,706
Total Bermuda	1,378,539	2,158,971	3,537,510	610,915	96,733	192,386	58,058	958,092	4,495,602
Non-Bermuda									
Demand or less than \$100k ¹	732,957	3,179,376	3,912,333	18,714	5,386	4,705	507	29,312	3,941,645
Term and \$100k or more	N/A	N/A	—	608,390	126,022	235,278	11,482	981,172	981,172
Total non-Bermuda	732,957	3,179,376	3,912,333	627,104	131,408	239,983	11,989	1,010,484	4,922,817
Total customer deposits	2,111,496	5,338,347	7,449,843	1,238,019	228,141	432,369	70,047	1,968,576	9,418,419
Banks									
Bermuda									
Demand or less than \$100k	8,100	—	8,100	—	—	—	—	—	8,100
Non-Bermuda									
Demand or less than \$100k	—	18,965	18,965	—	—	—	—	—	18,965
Term and \$100k or more	N/A	N/A	—	6,656	—	101	—	6,757	6,757
Total non-Bermuda	—	18,965	18,965	6,656	—	101	—	6,757	25,722
Total bank deposits	8,100	18,965	27,065	6,656	—	101	—	6,757	33,822
Total deposits	2,119,596	5,357,312	7,476,908	1,244,675	228,141	432,470	70,047	1,975,333	9,452,241

¹ The weighted-average interest rate on interest-bearing demand deposits as at September 30, 2019 is 0.20% (December 31, 2018: 0.13%).

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By Type and Segment

	September 30, 2019			December 31, 2018		
	Payable on demand	Payable on a fixed date	Total	Payable on demand	Payable on a fixed date	Total
Bermuda						
Customers	3,168,803	992,635	4,161,438	3,537,510	958,092	4,495,602
Banks	6,200	—	6,200	8,100	—	8,100
Cayman						
Customers	2,792,033	541,283	3,333,316	2,847,793	472,442	3,320,235
Banks	20,665	3,918	24,583	17,564	6,757	24,321
Channel Islands and the UK						
Customers	3,643,933	1,488,848	5,132,781	1,064,540	538,042	1,602,582
Banks	4,227	—	4,227	1,401	—	1,401
Total Customers	9,604,769	3,022,766	12,627,535	7,449,843	1,968,576	9,418,419
Total Banks	31,092	3,918	35,010	27,065	6,757	33,822
Total deposits	9,635,861	3,026,684	12,662,545	7,476,908	1,975,333	9,452,241

Note 9: Employee benefit plans

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

The Bank includes an estimate of the 2019 Bank contribution and estimated benefit payments for the next ten years under the pension and post-retirement plans in its financial statements for the year-ended December 31, 2018. During the nine months ended September 30, 2019, there have been no material revisions to these estimates.

		Three months ended		Nine months ended	
	Line item in the consolidated statements of operations	September 30, 2019	September 30, 2018	September 30, 2019	September 30, 2018
Defined benefit pension expense (income)					
Interest cost	Non-service employee benefits expense	1,236	1,232	3,766	3,750
Expected return on plan assets	Non-service employee benefits expense	(1,857)	(2,163)	(5,657)	(6,574)
Amortization of net actuarial (gains) losses	Non-service employee benefits expense	608	524	1,834	1,575
Amortization of prior service (credit) cost	Non-service employee benefits expense	5	—	15	—
Settlement (gain) loss	Net other gains (losses)	—	—	—	1,548
Total defined benefit pension expense (income)		(8)	(407)	(42)	299
Post-retirement medical benefit expense (income)					
Service cost	Salaries and other employee benefits	15	16	44	47
Interest cost	Non-service employee benefits expense	1,185	1,076	3,555	3,229
Amortization of net actuarial (gains) losses	Non-service employee benefits expense	68	654	204	1,961
Amortization of prior service (credit) cost	Non-service employee benefits expense	94	9	282	29
Total post-retirement medical benefit expense (income)		1,362	1,755	4,085	5,266

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

Note 10: Credit related arrangements, repurchase agreements and commitments

Commitments

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

The Bank has a facility by one of its custodians, whereby the Bank may offer up to US\$200 million of standby letters of credit to its customers on a fully secured basis. Under the standard terms of the facility, the custodian has the right to set-off against securities held of 110% of the utilized facility. At September 30, 2019, \$134.1 million (December 31, 2018: \$137.4 million) of standby letters of credit were issued under this facility.

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Outstanding unfunded commitments to extend credit	September 30, 2019	December 31, 2018
Commitments to extend credit	673,790	445,215
Documentary and commercial letters of credit	800	561
Total unfunded commitments to extend credit	674,590	445,776

Credit-Related Arrangements

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

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

Outstanding financial guarantees	September 30, 2019			December 31, 2018		
	Gross	Collateral	Net	Gross	Collateral	Net
Standby letters of credit	222,797	215,519	7,278	245,156	237,051	8,105
Letters of guarantee	13,985	13,767	218	2,685	2,599	86
Total	236,782	229,286	7,496	247,841	239,650	8,191

Repurchase agreements

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

As at September 30, 2019, the Bank had 3 open positions (December 31, 2018: 2) in resell agreements with a remaining maturity of less than 30 days involving pools of mortgages issued by US federal agencies. The amortized cost of these resell agreements is \$61.9 million (December 31, 2018: \$27.3 million) and are included in securities purchased under agreement to resell on the consolidated balance sheets. As at September 30, 2019, there were no positions (December 31, 2018: no positions) which were offset on the balance sheet to arrive at the carrying value, and there was no collateral amount which was available to offset against the future settlement amount.

Legal Proceedings

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

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

Management believes that as of September 30, 2019, a provision of \$5.5 million (December 31, 2018: \$5.5 million), which has been recorded, is appropriate. As the investigation remains ongoing at this time, the timing and terms of the final resolution, including any fines or penalties, remain uncertain and the financial impact to the Bank could exceed the amount of the provision. In this regard, we note that the US authorities have not approved or commented on the adequacy or reasonableness of the estimate. The provision is included on the consolidated balance sheets under other liabilities.

Note 11: Leases

The Bank enters into operating lease agreements either as the lessee or the lessor, mostly for office and parking spaces as well as for small office equipment. The terms of the existing leases, including renewal options that are reasonably certain to be exercised, extend up to the year 2035.

	Three months ended September 30, 2019	Nine months ended September 30, 2019
Lease costs		
Operating lease costs	1,873	4,453
Variable lease costs	—	—
Short-term lease costs	236	648
Sublease (income)	(231)	(239)
Total net lease cost	1,878	4,862
Operating lease income	285	873

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	Three months ended September 30, 2019	Nine months ended September 30, 2019
Other information for the period		
Right-of-use assets related to new operating lease liabilities	26,093	29,486
Operating cash flows from operating leases	1,925	4,612
Other information at end of period		
		As at September 30, 2019
Operating leases right-of-use assets (included in other assets on the balance sheets)		47,010
Operating leases liabilities (included in other liabilities on the balance sheets)		47,109
Weighted average remaining lease term for operating leases (in years)		10.64 years
Weighted average discount rate for operating leases		5.25%

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

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

Note 12: Segmented information

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

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

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

The **Bermuda** segment provides a full range of retail, commercial and private banking services. Retail services are offered to individuals and small to medium-sized businesses through four branch locations and through internet banking, mobile banking, automated teller machines ("ATMs") and debit cards. Retail services include deposit services, consumer and mortgage lending, credit cards and personal insurance products. Commercial banking includes commercial lending and mortgages, cash management, payroll services, remote banking and letters of credit. Treasury services include money market and foreign exchange activities. Bermuda's wealth management offering consists of Butterfield Asset Management Limited, which provides investment management, advisory and brokerage services and Butterfield Trust (Bermuda) Limited, which provides trust, estate, company management and custody services. Bermuda is also the location of the 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 **Channel Islands and the UK** segment includes the jurisdictions of Guernsey and Jersey (Channel Islands), and the UK. In the Channel Islands, a broad range of services are provided to private clients and financial institutions including private banking and treasury services, internet banking, wealth management and fiduciary services. The UK jurisdiction provides mortgage services for high-value residential properties.

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

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Total Assets by Segment	September 30, 2019	December 31, 2018
Bermuda	5,249,687	5,387,347
Cayman	4,009,620	3,705,468
Channel Islands and the UK	5,651,620	1,966,547
Other	33,632	30,035
Total assets before inter-segment eliminations	14,944,559	11,089,397
Less: inter-segment eliminations	(728,264)	(316,219)
Total	14,216,295	10,773,178

Three months ended September 30, 2019	Net interest income		Provision for credit recoveries (losses)	Non-interest income	Net revenue before gains and losses	Gains and losses	Total net revenue	Total expenses	Net income
	Customer	Inter- segment							
Bermuda	45,279	177	(591)	22,391	67,256	(47)	67,209	51,186	16,023
Cayman	27,660	280	228	12,548	40,716	570	41,286	15,230	26,056
Channel Islands and the UK	13,376	(457)	(48)	9,495	22,366	—	22,366	21,691	675
Other	13	—	—	5,439	5,452	—	5,452	5,769	(317)
Total before eliminations	86,328	—	(411)	49,873	135,790	523	136,313	93,876	42,437
Inter-segment eliminations	—	—	—	(3,227)	(3,227)	—	(3,227)	(3,227)	—
Total	86,328	—	(411)	46,646	132,563	523	133,086	90,649	42,437

Three months ended September 30, 2018	Net interest income		Provision for credit recoveries (losses)	Non-interest income	Net revenue before gains and losses	Gains and losses	Total net revenue	Total expenses	Net income
	Customer	Inter- segment							
Bermuda	52,861	631	2,928	21,220	77,640	629	78,269	51,052	27,217
Cayman	25,705	133	188	11,635	37,661	—	37,661	15,576	22,085
Channel Islands and the UK	9,707	(764)	(305)	6,667	15,305	25	15,330	13,061	2,269
Other	3	—	—	3,647	3,650	—	3,650	4,852	(1,202)
Total before eliminations	88,276	—	2,811	43,169	134,256	654	134,910	84,541	50,369
Inter-segment eliminations	—	—	—	(1,896)	(1,896)	—	(1,896)	(1,896)	—
Total	88,276	—	2,811	41,273	132,360	654	133,014	82,645	50,369

Nine months ended September 30, 2019	Net interest income		Provision for credit recoveries (losses)	Non-interest income	Net revenue before gains and losses	Gains and losses	Total net revenue	Total expenses	Net income
	Customer	Inter- segment							
Bermuda	138,595	1,156	(1,328)	66,424	204,847	1,909	206,756	157,372	49,384
Cayman	87,040	609	521	38,231	126,401	575	126,976	45,043	81,933
Channel Islands and the UK	33,787	(1,765)	1,359	23,177	56,558	—	56,558	53,136	3,422
Other	40	—	—	15,927	15,967	(17)	15,950	17,503	(1,553)
Total before eliminations	259,462	—	552	143,759	403,773	2,467	406,240	273,054	133,186
Inter-segment eliminations	—	—	—	(9,494)	(9,494)	—	(9,494)	(9,494)	—
Total	259,462	—	552	134,265	394,279	2,467	396,746	263,560	133,186

Nine months ended September 30, 2018	Net interest income		Provision for credit recoveries (losses)	Non-interest income	Net revenue before gains and losses	Gains and losses	Total net revenue	Total expenses	Net income
	Customer	Inter- segment							
Bermuda	153,585	1,877	5,736	64,264	225,462	744	226,206	150,547	75,659
Cayman	74,642	134	(347)	34,814	109,243	349	109,592	45,472	64,120
Channel Islands and the UK	27,326	(2,011)	(112)	20,160	45,363	(1,663)	43,700	36,817	6,883
Other	14	—	—	10,285	10,299	—	10,299	12,683	(2,384)
Total before eliminations	255,567	—	5,277	129,523	390,367	(570)	389,797	245,519	144,278
Inter-segment eliminations	—	—	—	(6,550)	(6,550)	—	(6,550)	(6,550)	—
Total	255,567	—	5,277	122,973	383,817	(570)	383,247	238,969	144,278

Note 13: Derivative instruments and risk management

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

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

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

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

Notional Amounts

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

Fair Value

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

Risk Management Derivatives

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

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

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

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

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

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

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

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

Client service derivatives

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

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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.

September 30, 2019	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	3	62,002	335	(1)	334
Derivatives not formally designated as hedging instruments	Currency swaps	9	224,007	208	(752)	(544)
Subtotal risk management derivatives			286,009	543	(753)	(210)
Client services derivatives						
	Spot and forward foreign exchange	455	2,771,885	17,172	(16,479)	693
Total derivative instruments			3,057,894	17,715	(17,232)	483

December 31, 2018	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	2,935	—	(32)	(32)
Derivatives not formally designated as hedging instruments	Currency swaps	8	235,875	269	(569)	(300)
Subtotal risk management derivatives			238,810	269	(601)	(332)
Client services derivatives						
	Spot and forward foreign exchange	288	2,064,762	13,331	(12,671)	660
Total derivative instruments			2,303,572	13,600	(13,272)	328

In addition to the above, as at September 30, 2019 foreign denominated deposits of £231.8 million (December 31, 2018: £124.5 million) and CHF 0.4 million (December 31, 2018: CHF 0.4 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.

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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.

September 30, 2019	Gross fair value recognized	Less: offset applied under master netting agreements	Net fair value presented in the consolidated balance sheets	Less: positions not offset in the consolidated balance sheets		Net exposures
				Gross fair value of derivatives	Cash collateral received / paid	
Derivative assets						
Spot and forward foreign exchange and currency swaps	17,715	(1,888)	15,827	(50)	(5,519)	10,258
Derivative liabilities						
Spot and forward foreign exchange and currency swaps	17,232	(1,888)	15,344	(50)	(272)	15,022
Net positive fair value			483			

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

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

Derivative instrument	Consolidated statements of operations line item	Three months ended		Nine months ended	
		September 30, 2019	September 30, 2018	September 30, 2019	September 30, 2018
Spot and forward foreign exchange	Foreign exchange revenue	321	(33)	33	(458)
Currency swaps, not designated as hedge	Foreign exchange revenue	(900)	(15,098)	(244)	2,099
Total net gains (losses) recognized in net income		(579)	(15,131)	(211)	1,641

Derivative instrument	Consolidated statements of comprehensive income line item	September 30, 2019	September 30, 2018	September 30, 2019	September 30, 2018
Currency swaps - net investment hedge	Net change in unrealized gains and (losses) on translation of net investment in foreign operations	339	—	366	—
Total net gains (losses) recognized in comprehensive income		339	—	366	—

Note 14: Fair value measurements

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

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

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

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

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

There were no transfers between Level 1 and Level 2 or Level 2 and Level 3 during the nine months ended September 30, 2019 and the year ended December 31, 2018.

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	September 30, 2019				December 31, 2018			
	Fair value			Total carrying amount / fair value	Fair value			Total carrying amount / fair value
	Level 1	Level 2	Level 3		Level 1	Level 2	Level 3	
Items that are recognized at fair value on a recurring basis:								
Financial assets								
Trading investments								
Mutual funds	6,914	292	—	7,206	6,176	319	—	6,495
Total trading	6,914	292	—	7,206	6,176	319	—	6,495
Available-for-sale investments								
US government and federal agencies	—	2,177,410	—	2,177,410	—	1,786,507	—	1,786,507
Non-US governments debt securities	—	25,276	—	25,276	—	25,425	—	25,425
Corporate debt securities	—	—	—	—	—	78,713	—	78,713
Asset-backed securities - Student loans	—	—	12,825	12,825	—	—	12,626	12,626
Commercial mortgage-backed securities	—	—	—	—	—	123,209	—	123,209
Residential mortgage-backed securities	—	140,814	—	140,814	—	156,269	—	156,269
Total available-for-sale	—	2,343,500	12,825	2,356,325	—	2,170,123	12,626	2,182,749
Other assets - Derivatives								
Other assets - Derivatives	—	15,827	—	15,827	—	11,564	—	11,564
Financial liabilities								
Other liabilities - Derivatives	—	15,344	—	15,344	—	11,236	—	11,236

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Level 3 Reconciliation

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

	Nine months ended September 30, 2019	Year ended December 31, 2018
	Available- for-sale investments	Available- for-sale investments
Carrying amount at beginning of period	12,626	12,493
Realized and unrealized gains (losses) recognized in other comprehensive income	199	133
Carrying amount at end of period	12,825	12,626

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

		September 30, 2019			December 31, 2018		
	Level	Carrying amount	Fair value	Appreciation / (depreciation)	Carrying amount	Fair value	Appreciation / (depreciation)
Financial assets							
Cash due from banks	Level 1	3,605,048	3,605,048	—	2,053,883	2,053,883	—
Securities purchased under agreement to resell	Level 2	61,921	61,921	—	27,341	27,341	—
Short-term investments	Level 1	793,348	793,348	—	52,336	52,336	—
Investments held-to-maturity	Level 2	2,298,820	2,355,098	56,278	2,066,120	2,036,214	(29,906)
Loans, net of allowance for credit losses	Level 2	4,673,306	4,690,994	17,688	4,043,889	4,047,262	3,373
Other real estate owned ¹	Level 2	3,908	3,908	—	5,346	5,346	—
Financial liabilities							
Customer deposits							
Demand deposits	Level 2	9,604,769	9,604,769	—	7,449,843	7,449,843	—
Term deposits	Level 2	3,022,766	3,026,433	(3,667)	1,968,576	1,970,004	(1,428)
Deposits from banks	Level 2	35,010	35,010	—	33,822	33,822	—
Long-term debt	Level 2	143,456	150,084	(6,628)	143,322	146,261	(2,939)

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

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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.

September 30, 2019		Earlier of contractual maturity or repricing date					
(in \$ millions)	Within 3 months	3 to 6 months	6 to 12 months	1 to 5 years	After 5 years	Non-interest bearing funds	Total
Assets							
Cash due from banks	3,206	—	—	—	—	399	3,605
Securities purchased under agreement to resell	62	—	—	—	—	—	62
Short-term investments	335	451	5	—	—	2	793
Investments	436	—	28	152	4,039	7	4,662
Loans	3,784	40	75	275	470	29	4,673
Other assets	—	—	—	—	—	421	421
Total assets	7,823	491	108	427	4,509	858	14,216
Liabilities and shareholders' equity							
Shareholders' equity	—	—	—	—	—	965	965
Demand deposits	7,575	—	—	—	—	2,061	9,636
Term deposits	2,090	286	548	103	—	—	3,027
Other liabilities	—	—	—	—	—	445	445
Long-term debt	70	—	—	73	—	—	143
Total liabilities and shareholders' equity	9,735	286	548	176	—	3,471	14,216
Interest rate sensitivity gap	(1,912)	205	(440)	251	4,509	(2,613)	—
Cumulative interest rate sensitivity gap	(1,912)	(1,707)	(2,147)	(1,896)	2,613	—	—
December 31, 2018		Earlier of contractual maturity or repricing date					
(in \$ millions)	Within 3 months	3 to 6 months	6 to 12 months	1 to 5 years	After 5 years	Non-interest bearing funds	Total
Assets							
Cash due from banks	1,930	—	—	—	—	124	2,054
Securities purchased under agreement to resell	27	—	—	—	—	—	27
Short-term investments	40	10	—	—	—	2	52
Investments	488	35	8	245	3,473	6	4,255
Loans	3,160	278	38	223	330	15	4,044
Other assets	—	—	—	—	—	341	341
Total assets	5,645	323	46	468	3,803	488	10,773
Liabilities and shareholders' equity							
Shareholders' equity	—	—	—	—	—	882	882
Demand deposits	5,357	—	—	—	—	2,120	7,477
Term deposits	1,245	228	432	70	—	—	1,975
Other liabilities	—	—	—	—	—	296	296
Long-term debt	70	—	—	73	—	—	143
Total liabilities and shareholders' equity	6,672	228	432	143	—	3,298	10,773
Interest rate sensitivity gap	(1,027)	95	(386)	325	3,803	(2,810)	—
Cumulative interest rate sensitivity gap	(1,027)	(932)	(1,318)	(993)	2,810	—	—

Note 16: Long-term debt

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

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

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

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

No interest was capitalized during the nine months ended September 30, 2019 and the year ended December 31, 2018.

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

The following table presents the contractual maturity and interest payments for long-term debt issued by the Bank as at September 30, 2019. The interest payments are calculated until contractual maturity using the current LIBOR rates.

Long-term debt	Earliest date redeemable at the Bank's option	Contractual maturity date	Interest rate until date redeemable	Interest rate from earliest date redeemable to contractual maturity	Principal Outstanding	Interest payments until contractual maturity		
						Within 1 year	1 to 5 years	After 5 years
Bermuda								
2005 issuance - Series B	July 2, 2015	July 2, 2020	5.11%	3 months US\$ LIBOR + 1.695%	45,000	1,742	—	—
2008 issuance - Series B	May 27, 2018	May 27, 2023	8.44%	3 months US\$ LIBOR + 4.929%	25,000	1,790	4,905	—
2018 issuance	June 1, 2023	June 1, 2028	5.25%	3 months US\$ LIBOR + 2.255%	75,000	3,938	15,980	12,458
Total					145,000	7,470	20,885	12,458
Unamortized debt issuance costs					(1,544)			
Long-term debt less unamortized debt issuance costs					143,456			

Note 17: Earnings per share

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

During the nine months ended September 30, 2019, options to purchase an average of 0.2 million (September 30, 2018: 0.4 million) common shares were outstanding. During the nine months ended September 30, 2019, the average number of outstanding awards of unvested common shares was 1.0 million (September 30, 2018: 1.0 million). Only awards for which the sum of 1) the expense that will be recognized in the future (i.e., the unrecognized expense) and 2) its exercise price, if any, was lower than the average market price of the Bank's common shares were considered dilutive and, therefore, included in the computation of diluted earnings per share. An award's unrecognized expense is also considered to be the proceeds the employees would need to pay to purchase accelerated vesting of the awards. For purposes of calculating dilution, such proceeds are assumed to be used by the Bank to buy back common shares at the average market price. The weighted-average number of outstanding awards, net of the assumed weighted-average number of common shares bought back, is included in the number of diluted participating shares.

	Three months ended		Nine months ended	
	September 30, 2019	September 30, 2018	September 30, 2019	September 30, 2018
Net income	42,437	50,369	133,186	144,278
Basic Earnings Per Share				
Weighted average number of common shares issued	53,972	55,250	54,646	55,099
Weighted average number of common shares held as treasury stock	(869)	—	(1,330)	—
Weighted average number of common shares (in thousands)	53,103	55,250	53,316	55,099
Basic Earnings Per Share	0.80	0.91	2.50	2.62
Diluted Earnings Per Share				
Weighted average number of common shares	53,103	55,250	53,316	55,099
Net dilution impact related to options to purchase common shares	117	193	123	249
Net dilution impact related to awards of unvested common shares	334	586	365	573
Weighted average number of diluted common shares (in thousands)	53,554	56,029	53,804	55,921
Diluted Earnings Per Share	0.79	0.90	2.48	2.58

Note 18: Share-based payments

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

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

Stock Option Awards

1997 Stock Option Plan

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

2010 Plan

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

Time vesting condition

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

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

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

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

Performance vesting condition

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

Changes in Outstanding Stock Options

Nine months ended September 30, 2019	Number of shares transferable upon exercise (thousands)			Weighted average exercise price (\$)		Weighted average remaining life (years)		Aggregate intrinsic value (\$ thousands)
	1997 Stock Option Plan	2010 Stock Option Plan	Total	1997 Stock Option Plan	2010 Stock Option Plan	1997 Stock Option Plan	2010 Stock Option Plan	
Outstanding at beginning of period	25	189	214	64.51	11.98			
Exercised	—	(5)	(5)	—	11.50			88
Expiration at end of plan life	(25)	—	(25)	64.51	—			
Outstanding at end of period	—	184	184	—	11.99	—	0.93	3,251
Vested and exercisable at end of period	—	184	184	—	11.99	—	0.93	

Nine months ended September 30, 2018	Number of shares transferable upon exercise (thousands)			Weighted average exercise price (\$)		Weighted average remaining life (years)		Aggregate intrinsic value (\$ thousands)
	1997 Stock Option Plan	2010 Stock Option Plan	Total	1997 Stock Option Plan	2010 Stock Option Plan	1997 Stock Option Plan	2010 Stock Option Plan	
Outstanding at beginning of period	58	476	534	113.46	11.73			
Exercised	—	(273)	(273)	—	11.56			9,791
Forfeitures and cancellations	(33)	—	(33)	150.46	—			
Outstanding at end of period	25	203	228	64.51	11.94	0.45	1.89	8,093
Vested and exercisable at end of period	25	203	228	64.51	11.94	0.45	1.89	

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

The grant date weighted average fair value of unvested share awards granted in the nine months ended September 30, 2019 was \$35.96 (December 31, 2018: \$39.25). The Bank expects to settle these awards by issuing new shares.

Employee Deferred Incentive Plan ("EDIP")

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

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

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

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

	Nine months ended			
	September 30, 2019		September 30, 2018	
	EDIP	ELTIP	EDIP	ELTIP
Outstanding at beginning of period	234	697	244	679
Granted	166	298	127	235
Vested (fair value in 2019: \$18.0 million, 2018: \$16.0 million)	(149)	(389)	(130)	(219)
Resignations, retirements, redundancies	(3)	(7)	(2)	(24)
Outstanding at end of period	248	599	239	671

Share-based Compensation Cost Recognized in Net Income

	Nine months ended					
	September 30, 2019			September 30, 2018		
	Stock option plans	EDIP and ELTIP	Total	Stock option plans	EDIP and ELTIP	Total
Cost recognized in net income	—	13,906	13,906	—	8,558	8,558

Unrecognized Share-based Compensation Cost

	September 30, 2019		December 31, 2018	
	Unrecognized cost	Weighted average years over which it is expected to be recognized	Unrecognized cost	Weighted average years over which it is expected to be recognized
EDIP	5,798	1.84	4,442	1.73
ELTIP				
Time vesting shares	255	0.59	1,746	1.03
Performance vesting shares	11,120	1.97	7,880	1.85
Total unrecognized expense	17,173		14,068	

Note 19: Share buy-back plans

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

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

Common Share Buy-Back Program

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

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

In the nine months ended September 30, 2019, the Bank canceled 2,120,000 shares which were previously held as Treasury Shares resulting from these buybacks.

	Nine months ended		Year ended December 31			
	September 30, 2019	2018	2017	2016	2015	Total
Common share buy-backs						
Acquired number of shares (to the nearest 1)	1,485,000	1,254,212	—	97,053	250,371	3,086,636
Average cost per common share	36.18	38.62	—	16.36	19.42	35.19
Total cost (in US dollars)	53,729,102	48,442,768	—	1,588,189	4,862,248	108,622,307

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Note 20: Accumulated other comprehensive loss

Nine months ended September 30, 2019	Unrealized (losses) on translation of net investment in foreign operations	HTM investments	Unrealized gains (losses) on AFS investments	Employee benefit plans			Total AOCL
				Pension	Post-retirement healthcare	Subtotal - employee benefits plans	
Balance at beginning of period	(19,866)	(796)	(43,630)	(64,892)	(19,343)	(84,235)	(148,527)
Other comprehensive income (loss), net of taxes	(1,608)	38	57,597	2,341	486	2,827	58,854
Balance at end of period	(21,474)	(758)	13,967	(62,551)	(18,857)	(81,408)	(89,673)

Nine months ended September 30, 2018	Unrealized (losses) on translation of net investment in foreign operations	HTM investments	Unrealized gains (losses) on AFS investments	Employee benefit plans			Total AOCL
				Pension	Post-retirement healthcare	Subtotal - employee benefits plans	
Balance at beginning of period	(17,549)	(839)	(15,737)	(61,341)	(33,586)	(94,927)	(129,052)
Other comprehensive income (loss), net of taxes	(1,501)	31	(46,193)	427	1,990	2,417	(45,246)
Balance at end of period	(19,050)	(808)	(61,930)	(60,914)	(31,596)	(92,510)	(174,298)

Net Change of AOCL Components

Net Change of AOCL Components		Three months ended		Nine months ended	
		September 30, 2019	September 30, 2018	September 30, 2019	September 30, 2018
Line item in the consolidated statements of operations, if any					
Net unrealized gains (losses) on translation of net investment in foreign operations adjustments					
Foreign currency translation adjustments	N/A	(9,154)	(2,325)	(10,016)	(9,358)
Gains (loss) on net investment hedge	N/A	7,809	1,846	8,408	7,857
Net change		(1,345)	(479)	(1,608)	(1,501)
Held-to-maturity investment adjustments					
Amortization of net gains (losses) to net income	Interest income on investments	12	7	38	31
Net change		12	7	38	31
Available-for-sale investment adjustments					
Gross unrealized gains (losses)	N/A	14,065	(11,274)	59,106	(44,841)
Transfer of realized (gains) losses to net income	Net realized gains (losses) on AFS investments	(537)	(458)	(1,509)	(1,352)
Net change		13,528	(11,732)	57,597	(46,193)
Employee benefit plans adjustments					
Defined benefit pension plan					
Net actuarial gain (loss)	N/A	—	—	—	(3,236)
Net loss (gain) on settlement reclassified to net income	Net other gains (losses)	—	—	—	1,554
Amortization of net actuarial (gains) losses	Non-service employee benefits expense	608	524	1,834	1,575
Amortization of prior service (credit) cost	Non-service employee benefits expense	5	—	15	—
Foreign currency translation adjustments of related balances	N/A	436	158	492	534
Net change		1,049	682	2,341	427
Post-retirement healthcare plan					
Amortization of net actuarial (gains) losses	Non-service employee benefits expense	68	654	204	1,961
Amortization of prior service (credit) cost	Non-service employee benefits expense	94	9	282	29
Net change		162	663	486	1,990
Other comprehensive income (loss), net of taxes		13,406	(10,859)	58,854	(45,246)

Note 21: Capital structure

Authorized Capital

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

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

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

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

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

Dividends Declared

During the nine months ended September 30, 2019, the Bank paid cash dividends of \$1.32 (September 30, 2018: \$1.14) for each common share as of the related record dates.

The Bank is required to comply with Section 54 of the Companies Act 1981 issued by the Government of Bermuda (the "Companies Act") each time a dividend is declared or paid by the Bank and also obtain a letter of no objection 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's letter of no objection for all dividends declared during the periods presented.

Regulatory Capital

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

The Bank is fully compliant with all regulatory capital requirements and maintains capital ratios in excess of regulatory minimums as at September 30, 2019 and December 31, 2018. The following table sets forth the Bank's capital adequacy in accordance with the Basel III framework:

	September 30, 2019		December 31, 2018	
	Actual	Regulatory minimum	Actual	Regulatory minimum
Capital				
CET 1 capital	850,118	N/A	846,043	N/A
Tier 1 capital	850,118	N/A	846,043	N/A
Tier 2 capital	107,005	N/A	121,521	N/A
Total capital	957,123	N/A	967,564	N/A
Risk Weighted Assets	4,876,752	N/A	4,321,354	N/A
Leverage Ratio Exposure Measure	14,686,500	N/A	11,139,677	N/A
Capital Ratios (%)				
CET 1 capital	17.4%	10.0%	19.6%	9.4%
Tier 1 capital	17.4%	11.5%	19.6%	10.9%
Total capital	19.6%	16.3%	22.4%	15.6%
Leverage ratio	5.8%	5.0%	7.6%	5.0%

Note 22: Business combinations

Deutsche Bank's Global Trust Solutions Acquisition

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

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

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

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

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

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

Asset Acquisition

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

ABN AMRO (Channel Islands) Limited

On April 25, 2019, the Bank announced that it entered into an agreement to acquire all the outstanding shares of ABN AMRO (Channel Islands) Limited ("ABN AMRO Channel Islands"), the Channel Islands-based banking subsidiary of ABN AMRO Bank N.V. via one of the Bank's subsidiaries, Butterfield Bank (Guernsey) Limited. ABN AMRO Channel Islands offers banking, investment management and custody products to three distinct client groups, including trusts, private clients, and funds.

This agreement is part of the Bank's strategy to grow through acquisitions in offshore markets where the Bank already has scale and expertise in order to create an organization with a widened and diversified offering.

On July 15, 2019, the transaction completed as planned and the aggregate purchase price of £160.7 million (\$201.1 million) was paid in cash. Over the coming 12 months following the acquisition, it is expected that ABN AMRO Channel Islands' business and employees will be integrated with the existing Butterfield Guernsey operations and operate under the Butterfield name. Management is still in the process of finalizing the allocation of the purchase price to the various assets acquired and liabilities assumed (including intangible assets and goodwill). In addition to the provisional figures noted below, on July 15, 2019, ABN AMRO Channel Islands had estimated clients' assets under management and custody of \$8.2 billion.

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The provisional fair value of the net assets acquired and allocation of purchase price is summarized as follows:

	As at July 15, 2019
Total consideration transferred	201,107
Assets acquired	
Cash due from banks	3,016,859
Loans	654,503
Intangible assets - Customer relationships	24,371
Other assets	31,674
Total assets acquired	3,727,407
Liabilities assumed	
Deposits liabilities	(3,493,239)
Other liabilities	(33,061)
Total (liabilities) assumed	(3,526,300)
Excess purchase price (Goodwill)	—

The acquired customer relationships intangible assets have an estimated finite useful life of 15 years.

The Bank incurred legal and professional transaction expenses related to this acquisition in the amount of \$5.3 million all of which incurred and expensed during the nine months ended September 30, 2019.

For the period beginning on July 15, 2019 (i.e. acquisition date) to September 30, 2019, the amount of revenues and earnings relating to the acquired ABN AMRO Channel Islands operations that were not inextricably merged into the Bank's operations were \$5.8 million and a net loss of \$0.7 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 ABN AMRO Channel Islands operations, assuming the transaction had been effected on January 1, 2018. 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 realized by ABN AMRO Channel Islands from January 1, 2018 to July 15, 2019.

Unaudited pro forma financial information	Three months ended		Nine months ended	
	September 30, 2019	September 30, 2018	September 30, 2019	September 30, 2018
Total net revenue	134,833	144,508	419,459	417,728
Total non-interest operating (expense)	91,975	89,818	280,803	260,489
Pro forma net income post business combination	42,858	54,690	138,656	157,239

Note 23: Related party transactions

Financing Transactions

Certain directors and executives of the Bank, companies in which they are principal owners and/or members of the board, and trusts in which they are involved, have loans with the Bank. Loans to directors were made in the ordinary course of business at normal credit terms, including interest rate and collateral requirements. Loans to executives may be eligible to preferential rates. As at September 30, 2019, related party director and executive loan balances were \$34.4 million (December 31, 2018: \$97.2 million). During the nine months ended September 30, 2019, new issuance of loans to related parties were \$38.7 million and repayments and change in directorships were \$101.6 million (year ended December 31, 2018: \$77.3 million and \$11.0 million, respectively). All of these loans were considered performing loans as at September 30, 2019 and December 31, 2018. For the nine months ended September 30, 2019, the Bank has recognized \$3.3 million (September 30, 2018: \$4.0 million) of loan interest revenue in the consolidated statement of operations relating to directors and executives, companies in which they are principal owners and/or members of the board and trusts in which they are involved.

Certain directors and executives of the Bank, companies in which they are principal owners, and trusts in which they are involved, have deposits with the Bank. As at September 30, 2019, related party director and executive deposit balances were \$12.0 million (December 31, 2018: \$17.2 million).

Certain affiliates of the Bank have loans and deposits with the Bank. The loans were made and the deposits are maintained in the ordinary course of business on normal commercial terms. At September 30, 2019, affiliates had loan balances of \$10.0 million (December 31, 2018: \$10.2 million) and deposit balances of \$0.4 million (December 31, 2018: \$0.4 million). For the nine months ended September 30, 2019, the Bank has recognized \$1.3 million (September 30, 2018: \$1.3 million) of non-interest expenses and \$0.5 million (September 30, 2018: \$0.5 million) of loan interest revenue in the consolidated statement of operations relating to affiliates which the Bank holds investments in.

Financial Transactions With Related Parties

The Bank holds seed investments in several Butterfield mutual funds, which are managed by a wholly-owned subsidiary of the Bank. As at September 30, 2019, these investments have a fair value of \$6.9 million with an unrealized gain of \$1.9 million (December 31, 2018: \$6.2 million and \$1.2 million, respectively) and were included in trading investments at their fair value. As at September 30, 2019, several Butterfield mutual funds which are managed by a wholly owned subsidiary of the Bank, had loan balances of \$2.1 million (December 31, 2018: \$1.8 million) and deposit balances of \$13.3 million (December 31, 2018: \$36.7 million). During the nine months ended September 30, 2019, the Bank earned \$7.8 million (September 30, 2018: \$7.0 million) in asset management revenue from funds managed by a wholly-owned subsidiary of the Bank. During the nine months ended September 30, 2019, the Bank earned \$1.1 million (September 30, 2018: \$1.0 million) in custody and other administration services revenue from funds managed by a wholly-owned subsidiary of the Bank and directors and executives, companies in which they are principal owners and/or members of the board and trusts in which they are involved. During the nine months ended September 30, 2019, the Bank earned \$0.7 million (September 30, 2018: \$0.7 million) in other income from other related parties.

Note 24: Subsequent events

On October 22, 2019, the Board of Directors declared an interim dividend of \$0.44 per common share to be paid on November 15, 2019 to shareholders of record on November 4, 2019.