

FINANCIAL REPORT FOR THE THREE MONTHS ENDED MARCH 31, 2023

THE BANK OF N.T. BUTTERFIELD & SON LIMITED



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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	
	March 31, 2023	December 31, 2022
Assets		
Cash and demand deposits with banks - Non-interest bearing	97,646	93,032
Demand deposits with banks - Interest bearing	222,043	258,239
Cash equivalents - Interest bearing	1,025,111	1,749,516
Cash and cash equivalents	1,344,800	2,100,787
Securities purchased under agreements to resell	171,330	59,871
Short-term investments	1,091,752	884,478
Investment in securities		
Equity securities at fair value	—	236
Available-for-sale at fair value (amortized cost: \$2,182,842 (2022: \$2,209,078))	1,991,333	1,988,865
Held-to-maturity (fair value: \$3,184,888 (2022: \$3,197,508))	3,673,973	3,738,080
Total investment in securities	5,665,306	5,727,181
Loans		
Loans	5,046,988	5,121,391
Allowance for credit losses	(25,364)	(24,961)
Loans, net of allowance for credit losses	5,021,624	5,096,430
Premises, equipment and computer software, net	149,120	146,141
Goodwill	23,362	22,892
Other intangible assets, net	50,694	51,478
Equity method investments	12,837	12,484
Other real estate owned, net	1,195	800
Accrued interest and other assets	200,678	203,520
Total assets	13,732,698	14,306,062
Liabilities		
Deposits		
Non-interest bearing	2,986,254	3,039,701
Interest bearing	9,361,863	9,951,375
Total deposits	12,348,117	12,991,076
Employee benefit plans	92,208	92,018
Accrued interest and other liabilities	183,079	185,864
Total other liabilities	275,287	277,882
Long-term debt	172,393	172,289
Total liabilities	12,795,797	13,441,247
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: 50,447,997 (2022: 50,277,466)	504	503
Additional paid-in capital	1,035,074	1,032,632
Retained earnings (Accumulated deficit)	267,169	229,732
Less: treasury common shares, at cost: 619,212 (2022: 619,212)	(20,511)	(20,600)
Accumulated other comprehensive income (loss)	(345,335)	(377,452)
Total shareholders' equity	936,901	864,815
Total liabilities and shareholders' equity	13,732,698	14,306,062

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

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

	Three months ended	
	March 31, 2023	March 31, 2022
Non-interest income		
Asset management	7,938	7,471
Banking	13,600	12,677
Foreign exchange revenue	10,712	12,433
Trust	12,838	12,738
Custody and other administration services	3,336	3,590
Other non-interest income	1,761	1,011
Total non-interest income	50,185	49,920
Interest income		
Interest and fees on loans	77,488	54,056
Investments (none of the investment securities are intrinsically tax-exempt)		
Available-for-sale	8,908	11,868
Held-to-maturity	20,921	15,563
Cash and cash equivalents, securities purchased under agreements to resell and short-term investments	27,138	1,037
Total interest income	134,455	82,524
Interest expense		
Deposits	34,696	4,257
Long-term debt	2,400	2,400
Securities sold under agreement to repurchase	4	—
Total interest expense	37,100	6,657
Net interest income before provision for credit losses	97,355	75,867
Provision for credit (losses) recoveries	(671)	700
Net interest income after provision for credit losses	96,684	76,567
Net gains (losses) on equity securities	50	(56)
Net realized gains (losses) on available-for-sale investments	(8)	—
Net gains (losses) on other real estate owned	59	(26)
Net other gains (losses)	9	885
Total other gains (losses)	110	803
Total net revenue	146,979	127,290
Non-interest expense		
Salaries and other employee benefits	42,331	40,083
Technology and communications	13,929	14,104
Professional and outside services	5,033	5,058
Property	7,436	7,915
Indirect taxes	5,747	5,939
Non-service employee benefits expense	1,398	925
Marketing	1,503	1,481
Amortization of intangible assets	1,418	1,479
Other expenses	5,311	4,980
Total non-interest expense	84,106	81,964
Net income before income taxes	62,873	45,326
Income tax benefit (expense)	(669)	(975)
Net income	62,204	44,351
Earnings per common share		
Basic earnings per share	1.25	0.90
Diluted earnings per share	1.24	0.89

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

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

	Three months ended	
	March 31, 2023	March 31, 2022
Net income	62,204	44,351
Other comprehensive income (loss), net of taxes		
Unrealized net gains (losses) on translation of net investment in foreign operations	(44)	(999)
Net changes on investments transferred to held-to-maturity	2,027	(45,792)
Unrealized net gains (losses) on available-for-sale investments	29,816	(111,705)
Employee benefit plans adjustments	318	861
Other comprehensive income (loss), net of taxes	32,117	(157,635)
Total comprehensive income (loss)	94,321	(113,284)

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

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

	Three months ended			
	March 31, 2023		March 31, 2022	
	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	50,277,466	503	49,911,351	499
Retirement of shares	(144,929)	(2)	(102,000)	(1)
Issuance of common shares	315,460	3	402,612	4
Balance at end of period	50,447,997	504	50,211,963	502
Additional paid-in capital				
Balance at beginning of period		1,032,632		1,017,640
Share-based compensation		4,493		3,320
Retirement of shares		(2,051)		(2,080)
Issuance of common shares, net of underwriting discounts and commissions		—		(4)
Balance at end of period		1,035,074		1,018,876
Retained earnings (Accumulated deficit)				
Balance at beginning of period		229,732		104,329
Net Income for the period		62,204		44,351
Common share cash dividends declared and paid, \$0.44 per share (2022: \$0.44 per share)		(21,975)		(21,833)
Retirement of shares		(2,792)		(1,274)
Balance at end of period		267,169		125,573
Treasury common shares				
Balance at beginning of period	619,212	(20,600)	619,212	(20,058)
Purchase of treasury common shares	144,929	(4,756)	102,000	(3,897)
Retirement of shares	(144,929)	4,845	(102,000)	3,355
Balance at end of period	619,212	(20,511)	619,212	(20,600)
Accumulated other comprehensive income (loss)				
Balance at beginning of period		(377,452)		(124,917)
Other comprehensive income (loss), net of taxes		32,117		(157,635)
Balance at end of period		(345,335)		(282,552)
Total shareholders' equity		936,901		841,799

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

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

	Three months ended	
	March 31, 2023	March 31, 2022
Cash flows from operating activities		
Net income	62,204	44,351
Adjustments to reconcile net income to operating cash flows		
Depreciation and amortization	8,279	11,395
Provision for credit losses (recoveries)	671	(700)
Share-based payments and settlements	4,496	3,320
Net change in equity securities at fair value	(50)	56
Net realized (gains) losses on available-for-sale investments	8	—
Net (gains) losses on other real estate owned	(59)	26
(Increase) decrease in carrying value of equity method investments	(398)	205
Dividends received from equity method investments	45	45
Net other non-cash movements	1,089	—
Changes in operating assets and liabilities		
(Increase) decrease in accrued interest receivable and other assets	5,974	(3,074)
Increase (decrease) in employee benefit plans, accrued interest payable and other liabilities	(5,100)	5,550
Cash provided by (used in) operating activities	77,159	61,174
Cash flows from investing activities		
(Increase) decrease in securities purchased under agreements to resell	(111,459)	96,107
Short-term investments other than restricted cash: proceeds from maturities and sales	434,281	792,800
Short-term investments other than restricted cash: purchases	(617,650)	(1,222,224)
Available-for-sale investments: proceeds from sale	2,993	—
Available-for-sale investments: proceeds from maturities and pay downs	27,086	92,569
Available-for-sale investments: purchases	—	(24,498)
Held-to-maturity investments: proceeds from maturities and pay downs	61,228	116,754
Held-to-maturity investments: purchases	—	(232,768)
Net (increase) decrease in loans	118,460	111,933
Additions to premises, equipment and computer software	(7,077)	(7,059)
Proceeds from sale of other real estate owned	—	359
Cash provided by (used in) investing activities	(92,138)	(276,027)
Cash flows from financing activities		
Net increase (decrease) in deposits	(713,634)	193,166
Common shares repurchased	(4,756)	(3,897)
Cash dividends paid on common shares	(21,975)	(21,833)
Cash provided by (used in) financing activities	(740,365)	167,436
Net effect of exchange rates on cash, cash equivalents and restricted cash	5,813	(29,947)
Net increase (decrease) in cash, cash equivalents and restricted cash	(749,531)	(77,364)
Cash, cash equivalents and restricted cash: beginning of period	2,116,546	2,203,497
Cash, cash equivalents and restricted cash: end of period	1,367,015	2,126,133
Components of cash, cash equivalents and restricted cash at end of period		
Cash and cash equivalents	1,344,800	2,102,862
Restricted cash included in short-term investments on the consolidated balance sheets	22,215	23,271
Total cash, cash equivalents and restricted cash at end of period	1,367,015	2,126,133
Supplemental disclosure of non-cash items		
Transfer of available-for-sale investments to held-to-maturity investments	—	665,753
Initial recognition of right-of-use assets and operating lease liabilities	—	138

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

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

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. Butterfield also has operations in the jurisdictions of The Bahamas, Canada, Mauritius, Singapore and Switzerland, which are included in our Other segment.

The Bank's common shares trade on the New York Stock Exchange under the symbol "NTB" and on the Bermuda Stock Exchange ("BSX") under the symbol "NTB.BH".

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 ("GAAP") for interim financial information and should be read in conjunction with the Bank's audited financial statements for the year ended December 31, 2022.

In the opinion of Management, these unaudited interim consolidated financial statements reflect all adjustments (consisting primarily 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 GAAP requires Management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the unaudited consolidated financial statements and the reported amounts of revenues and expenses during the reporting period, and 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 of financial instruments
- Impairment of goodwill
- Employee benefit plans
- Share-based compensation

New Accounting Standards

Troubled Debt Restructurings and Vintage Disclosures

Beginning January 1, 2023, the Bank adopted Accounting Standards Update ("ASU") 2022-02, Financial Instruments - Credit Losses (Topic 326), Troubled Debt Restructurings and Vintage Disclosures. This ASU eliminates the accounting guidance for troubled debt restructurings ("TDRs") by creditors that have adopted the CECL model while enhancing disclosure requirements for loan refinancings and restructurings made with borrowers experiencing financial difficulty. In addition, this ASU also requires disclosure of current period gross charge-offs by year of origination. The Bank has elected to adopt these amendments on a prospective basis.

Accordingly, from the date of adoption, the Bank will evaluate whether a modified loan represents a new loan or a continuation of an existing loan. If the effective yield on the restructured loan is at least equal to the effective yield for comparable loans with similar collection risks and the modifications to the original loan are more than minor, the Bank will derecognize the existing loan and recognize the restructured loan as a new loan. If a loan restructuring does not meet these conditions, the Bank will account for the modification as a continuation of the existing loan. See Note 6: Loans for the new required disclosures.

New Accounting Pronouncements

There were no accounting developments issued during the three months ended March 31, 2023 or accounting standards pending adoption which impacted the Bank.

Note 3: Cash and cash equivalents

	March 31, 2023	December 31, 2022
Non-interest bearing		
Cash and demand deposits with banks	97,646	93,032
Interest bearing¹		
Demand deposits with banks	222,043	258,239
Cash equivalents	1,025,111	1,749,516
Sub-total - Interest bearing	1,247,154	2,007,755
Total cash and cash equivalents	1,344,800	2,100,787

¹ Interest bearing cash and cash equivalents includes certain demand deposits with banks as at March 31, 2023 in the amount of \$112.2 million (December 31, 2022: \$157.2 million) that are earning interest at a negligible rate.

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

Note 4: Short-term investments

	March 31, 2023	December 31, 2022
Unrestricted		
Maturing within three months	806,453	390,540
Maturing between three to six months	209,364	421,734
Maturing between six to twelve months	53,720	56,445
Total unrestricted short-term investments	1,069,537	868,719
Affected by drawing restrictions related to minimum reserve and derivative margin requirements		
Interest earning demand and term deposits	22,215	15,759
Total restricted short-term investments	22,215	15,759
Total short-term investments	1,091,752	884,478

Note 5: Investment in securities

Amortized Cost, Carrying Amount and Fair Value

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

	March 31, 2023				December 31, 2022			
	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
Equity securities								
Mutual funds	—	—	—	—	724	—	(488)	236
Total equity securities	—	—	—	—	724	—	(488)	236
Available-for-sale								
US government and federal agencies	1,890,832	27	(179,411)	1,711,448	1,919,285	14	(206,523)	1,712,776
Non-US governments debt securities	268,485	—	(10,057)	258,428	262,892	—	(11,429)	251,463
Asset-backed securities - Student loans	2,640	—	(7)	2,633	5,640	—	(14)	5,626
Residential mortgage-backed securities	20,885	—	(2,061)	18,824	21,261	—	(2,261)	19,000
Total available-for-sale	2,182,842	27	(191,536)	1,991,333	2,209,078	14	(220,227)	1,988,865
Held-to-maturity¹								
US government and federal agencies	3,673,973	—	(489,085)	3,184,888	3,738,080	—	(540,572)	3,197,508
Total held-to-maturity	3,673,973	—	(489,085)	3,184,888	3,738,080	—	(540,572)	3,197,508

¹ For the three months ended March 31, 2023, and the three months ended March 31, 2022, impairments recognized in other comprehensive loss for HTM investments were nil.

Investments with Unrealized Loss Positions

The Bank does not believe that the AFS debt securities that were in an unrealized loss position as of March 31, 2023, comprising 163 securities representing 99.8% of the AFS portfolios' carrying value (December 31, 2022: 163 and 99.8%), represent credit losses. Total gross unrealized AFS losses were 9.6% of the fair value of the affected securities (December 31, 2022: 11.1%).

The Bank's HTM debt securities are comprised of US government and federal agencies securities and have a zero credit loss assumption under the CECL model. HTM debt securities that were in an unrealized loss position as of March 31, 2023, were comprised of 220 securities representing 100.0% of the HTM portfolios' carrying value (December 31, 2022: 220 and 100.0%). Total gross unrealized HTM losses were 15.4% of the fair value of affected securities (December 31, 2022: 16.9%).

Management does not intend to sell and it is likely that management will not be required to sell the securities prior to the anticipated recovery of the cost of these securities. Unrealized losses were attributable primarily to changes in market interest rates, relative to when the investment securities were purchased, and not due to a decrease in the credit quality of the investment securities. The issuers continue to make timely principal and interest payments on the 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.

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

Investments in **Residential mortgage-backed securities** relates to 13 securities (December 31, 2022: 13) 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 loan-to-value ratios range from 15.6% - 49.0% and 47.0% - 55.6%, respectively. Current credit support is significantly greater than any delinquencies experienced on the underlying mortgages.

In the following tables, debt securities with unrealized losses that are not deemed to be credit impaired and for which an allowance for credit losses has not been recorded 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		Total fair value	Total gross unrealized losses
	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses		
March 31, 2023						
Available-for-sale securities with unrealized losses						
US government and federal agencies	193,976	(8,417)	1,513,619	(170,994)	1,707,595	(179,411)
Non-US governments debt securities	—	—	258,428	(10,057)	258,428	(10,057)
Asset-backed securities - Student loans	—	—	2,633	(7)	2,633	(7)
Residential mortgage-backed securities	1,364	(147)	17,459	(1,914)	18,823	(2,061)
Total available-for-sale securities with unrealized losses	195,340	(8,564)	1,792,139	(182,972)	1,987,479	(191,536)
Held-to-maturity securities with unrealized losses						
US government and federal agencies	813,281	(51,015)	2,371,606	(438,070)	3,184,887	(489,085)

	Less than 12 months		12 months or more		Total fair value	Total gross unrealized losses
	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses		
December 31, 2022						
Available-for-sale securities with unrealized losses						
US government and federal agencies	713,462	(68,016)	995,154	(138,507)	1,708,616	(206,523)
Non-US governments debt securities	—	—	251,463	(11,429)	251,463	(11,429)
Asset-backed securities - Student loans	—	—	5,626	(14)	5,626	(14)
Residential mortgage-backed securities	14,474	(1,618)	4,526	(643)	19,000	(2,261)
Total available-for-sale securities with unrealized losses	727,936	(69,634)	1,256,769	(150,593)	1,984,705	(220,227)
Held-to-maturity securities with unrealized losses						
US government and federal agencies	1,462,005	(142,228)	1,735,504	(398,344)	3,197,509	(540,572)

Investment Maturities

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

	Remaining term to maturity						Carrying amount
	Within 3 months	3 to 12 months	1 to 5 years	5 to 10 years	Over 10 years	No specific or single maturity	
March 31, 2023							
Available-for-sale							
US government and federal agencies	—	161,833	637,316	53,353	—	858,946	1,711,448
Non-US governments debt securities	—	171,889	86,539	—	—	—	258,428
Asset-backed securities - Student loans	—	—	—	—	—	2,633	2,633
Residential mortgage-backed securities	—	—	—	—	—	18,824	18,824
Total available-for-sale	—	333,722	723,855	53,353	—	880,403	1,991,333
Held-to-maturity							
US government and federal agencies	—	—	—	—	—	3,673,973	3,673,973

Pledged Investments

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

	March 31, 2023		December 31, 2022	
	Amortized cost	Fair value	Amortized cost	Fair value
Pledged Investments				
Held-to-maturity	34,494	26,529	32,938	24,991

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

Sale Proceeds and Realized Gains and Losses of AFS Securities

	Three months ended							
	March 31, 2023				March 31, 2022			
	Sale proceeds	Gross realized gains	Gross realized (losses)	Transfers to HTM	Sale proceeds	Gross realized gains	Gross realized (losses)	Transfers to HTM ¹
Asset-backed securities - Student loans	2,993	—	(8)	—	—	—	—	—
US government and federal agencies	—	—	—	—	—	—	—	665,753
Total	2,993	—	(8)	—	—	—	—	665,753

¹During the three months ended March 31, 2022, certain investments were transferred out of the AFS categorization and into HTM. The transfers were recorded at fair value of the securities on the date of transfer. The related net unrealized losses of \$46.2 million that were recorded in AOCIL will be accreted over the remaining life of the transferred investments using the effective interest rate method.

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.

Note 6: Loans

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 and business loans are generally repayable over terms not exceeding five years. Government loans are repayable over a variety of terms which are individually negotiated. Amounts owing on credit cards are revolving and typically a minimum amount is due within 30 days from billing. The credit card portfolio is managed as a single portfolio and includes consumer and business cards. The effective yield on total loans as at March 31, 2023 is 6.2% (December 31, 2022: 5.91%). The interest receivable on total loans as at March 31, 2023 is \$9.4 million (December 31, 2022: \$16.6 million). The interest receivable is included in Accrued interest and other assets on the consolidated balance sheets and is excluded from all loan amounts disclosed in this note.

Loans' Credit Quality

The four credit quality classifications set out in the following tables 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. Loans' internal credit ratings are assigned by the Bank's customer relationship managers as well as members of the Bank's jurisdictional and Group Credit Committees. The borrowers' financial condition is documented at loan origination and maintained periodically thereafter at a frequency which can be up to monthly for certain loans. The loans' performing status, as well as current economic trends, are continuously monitored. The Bank's jurisdictional and Group Credit Committees meet on a monthly basis. The Bank also has a Group Provisions and Impairments Committee which is responsible for approving significant provisions and other impairment charges.

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. Loans in this category are reviewed by the Bank's management on at least an annual basis.

A **special mention** loan shall mean a loan under close monitoring by the Bank's management on at least a quarterly basis. Loans in this category are currently still performing, 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. Loans in this category are under close monitoring by the Bank's management on at least a quarterly basis.

A **non-accrual** loan shall mean either management is of the opinion full payment of principal or interest is in doubt or that the principal or interest is 90 days past due unless it is a residential mortgage loan which is well secured and collection efforts are reasonably expected to result in amounts due. Loans in this category are under close monitoring by the Bank's management on at least a quarterly basis.

The Bank of N.T. Butterfield & Son Limited
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The amortized cost of loans by credit quality classifications and allowance for expected credit losses by class of loans is as follows:

March 31, 2023	Pass	Special mention	Substandard	Non-accrual	Total amortized cost	Allowance for expected credit losses	Total net loans
Commercial loans							
Government	275,252	—	—	—	275,252	(1,312)	273,940
Commercial and industrial	284,363	—	905	18,439	303,707	(10,183)	293,524
Commercial overdrafts	114,560	121	505	4	115,190	(404)	114,786
Total commercial loans	674,175	121	1,410	18,443	694,149	(11,899)	682,250
Commercial real estate loans							
Commercial mortgage	595,638	2,128	5,657	3,145	606,568	(842)	605,726
Construction	9,663	—	—	—	9,663	—	9,663
Total commercial real estate loans	605,301	2,128	5,657	3,145	616,231	(842)	615,389
Consumer loans							
Automobile financing	20,007	—	—	137	20,144	(98)	20,046
Credit card	72,777	—	384	—	73,161	(1,996)	71,165
Overdrafts	44,459	—	—	5	44,464	(347)	44,117
Other consumer ¹	49,141	—	1,628	687	51,456	(865)	50,591
Total consumer loans	186,384	—	2,012	829	189,225	(3,306)	185,919
Residential mortgage loans	3,365,060	29,712	119,574	33,037	3,547,383	(9,317)	3,538,066
Total	4,830,920	31,961	128,653	55,454	5,046,988	(25,364)	5,021,624

¹ Other consumer loans' amortized cost includes \$8 million of cash and portfolio secured lending and \$35 million of lending secured by buildings in construction or other collateral.

December 31, 2022	Pass	Special mention	Substandard	Non-accrual	Total amortized cost	Allowance for expected credit losses	Total net loans
Commercial loans							
Government	281,518	—	—	—	281,518	(1,368)	280,150
Commercial and industrial	298,137	—	796	18,461	317,394	(10,359)	307,035
Commercial overdrafts	123,874	—	632	45	124,551	(416)	124,135
Total commercial loans	703,529	—	1,428	18,506	723,463	(12,143)	711,320
Commercial real estate loans							
Commercial mortgage	613,090	2,082	1,503	3,182	619,857	(884)	618,973
Construction	7,474	—	—	—	7,474	—	7,474
Total commercial real estate loans	620,564	2,082	1,503	3,182	627,331	(884)	626,447
Consumer loans							
Automobile financing	20,673	—	—	161	20,834	(93)	20,741
Credit card	77,419	—	295	—	77,714	(1,043)	76,671
Overdrafts	44,414	—	—	6	44,420	(355)	44,065
Other consumer ¹	56,699	—	—	801	57,500	(1,205)	56,295
Total consumer loans	199,205	—	295	968	200,468	(2,696)	197,772
Residential mortgage loans	3,419,186	8,132	102,413	40,398	3,570,129	(9,238)	3,560,891
Total	4,942,484	10,214	105,639	63,054	5,121,391	(24,961)	5,096,430

¹ Other consumer loans' amortized cost includes \$9 million of cash and portfolio secured lending and \$37 million of lending secured by buildings in construction or other collateral.

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Based on the most recent analysis performed, the amortized cost of loans by year of origination and credit quality indicator is as follows:

March 31, 2023	Pass	Special mention	Substandard	Non-accrual	Total amortized cost
Loans by origination year					
2023	124,924	—	—	—	124,924
2022	1,000,565	—	—	3	1,000,568
2021	629,799	—	—	—	629,799
2020	416,477	603	506	22	417,608
2019	658,707	—	9,266	3,050	671,023
Prior	1,749,538	30,826	117,991	52,371	1,950,726
Overdrafts and credit cards	250,910	532	890	8	252,340
Total amortized cost	4,830,920	31,961	128,653	55,454	5,046,988

December 31, 2022	Pass	Special mention	Substandard	Non-accrual	Total amortized cost
Loans by origination year					
2022	971,776	—	—	4	971,780
2021	646,436	—	—	20	646,456
2020	485,944	142	508	23	486,617
2019	680,939	—	277	3,118	684,334
2018	393,623	—	12,133	1,355	407,111
Prior	1,499,410	9,767	91,795	58,483	1,659,455
Overdrafts and credit cards	264,356	305	926	51	265,638
Total amortized cost	4,942,484	10,214	105,639	63,054	5,121,391

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

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

March 31, 2023	30 - 59 days	60 - 89 days	More than 90 days	Total past due loans	Total current	Total amortized cost
Commercial loans						
Government	—	—	—	—	275,252	275,252
Commercial and industrial	4	800	18,439	19,243	284,464	303,707
Commercial overdrafts	—	—	3	3	115,187	115,190
Total commercial loans	4	800	18,442	19,246	674,903	694,149
Commercial real estate loans						
Commercial mortgage	477	4,526	3,146	8,149	598,419	606,568
Construction	—	—	—	—	9,663	9,663
Total commercial real estate loans	477	4,526	3,146	8,149	608,082	616,231
Consumer loans						
Automobile financing	17	6	137	160	19,984	20,144
Credit card	543	342	383	1,268	71,893	73,161
Overdrafts	—	—	5	5	44,459	44,464
Other consumer	1,025	23	2,311	3,359	48,097	51,456
Total consumer loans	1,585	371	2,836	4,792	184,433	189,225
Residential mortgage loans	20,335	7,095	54,660	82,090	3,465,293	3,547,383
Total amortized cost	22,401	12,792	79,084	114,277	4,932,711	5,046,988

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December 31, 2022	30 - 59 days	60 - 89 days	More than 90 days	Total past due loans	Total current	Total amortized cost
Commercial loans						
Government	—	—	—	—	281,518	281,518
Commercial and industrial	5	—	18,461	18,466	298,928	317,394
Commercial overdrafts	—	—	45	45	124,506	124,551
Total commercial loans	5	—	18,506	18,511	704,952	723,463
Commercial real estate loans						
Commercial mortgage	363	—	3,181	3,544	616,313	619,857
Construction	—	—	—	—	7,474	7,474
Total commercial real estate loans	363	—	3,181	3,544	623,787	627,331
Consumer loans						
Automobile financing	104	5	160	269	20,565	20,834
Credit card	423	231	295	949	76,765	77,714
Overdrafts	—	—	6	6	44,414	44,420
Other consumer	179	16	797	992	56,508	57,500
Total consumer loans	706	252	1,258	2,216	198,252	200,468
Residential mortgage loans	30,813	4,081	49,486	84,380	3,485,749	3,570,129
Total amortized cost	31,887	4,333	72,431	108,651	5,012,740	5,121,391

Changes in Allowances For Credit Losses

The increase in the allowance for credit losses during the three months ended March 31, 2023 was primarily attributable to an increase in credit card provisions, changes in macroeconomic factors, such as GDP forecasts, and partially offset by net paydowns in the portfolio. As per the Bank's accounting policy, as disclosed in Note 2 of the December 31, 2022 Audited Consolidated Financial Statements, the Bank continuously collects and maintains attributes related to financial instruments within the scope of CECL, including current conditions, and reasonable and supportable assumptions about future economic conditions.

	Three months ended March 31, 2023				
	Commercial	Commercial real estate	Consumer	Residential mortgage	Total
Balance at the beginning of period	12,143	884	2,696	9,238	24,961
Provision increase (decrease)	(243)	(41)	679	276	671
Recoveries of previous charge-offs	67	—	343	262	672
Charge-offs, by origination year					
2023	—	—	—	—	—
2022	—	—	—	—	—
2021	—	—	(16)	—	(16)
2020	—	—	—	—	—
2019	—	—	—	—	—
Prior	(66)	—	(121)	(474)	(661)
Overdrafts and credit cards	(3)	—	(281)	—	(284)
Other	1	(1)	6	15	21
Allowances for expected credit losses at end of period	11,899	842	3,306	9,317	25,364

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	Three months ended March 31, 2022				
	Commercial	Commercial real estate	Consumer	Residential mortgage	Total
Balance at the beginning of period	11,126	1,168	3,020	12,759	28,073
Provision increase (decrease)	(249)	(101)	402	(727)	(675)
Recoveries of previous charge-offs	—	—	333	85	418
Charge-offs	(11)	—	(863)	(226)	(1,100)
Other	(8)	—	(6)	(66)	(80)
Allowances for expected credit losses at end of period	10,858	1,067	2,886	11,825	26,636

Collateral-dependent loans

Management identified that the repayment of certain commercial and consumer mortgage loans is expected to be provided substantially through the operation or the sale of the collateral pledged to the Bank ("collateral-dependent loans"). The Bank believes that for the vast majority of loans identified as collateral-dependent, the sale of the collateral will be sufficient to fully reimburse the loan's carrying amount.

Non-Performing Loans

During the three months ended March 31, 2023, no interest was recognized on non-accrual loans. Non-performing loans at March 31, 2023 include PCD loans, which have all been on non-accrual status since their acquisition. No credit deteriorated loans were purchased during the period.

	March 31, 2023				December 31, 2022			
	Non-accrual loans with an allowance	Non-accrual loans without an allowance	Past due more than 90 days and accruing	Total non-performing loans	Non-accrual loans with an allowance	Non-accrual loans without an allowance	Past due more than 90 days and accruing	Total non-performing loans
Commercial loans								
Commercial and industrial	18,137	302	—	18,439	18,159	302	—	18,461
Commercial overdrafts	—	4	—	4	—	45	—	45
Total commercial loans	18,137	306	—	18,443	18,159	347	—	18,506
Commercial real estate loans								
Commercial mortgage	812	2,333	—	3,145	1,494	1,688	—	3,182
Total commercial real estate loans	812	2,333	—	3,145	1,494	1,688	—	3,182
Consumer loans								
Automobile financing	137	—	—	137	141	20	—	161
Credit card	—	—	384	384	—	—	295	295
Overdrafts	—	5	—	5	—	6	—	6
Other consumer	523	164	1,628	2,315	649	152	—	801
Total consumer loans	660	169	2,012	2,841	790	178	295	1,263
Residential mortgage loans	20,211	12,826	26,361	59,398	20,621	19,777	10,964	51,362
Total non-performing loans	39,820	15,634	28,373	83,827	41,064	21,990	11,259	74,313

Loan Modifications Made to Borrowers Experiencing Financial Difficulty (from January 1, 2023)

The following table summarizes the amortized cost basis of loan modifications made to borrowers experiencing financial difficulty during the three-month period ended March 31, 2023.

	Amortized cost basis				Weighted average financial effects		
	Significant payment delay	Term extension	Interest rate reduction	In % of the class of loans	Months of payment delay	Months of term extension	Interest rate reduction
March 31, 2023							
Residential mortgage loans	—	159	3,508	0.1 %	—	53	3.5 %

Age analysis of modified loans

As at March 31, 2023 all loans to borrowers experiencing financial difficulty for which a concession was granted in the preceding 3 month period are current.

Modified loans that subsequently defaulted

During the period ended March 31, 2023 no loans to borrowers experiencing financial difficulty for which a concession was granted in the preceding 3 month period had a payment default.

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Loans modified in a TDR (Prior to January 1, 2023)

As at December 31, 2022, the Bank had no loans that were modified in a TDR during the preceding 12 months that subsequently defaulted.

TDRs (prior to January 1, 2023) Outstanding	December 31, 2022	
	Accrual	Non-accrual
Commercial loans	796	—
Commercial real estate loans	1,503	2,357
Residential mortgage loans	59,175	10,342
Total TDRs outstanding	61,474	12,699

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 table summarizes the credit exposure of the Bank by geographic region. The exposure amounts disclosed below do not include accrued interest and are gross of allowances for credit losses and gross of collateral held.

Geographic region	March 31, 2023			December 31, 2022				
	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	100,000	—	—	100,000	—	—	—	—
Belgium	2,528	—	—	2,528	2,641	—	—	2,641
Bermuda	35,890	1,876,837	230,537	2,143,264	40,671	1,920,467	243,904	2,205,042
Canada	755,320	—	—	755,320	1,216,876	—	—	1,216,876
Cayman	41,873	1,224,665	213,843	1,480,381	36,609	1,236,373	233,599	1,506,581
Germany	5,435	—	—	5,435	20,422	—	—	20,422
Guernsey	2	653,614	214,769	868,385	1	674,562	199,714	874,277
Ireland	27,225	—	—	27,225	26,597	—	—	26,597
Japan	14,718	—	—	14,718	13,071	—	—	13,071
Jersey	—	157,613	38,726	196,339	—	150,769	35,042	185,811
Norway	347,227	—	—	347,227	99,777	—	—	99,777
Switzerland	3,677	—	—	3,677	2,748	—	—	2,748
The Bahamas	1,686	6,619	—	8,305	1,521	7,510	—	9,031
United Kingdom	529,193	1,127,640	36,520	1,693,353	715,750	1,131,710	108,406	1,955,866
United States	740,822	—	—	740,822	865,671	—	—	865,671
Other	2,286	—	—	2,286	2,781	—	—	2,781
Total gross exposure	2,607,882	5,046,988	734,395	8,389,265	3,045,136	5,121,391	820,665	8,987,192

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Note 8: Deposits

By Maturity

March 31, 2023	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		
Demand or less than \$100k ¹	2,986,254	6,077,845	9,064,099	33,529	12,210	16,050	11,727	73,516	9,137,615
Term - \$100k or more	N/A	N/A	—	2,345,854	319,124	466,293	79,231	3,210,502	3,210,502
Total deposits	2,986,254	6,077,845	9,064,099	2,379,383	331,334	482,343	90,958	3,284,018	12,348,117

December 31, 2022	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		
Demand or less than \$100k ¹	3,039,701	6,844,127	9,883,828	32,764	9,814	12,848	11,391	66,817	9,950,645
Term - \$100k or more	N/A	N/A	—	2,093,464	447,471	423,737	75,759	3,040,431	3,040,431
Total deposits	3,039,701	6,844,127	9,883,828	2,126,228	457,285	436,585	87,150	3,107,248	12,991,076

¹ The weighted-average interest rate on interest-bearing demand deposits as at March 31, 2023 is 0.42% (December 31, 2022: 0.47%).

By Type and Segment

	March 31, 2023			December 31, 2022		
	Payable on demand	Payable on a fixed date	Total	Payable on demand	Payable on a fixed date	Total
Bermuda	3,803,078	677,626	4,480,704	3,813,274	674,895	4,488,169
Cayman	3,472,056	734,920	4,206,976	3,641,646	651,168	4,292,814
Channel Islands and the UK	1,788,965	1,871,472	3,660,437	2,428,908	1,781,185	4,210,093
Total deposits	9,064,099	3,284,018	12,348,117	9,883,828	3,107,248	12,991,076

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 UK jurisdictions, and the defined benefit post-retirement medical plan is in Bermuda. The Bank has a residual obligation on top of its defined contribution plan in Mauritius.

The Bank included an estimate of the 2023 Bank contribution and estimated benefit payments for the next ten years under the pension and post-retirement plans in its audited financial statements for the year-ended December 31, 2022. During the three months ended March 31, 2023, there have been no material revisions to these estimates.

Line item in the consolidated statements of operations	Three months ended	
	March 31, 2023	March 31, 2022
Defined benefit pension expense (income)		
Interest cost	1,332	780
Expected return on plan assets	(1,518)	(1,709)
Amortization of net actuarial (gains) losses	570	559
Amortization of prior service (credit) cost	19	24
Settlement (gain) loss	—	(848)
Total defined benefit pension expense (income)	403	(1,194)
Post-retirement medical benefit expense (income)		
Service cost	19	33
Interest cost	1,197	779
Amortization of net actuarial (gains) losses	131	361
Amortization of prior service (credit) cost	(333)	131
Total post-retirement medical benefit expense (income)	1,014	1,304

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 expected credit losses.

The Bank has a facility with one of its custodians, whereby the Bank may offer up to US\$200 million of standby letters of credit to its customers on a fully secured basis. Under the standard terms of the facility, the custodian has the right to set-off against securities held of 110% of the utilized facility. At March 31, 2023, \$121.9 million (December 31, 2022: \$121.3 million) of standby letters of credit were issued under this facility.

Outstanding unfunded commitments to extend credit	March 31, 2023	December 31, 2022
Commitments to extend credit	480,357	564,324
Documentary and commercial letters of credit	1,728	2,331
Total unfunded commitments to extend credit	482,085	566,655
Allowance for credit losses	(274)	(274)

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 are generally represented by deposits with the Bank or a charge over assets held in mutual funds.

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

Outstanding financial guarantees	March 31, 2023			December 31, 2022		
	Gross	Collateral	Net	Gross	Collateral	Net
Standby letters of credit	248,822	241,672	7,150	250,543	243,393	7,150
Letters of guarantee	3,488	3,452	36	3,467	3,431	36
Total	252,310	245,124	7,186	254,010	246,824	7,186

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 of the securities posted or received as collateral and other credit related events. The Bank manages these risks by ensuring that the collateral involved is appropriate and by monitoring the value of the securities posted or received as collateral on a daily basis.

As at March 31, 2023, the Bank had 18 open positions (December 31, 2022: 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 \$171.3 million (December 31, 2022: \$59.9 million) and are included in securities purchased under agreements to resell on the consolidated balance sheets. As at March 31, 2023, there were no positions (December 31, 2022: no positions) which were offset on the consolidated balance sheets 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 paragraph.

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 in connection with a US cross border tax investigation. On August 3, 2021, the Bank announced it had reached a resolution with the United States Department of Justice concerning this inquiry. The resolution is in the form of a non-prosecution agreement with a three-year term. The Bank paid \$5.6 million in respect of Forfeiture and Tax Restitution Amounts which is consistent with that previously provisioned for.

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. Certain lease payments will be adjusted during the related lease's term based on movements in the relevant consumer price index.

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	Three months ended	
	March 31, 2023	March 31, 2022
Lease costs		
Operating lease costs	1,879	2,038
Short-term lease costs	582	348
Sublease income	(372)	(341)
Total net lease cost	2,089	2,045
Operating lease income	266	255
Other information for the period		
Right-of-use assets related to new operating lease liabilities	—	138
Operating cash flows from operating leases	1,930	1,999

	March 31, 2023	December 31, 2022
Other information at end of period		
Operating leases right-of-use assets (included in other assets on the balance sheets)	33,530	33,641
Operating lease liabilities (included in other liabilities on the balance sheets)	32,936	32,965
Weighted average remaining lease term for operating leases (in years)	9.03	9.24
Weighted average discount rate for operating leases	5.40 %	5.40 %

The following table summarizes the maturity analysis of the Bank's commitments for long-term leases as at December 31, 2022:

Year ending December 31	Operating Leases
2023	7,129
2024	6,457
2025	4,133
2026	3,357
2027	3,152
2028 & thereafter	17,735
Total commitments	41,963
Less: effect of discounting cash flows to their present value	(8,998)
Operating lease liabilities	32,965

Note 12: Segmented information

The Bank is managed by the Chairman & Chief Executive Officer ("CEO") on a geographic basis. The Bank presents four reportable segments, three geographical and one other: Bermuda, Cayman, Channel Islands and the UK, and Other. The Other segment is composed of several operating segments that have been aggregated in accordance with GAAP. Each reportable segment has a managing director who reports to the Chairman & CEO. The Chairman and CEO and the segment 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 Chairman & 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, 2022. 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 expenses. 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 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, 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

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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 intermediaries including mortgage lending, private banking and treasury services, internet banking, wealth management and fiduciary services. The jurisdiction also offers mortgage lending to the retail market. The UK jurisdiction provides mortgage services for high-value residential properties.

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

Total Assets by Segment	March 31, 2023	December 31, 2022
Bermuda	5,288,301	5,405,365
Cayman	4,545,113	4,566,144
Channel Islands and the UK	4,092,272	4,626,183
Other	39,791	35,874
Total assets before inter-segment eliminations	13,965,477	14,633,566
Less: inter-segment eliminations	(232,779)	(327,504)
Total	13,732,698	14,306,062

Three months ended March 31, 2023	Net interest income		Provision for credit (losses) recoveries	Non-interest income	Net revenue before gains and losses	Gains and losses	Total net revenue	Total expenses	Net income
	Customer	Inter-segment							
Bermuda	47,869	(1,221)	(625)	21,847	67,870	112	67,982	47,733	20,249
Cayman	34,601	1,409	34	16,850	52,894	(3)	52,891	15,349	37,542
Channel Islands and the UK	14,875	(188)	(80)	8,518	23,125	—	23,125	19,112	4,013
Other	10	—	—	7,634	7,644	1	7,645	7,245	400
Total before eliminations	97,355	—	(671)	54,849	151,533	110	151,643	89,439	62,204
Inter-segment eliminations	—	—	—	(4,664)	(4,664)	—	(4,664)	(4,664)	—
Total	97,355	—	(671)	50,185	146,869	110	146,979	84,775	62,204

Three months ended March 31, 2022	Net interest income		Provision for credit (losses) recoveries	Non-interest income	Net revenue before gains and losses	Gains and losses	Total net revenue	Total expenses	Net income
	Customer	Inter-segment							
Bermuda	36,396	(513)	545	21,024	57,452	(83)	57,369	46,342	11,027
Cayman	22,803	338	229	15,352	38,722	—	38,722	14,976	23,746
Channel Islands and the UK	16,667	175	(74)	10,839	27,607	886	28,493	19,151	9,342
Other	1	—	—	6,872	6,873	—	6,873	6,637	236
Total before eliminations	75,867	—	700	54,087	130,654	803	131,457	87,106	44,351
Inter-segment eliminations	—	—	—	(4,167)	(4,167)	—	(4,167)	(4,167)	—
Total	75,867	—	700	49,920	126,487	803	127,290	82,939	44,351

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 include designated currency swaps that are used to minimize the Bank's exposure to variability in the amortized cost of AFS investments due to movements in foreign exchange rates. The foreign exchange movement on the unrealized gain or loss on the AFS investments is not considered to be part of the hedging relationship and continues to be recognized in AOCIL. The effective portion of changes in the amortized cost of the hedged items attributable to foreign exchange rates is recognized in current year earnings consistent with the related change in fair value of the hedging instrument. For fair value hedges, hedging effectiveness of the hedged item and the hedging instrument are assessed and managed at inception and on an ongoing basis using a partial-term method.

Net investment hedges include 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 AOCIL 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 AOCIL (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 AOCIL 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 AOCIL 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 income (loss) for details on the amount recognized into AOCIL during the current period from translation gain or loss.

Derivatives not formally designated as hedges are entered into to manage the 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 revenue.

Client service derivatives

The Bank enters into foreign exchange contracts 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 revenue.

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. The 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.

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March 31, 2023	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	2	30,379	12	(612)	(600)
Fair value hedges	Currency swaps	4	159,991	4,319	—	4,319
Derivatives not formally designated as hedging instruments	Currency swaps	57	1,453,756	4,711	(9,272)	(4,561)
Subtotal risk management derivatives			1,644,126	9,042	(9,884)	(842)
Client services derivatives	Spot and forward foreign exchange	172	524,414	2,043	(1,754)	289
Total derivative instruments			2,168,540	11,085	(11,638)	(553)
<hr/>						
December 31, 2022	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	5,207	—	(215)	(215)
Fair value hedges	Currency swaps	4	130,751	2,714	(191)	2,523
Derivatives not formally designated as hedging instruments	Currency swaps	63	1,884,169	8,052	(10,269)	(2,217)
Subtotal risk management derivatives			2,020,127	10,766	(10,675)	91
Client services derivatives	Spot and forward foreign exchange	160	312,772	2,401	(2,237)	164
Total derivative instruments			2,332,899	13,167	(12,912)	255

In addition to the above, as at March 31, 2023 foreign denominated deposits of £252.1 million (December 31, 2022: £235.5 million) and CHF 0.4 million (December 31, 2022: 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.

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

March 31, 2023	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	11,085	(7,055)	4,030	—	—	4,030
Derivative liabilities						
Spot and forward foreign exchange and currency swaps	11,638	(7,055)	4,583	—	(1,483)	3,100
Net negative fair value			(553)			
<hr/>						
December 31, 2022	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	13,167	(6,658)	6,509	—	(9)	6,500
Derivative liabilities						
Spot and forward foreign exchange and currency swaps	12,912	(6,658)	6,254	—	(352)	5,902
Net positive fair value			255			

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

Derivative instrument	Consolidated statements of operations line item	Three months ended	
		March 31, 2023	March 31, 2022
Spot and forward foreign exchange	Foreign exchange revenue	126	138
Currency swaps, not designated as hedge	Foreign exchange revenue	(2,343)	(11,144)
Currency swaps - fair value hedges	Foreign exchange revenue	1,794	(4,607)
Total net gains (losses) recognized in net income		(423)	(15,613)

Derivative instrument	Consolidated statements of comprehensive income line item	Three months ended	
		March 31, 2023	March 31, 2022
Currency swaps - net investment hedge	Unrealized net gains (losses) on translation of net investment in foreign operations	(385)	689
Total net gains (losses) recognized in comprehensive income		(385)	689

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, 2022.

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 US and UK Government Treasury notes.

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

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

There were no transfers between Level 1 and Level 2 or Level 2 and Level 3 during the three months ended March 31, 2023. During the year ended December 31, 2022, there were no transfers between Level 1 and Level 2. There was a transfer out of Level 3 into Level 2 due to increased price observability during the year ended December 31, 2022.

	March 31, 2023			Total carrying amount / fair value	December 31, 2022			Total carrying amount / fair value
	Fair value				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								
Equity securities								
Mutual funds	—	—	—	—	—	236	—	236
Total equity securities	—	—	—	—	—	236	—	236
Available-for-sale investments								
US government and federal agencies	852,503	858,945	—	1,711,448	838,938	873,838	—	1,712,776
Non-US governments debt securities	236,036	22,392	—	258,428	229,071	22,392	—	251,463
Asset-backed securities - Student loans	—	2,633	—	2,633	—	5,626	—	5,626
Residential mortgage-backed securities	—	18,824	—	18,824	—	19,000	—	19,000
Total available-for-sale	1,088,539	902,794	—	1,991,333	1,068,009	920,856	—	1,988,865
Other assets - Derivatives	—	4,030	—	4,030	—	6,509	—	6,509
Financial liabilities								
Other liabilities - Derivatives	—	4,583	—	4,583	—	6,254	—	6,254

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Level 3 Reconciliation

The Level 3 financial instrument, was a federal family education loan program guaranteed student loan security and was valued using a non-binding quote from an external security pricing service. During the year ended December 31, 2022, this instrument was transferred to Level 2 due to increased price observability.

The table below summarizes realized and unrealized gains and losses for Level 3 assets at the reporting date.

	Three months ended March 31, 2023	Year ended December 31, 2022
	Available- for-sale investments	Available- for-sale investments
Carrying amount at beginning of period	—	13,174
Proceeds from sales, paydowns and maturities	—	(7,631)
Change in unrealized gains (losses) recognized in other comprehensive income	—	102
Realized and unrealized gains recognized in net income	—	(19)
Transfers in (out of) Level 3 out of (into) Level 2 - AFS	—	(5,626)
Carrying amount at end of period	—	—
Cumulative gain (loss) recognized in other comprehensive income	—	(14)

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

	Level	March 31, 2023			December 31, 2022		
		Carrying amount	Fair value	Appreciation / (depreciation)	Carrying amount	Fair value	Appreciation / (depreciation)
Financial assets							
Cash and cash equivalents	Level 1	1,344,800	1,344,800	—	2,100,787	2,100,787	—
Securities purchased under agreements to resell	Level 2	171,330	171,330	—	59,871	59,871	—
Short-term investments	Level 1	1,091,752	1,091,752	—	884,478	884,478	—
Investments held-to-maturity	Level 2	3,673,973	3,184,888	(489,085)	3,738,080	3,197,508	(540,572)
Loans, net of allowance for credit losses	Level 2	5,021,624	4,958,106	(63,518)	5,096,430	5,049,570	(46,860)
Other real estate owned ¹	Level 2	1,195	1,195	—	800	800	—
Financial liabilities							
Term deposits	Level 2	3,284,018	3,287,541	(3,523)	3,107,248	3,108,511	(1,263)
Long-term debt	Level 2	172,393	167,822	4,571	172,289	177,919	(5,630)

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

March 31, 2023	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 and cash equivalents	1,247	—	—	—	—	98	1,345
Securities purchased under agreement to resell	171	—	—	—	—	—	171
Short-term investments	827	211	54	—	—	—	1,092
Investments	5	153	195	898	4,414	—	5,665
Loans	2,714	84	120	1,677	407	20	5,022
Other assets	—	—	—	—	—	438	438
Total assets	4,964	448	369	2,575	4,821	556	13,733
Liabilities and shareholders' equity							
Shareholders' equity	—	—	—	—	—	937	937
Demand deposits	6,078	—	—	—	—	2,986	9,064
Term deposits	2,379	331	482	92	—	—	3,284
Other liabilities	—	—	—	—	—	276	276
Long-term debt	75	—	—	97	—	—	172
Total liabilities and shareholders' equity	8,532	331	482	189	—	4,199	13,733
Interest rate sensitivity gap	(3,568)	117	(113)	2,386	4,821	(3,643)	—
Cumulative interest rate sensitivity gap	(3,568)	(3,451)	(3,564)	(1,178)	3,643	—	—

December 31, 2022	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 and cash equivalents	2,008	—	—	—	—	93	2,101
Securities purchased under agreement to resell	60	—	—	—	—	—	60
Short-term investments	406	422	56	—	—	—	884
Investments	6	8	179	943	4,592	—	5,728
Loans	2,927	35	166	1,533	406	29	5,096
Other assets	—	—	—	—	—	437	437
Total assets	5,407	465	401	2,476	4,998	559	14,306
Liabilities and shareholders' equity							
Shareholders' equity	—	—	—	—	—	865	865
Demand deposits	6,819	25	—	—	—	3,040	9,884
Term deposits	2,126	457	437	87	—	—	3,107
Other liabilities	—	—	—	—	—	278	278
Long-term debt	—	75	—	97	—	—	172
Total liabilities and shareholders' equity	8,945	557	437	184	—	4,183	14,306
Interest rate sensitivity gap	(3,538)	(92)	(36)	2,292	4,998	(3,624)	—
Cumulative interest rate sensitivity gap	(3,538)	(3,630)	(3,666)	(1,374)	3,624	—	—

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Note 16: Long-term debt

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 BSX in the specialist debt securities category. The proceeds of the issue were used, among others, 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.

On June 11, 2020, the Bank issued US \$100 million of Subordinated Lower Tier II capital notes. The notes were issued at par and due on June 15, 2030. The issuance was by way of a registered offering with US institutional investors. The notes are listed on the BSX in the specialist debt securities category. The proceeds of the issue were used, among others, to repay the entire amount of the US \$45 million outstanding subordinated notes series 2005-B which matured on July 2, 2020. The notes issued pay a fixed coupon of 5.25% until June 15, 2025 when they become redeemable in whole at the option of the Bank. The notes were priced at a spread of 4.43% over the 10-year US Treasury yield. The Bank incurred \$2.3 million of costs directly related to the issuance of these capital notes. These costs have been capitalized directly against the carrying value of these notes on the balance sheet, and will be amortized over the life of the notes.

No interest was capitalized during the three months ended March 31, 2023 and the year ended December 31, 2022.

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

The following table presents the contractual maturity and interest payments for long-term debt issued by the Bank as at March 31, 2023. The interest payments are calculated until contractual maturity using the current London Inter-bank Offered Rate ("LIBOR") and Secured Overnight Financing Rate ("SOFR").

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								
2018 issuance	June 1, 2023	June 1, 2028	5.25 %	3 months US\$ LIBOR + 2.255%	75,000	6,220	22,669	1,427
2020 issuance	June 15, 2025	June 15, 2030	5.25 %	3 months US\$ SOFR + 5.060%	100,000	5,250	35,569	22,674
Total					175,000	11,470	58,238	24,101
Unamortized debt issuance costs					(2,607)			
Long-term debt less unamortized debt issuance costs					172,393			

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 period. Numbers of shares are expressed in thousands.

During the three months ended March 31, 2023, the average number of outstanding awards of unvested common shares was 1.3 million (March 31, 2022: 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 the 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.

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	Three months ended	
	March 31, 2023	March 31, 2022
Net income	62,204	44,351
Basic Earnings Per Share		
Weighted average number of common shares issued	50,390	50,133
Weighted average number of common shares held as treasury stock	(619)	(619)
Weighted average number of common shares (in thousands)	49,771	49,514
Basic Earnings Per Share	1.25	0.90
Diluted Earnings Per Share		
Weighted average number of common shares	49,771	49,514
Net dilution impact related to awards of unvested common shares	360	315
Weighted average number of diluted common shares (in thousands)	50,131	49,829
Diluted Earnings Per Share	1.24	0.89

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 share 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 5.0 million and 7.5 million shares, respectively.

In May 2020, the Board of Directors approved the 2020 Omnibus Plan (the "2020 Plan") which replaces the 2010 Plan. Under the 2020 Plan, 3.0 million shares are initially available for grant to employees in the form of stock options or unvested share awards. Both types of awards are detailed below.

Stock Option Awards

2010 and 2020 Plans

Under the 2010 and 2020 Plans, 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 and 2020 Plans vest based on two specific types of vesting conditions i.e., time and performance conditions, as detailed below:

Time vesting condition

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

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

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

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

Performance vesting condition

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

Changes in Outstanding Stock Option Plans

There were no stock options outstanding as at March 31, 2023 and December 31, 2022.

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.

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

The grant date weighted average fair value of unvested share awards granted in the three months ended March 31, 2023 was \$32.94 per share (December 31, 2022: \$35.05 per share). The Bank expects to settle these awards by issuing new shares.

Employee Deferred Incentive Program ("EDIP")

Under the Bank's EDIP, shares are 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 Program ("ELTIP")

Under the Bank's ELTIP, 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.

Employee Share Purchase Plan ("ESPP")

The Bank's ESPP was approved in July 2021 and registered in November 2021. The first offering period started in March 2022. Under the Bank's ESPP, eligible employees may elect to contribute up to 15% of their regular compensation toward the purchase of the Bank's shares at a 10% discount from market price on the closing date of each offering period. The ESPP specifies two consecutive six month offering periods per year. In the case of termination of employment or voluntary partial or full withdrawal from the plan, the related current offering period ESPP contributions are refunded to the employee and thus cannot be used to purchase shares under the ESPP. During the three months ended March 31, 2023, no shares (December 31, 2022: 10,143) were issued under the ESPP Plan.

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

	Three months ended			
	March 31, 2023		March 31, 2022	
	EDIP	ELTIP	EDIP	ELTIP
Outstanding at beginning of period	621	705	297	704
Granted	167	347	105	253
Vested (fair value in 2023: \$10.6 million, 2022: \$16.2 million)	(133)	(185)	(140)	(266)
Outstanding at end of period	655	867	262	691

Share-based Compensation Cost Recognized in Net Income

	Three months ended	
	March 31, 2023	March 31, 2022
	EDIP and ELTIP	EDIP and ELTIP
Cost recognized in net income	4,598	3,426

Unrecognized Share-based Compensation Cost

	March 31, 2023		December 31, 2022	
	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	15,960	3.16	14,234
ELTIP				
Performance vesting shares	19,303	2.29	10,232	1.75
Total unrecognized expense	35,263		24,466	

Note 19: Share repurchase programs

From time to time, the Bank may seek to repurchase and retire equity securities of the Bank, through cash purchases, privately negotiated transactions, or otherwise. Such transactions, if any, depend on prevailing market conditions, liquidity and capital requirements, contractual restrictions, and other factors.

Common Share Repurchase Program

On December 2, 2019, the Board approved a common share repurchase program, authorizing the purchase of up to 3.5 million common shares through to February 28, 2021. The program came into effect on December 20, 2019 following the completion of the previous program.

On February 10, 2021, the Board approved a common share repurchase program, authorizing the purchase of up to 2.0 million common shares through to February 28, 2022.

On February 14, 2022, the Board approved a new common share repurchase program, authorizing the purchase of up to 2.0 million common shares through to February 28, 2023.

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On February 13, 2023, the Board approved a new common share repurchase program, authorizing the purchase of up to 3.0 million common shares through to February 29, 2024.

In the three months ended March 31, 2023, the Bank repurchased and retired 144,929 shares.

Common share repurchases	Three months ended	Year ended December 31	
	March 31, 2023	2022	2021
Acquired number of shares (to the nearest 1)	144,929	102,000	534,828
Average cost per common share	33.43	38.21	36.93
Total cost (in US dollars)	4,845,109	3,897,268	19,753,336

Note 20: Accumulated other comprehensive income (loss)

Three months ended March 31, 2023	Unrealized net gains (losses) on translation of net investment in foreign operations	Unrealized net gains (losses) on HTM investments	Unrealized net gains (losses) on AFS investments	Employee benefit plans adjustments			Total AOCIL
				Pension	Post-retirement healthcare	Subtotal - employee benefits plans	
Balance at beginning of period	(25,700)	(91,212)	(220,345)	(47,905)	7,710	(40,195)	(377,452)
Other comprehensive income (loss), net of taxes	(44)	2,027	29,816	520	(202)	318	32,117
Balance at end of period	(25,744)	(89,185)	(190,529)	(47,385)	7,508	(39,877)	(345,335)

Three months ended March 31, 2022	Unrealized net gains (losses) on translation of net investment in foreign operations	Unrealized net gains (losses) on HTM investments	Unrealized net gains (losses) on AFS investments	Employee benefit plans adjustments			Total AOCIL
				Pension	Post-retirement healthcare	Subtotal - employee benefits plans	
Balance at beginning of period	(20,913)	91	(21,982)	(56,400)	(25,713)	(82,113)	(124,917)
Transfer of AFS investments to HTM investments	—	(46,171)	46,171	—	—	—	—
Other comprehensive income (loss), net of taxes	(999)	379	(157,876)	369	492	861	(157,635)
Balance at end of period	(21,912)	(45,701)	(133,687)	(56,031)	(25,221)	(81,252)	(282,552)

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Net Change of AOCIL Components

Three months ended

	Line item in the consolidated statements of operations, if any	March 31, 2023	March 31, 2022
Net unrealized gains (losses) on translation of net investment in foreign operations adjustments			
Foreign currency translation adjustments	N/A	7,487	(10,297)
Gains (losses) on net investment hedge	N/A	(7,531)	9,298
Net change		(44)	(999)
Held-to-maturity investment adjustments			
Net unamortized gains (losses) transferred from AFS	N/A	—	(46,171)
Amortization of net gains (losses) to net income	Interest income on investments	2,027	379
Net change		2,027	(45,792)
Available-for-sale investment adjustments			
Gross unrealized gains (losses)	N/A	30,915	(158,303)
Net unrealized (gains) losses transferred to HTM	N/A	—	46,171
Transfer of realized (gains) losses to net income	Net realized gains (losses) on AFS investments	8	—
Foreign currency translation adjustments of related balances	N/A	(1,107)	427
Net change		29,816	(111,705)
Employee benefit plans adjustments			
Defined benefit pension plan			
Net actuarial gain (loss)	N/A	—	348
Net loss (gain) on settlement reclassified to net income	Net other gains (losses)	—	(848)
Amortization of net actuarial (gains) losses	Non-service employee benefits expense	570	559
Amortization of prior service (credit) cost	Non-service employee benefits expense	19	24
Foreign currency translation adjustments of related balances	N/A	(69)	286
Net change		520	369
Post-retirement healthcare plan			
Amortization of net actuarial (gains) losses	Non-service employee benefits expense	131	361
Amortization of prior service (credit) cost	Non-service employee benefits expense	(333)	131
Net change		(202)	492
Other comprehensive income (loss), net of taxes		32,117	(157,635)

Note 21: Capital structure

Authorized Capital

The Bank trades on the New York Stock Exchange under the ticker symbol "NTB" and on the BSX under the symbol "NTB.BH".

The par value of each issued common share and each authorized but unissued common share is BM\$0.01 and the authorized share capital of the Bank comprises 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.

Dividends Declared

During the three months ended March 31, 2023, the Bank declared and paid cash dividends of \$0.44 (March 31, 2022: \$0.44) for each common share as of the related record date.

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 the BMA's letter of no objection for all dividends declared during the periods presented.

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Regulatory Capital

The Bank's regulatory capital is determined in accordance with current Basel III guidelines as issued by the BMA. The Bank is fully compliant with all regulatory capital requirements to which it is subject, and it maintains capital ratios in excess of regulatory minimums as at March 31, 2023 and December 31, 2022. The following table sets forth the Bank's capital adequacy in accordance with the Basel III framework:

	March 31, 2023		December 31, 2022	
	Actual	Regulatory minimum	Actual	Regulatory minimum
Capital				
CET 1 capital	1,023,663	N/A	983,342	N/A
Tier 1 capital	1,023,663	N/A	983,342	N/A
Tier 2 capital	183,927	N/A	183,640	N/A
Total capital	1,207,590	N/A	1,166,982	N/A
Risk Weighted Assets	4,604,107	N/A	4,843,370	N/A
Leverage Ratio Exposure Measure	14,125,653	N/A	14,774,309	N/A
Capital Ratios (%)				
CET 1 capital	22.2 %	10.0 %	20.3 %	10.0 %
Tier 1 capital	22.2 %	11.5 %	20.3 %	11.5 %
Total capital	26.2 %	13.5 %	24.1 %	13.5 %
Leverage ratio	7.2 %	5.0 %	6.7 %	5.0 %

Note 22: 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 deposits with the Bank, have loans and/or are guarantors for 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 for preferential rates. All of these loans were considered performing loans as at March 31, 2023 and December 31, 2022. Loan balances with 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 were as follows:

Balance at December 31, 2021	7,375
Net loans issued (repaid) during the year	(5,362)
Effect of changes in the composition of related parties	18,380
Balance at December 31, 2022	20,393
Net loans issued (repaid) during period	(473)
Balance at March 31, 2023	19,920

Consolidated balance sheets	March 31, 2023	December 31, 2022
Deposits	82,991	92,806

Consolidated statement of operations	Three months ended	
	March 31, 2023	March 31, 2022
Interest and fees on loans	270	54
Total non-interest expense	45	—
Other non-interest income	109	—

Certain affiliates of the Bank have loans and deposits with the Bank which were made and are maintained in the ordinary course of business on normal commercial terms. Balances with these parties were as follows:

Consolidated balance sheets	March 31, 2023	December 31, 2022
Loans	10,099	10,211
Deposits	348	560

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Consolidated statement of operations	Three months ended	
	March 31, 2023	March 31, 2022
Interest and fees on loans	198	147
Total non-interest expense	375	358

Investments

The Bank held seed investments in Butterfield mutual funds, which were managed by a wholly-owned subsidiary of the Bank. These investments were sold during the year ended December 31, 2021.

As at March 31, 2023, several Butterfield mutual funds which are managed by a wholly owned subsidiary of the Bank, had loan balances and deposit balances held with the Bank. The Bank also earned asset management revenue and custody and other administration services revenue from funds managed by a wholly-owned subsidiary of the Bank and from directors and executives, companies in which they are principal owners and/or members of the board and trusts in which they are involved, as well as other income from other related parties.

Consolidated balance sheets	March 31, 2023	December 31, 2022
Loans	282	—
Deposits	13,899	20,549

Consolidated statement of operations	Three months ended	
	March 31, 2023	March 31, 2022
Asset management	2,180	1,286
Custody and other administration services	264	117

Note 23: Subsequent events

On April 24, 2023, the Board of Directors declared an interim dividend of \$0.44 per common share to be paid on May 22, 2023 to shareholders of record on May 8, 2023.