

ANNUAL REPORT 2018

WHERE WE STAND



Butterfield

WHO WE ARE

WE ARE **AN INDEPENDENT, INTERNATIONAL OFFSHORE BANK AND TRUST COMPANY**, ESTABLISHED IN BERMUDA IN 1858.

WE ARE **LISTED ON THE NEW YORK AND BERMUDA STOCK EXCHANGES**.

WE ARE **1,373 FINANCIAL PROFESSIONALS** DELIVERING BANKING, TRUST, FIDUCIARY AND ASSET MANAGEMENT SERVICES.

WE SUPPORT ORGANIZATIONS AND INITIATIVES THAT ARE **FOCUSED ON PROTECTING AND IMPROVING MARITIME ENVIRONMENTS**, AND WE ARE A PROUD GLOBAL PILOT PARTNER OF THE SEABIN PROJECT.

WHAT WE DO

WE **BUILD RELATIONSHIPS AND WEALTH**.

WHERE WE STAND

\$195.2 million net income
In banking for **160** years
10 international locations
\$10.8 billion of assets

OUR PROGRESS

NET
INCOME

\$195.2 million
▲ 27.4%

CORE NET
INCOME*

\$197.0 million
▲ 24.0%

CORE RETURN ON
AVERAGE TANGIBLE
COMMON EQUITY*

25.6%
▲ 320 bps

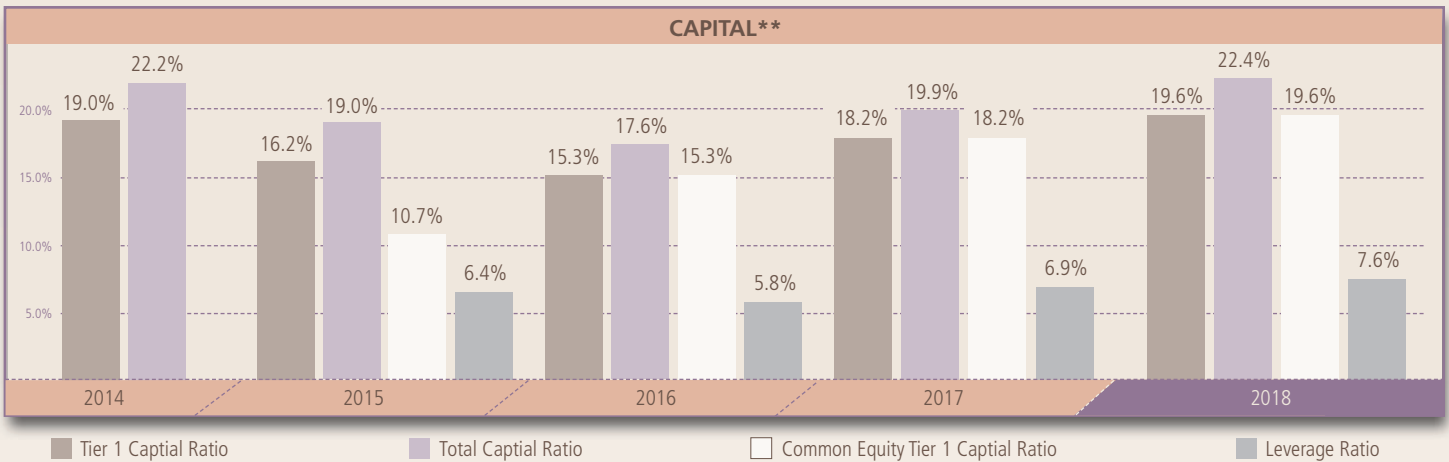
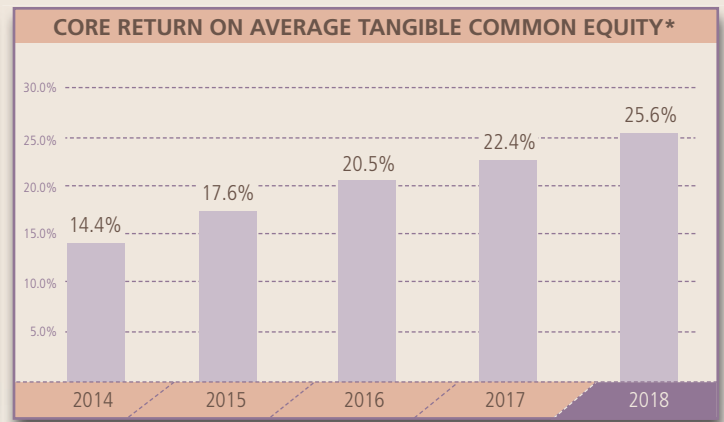
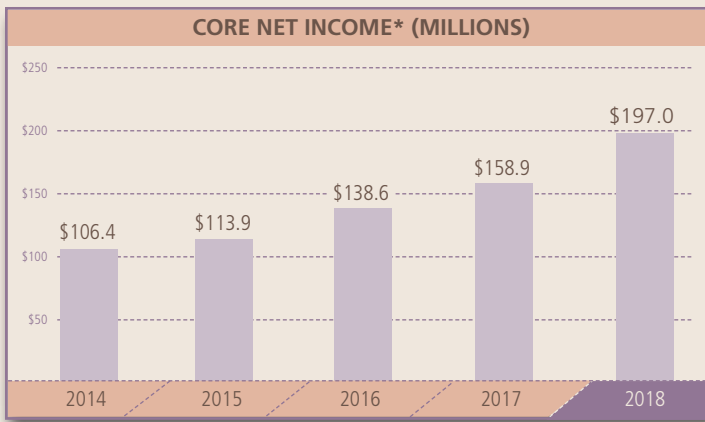
CORE EARNINGS
PER SHARE
(DILUTED)*

\$3.53
▲ 23.4%

RETURN ON
AVERAGE
ASSETS

1.8%
▲ 40 bps

(2018 compared to 2017)



AWARDS

- The Banker 2018**: BANK OF THE YEAR (Bermuda)
- PWM / The Banker 2018**: BEST PRIVATE BANK (Bermuda)
- PWM / The Banker 2018**: BEST PRIVATE BANK (Cayman Islands)
- Global Finance 2018**: BEST BANK (Bermuda)
- Global Finance 2018**: SAFEST BANK (Bermuda)
- Global Finance 2019**: BEST FOREIGN EXCHANGE PROVIDER (Bermuda)
- Global Finance 2019**: BEST PRIVATE BANK (Bermuda)
- Global Finance 2019**: BEST PRIVATE BANK (Caribbean)
- World Finance 2018**: BEST WEALTH MANAGEMENT PROVIDER (Bermuda)
- Citywealth 2018**: TRUST COMPANY OF THE YEAR (Guernsey)
- STEP 2018**: TRUST COMPANY OF THE YEAR (Large Firm)

All information is as at December 31, 2018 unless otherwise specified.

*Non-GAAP measure. See table "Reconciliation of Non-GAAP Financial Measures" on page 16 of the Annual Report on Form 20-F within this publication for a reconciliation of US GAAP results to non-GAAP measures.

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

BERMUDA

32.2946° N, 64.7859° W (Hamilton)



Land area: 54 km ²	Economic pillars: Financial Services, Tourism	Currency: Bermuda Dollar	Butterfield services: Community Banking, Corporate Banking, Private Banking, Credit and Treasury Services, Asset Management, Brokerage Services, Trust and Fiduciary Services, Custody
Population: 64,000	Time zone: Atlantic	Climate: Subtropical	

CANADA

44.6488° N, 63.5752° W (Halifax)



Land area: 9,093,507 km ²	Economic pillars: Service Industry, Energy, Mining, Manufacturing, Agriculture, Fishing	Currency: Canadian Dollar	Butterfield services: Group Support Services
Population: 35,363,000	Time zone: Atlantic (Halifax)	Climate: Ranging from Temperate (South) to Arctic (North)	

WHERE WE ARE

**THE BAHAMAS**

25.0480° N, 77.3554° W (Nassau)



Land area: 10,010 km ²	Economic pillars: Financial Services, Tourism	Currency: Bahamian Dollar	Butterfield services: Trust and Fiduciary Services
Population: 399,000	Time zone: Eastern	Climate: Tropical Marine	

CAYMAN ISLANDS

19.2869° N, 81.3674° W (George Town)



Land area: 264 km ²	Economic pillars: Financial Services, Tourism, Construction	Currency: Cayman Islands Dollar	Butterfield services: Community Banking, Corporate Banking, Private Banking, Credit and Treasury Services, Asset Management, Trust and Fiduciary Services, Custody
Population: 62,000	Time zone: Eastern	Climate: Tropical Marine	

MAURITIUS

20.1609° S, 57.5012° E (Port Louis)



Land area: 2,030 km ²	Economic pillars: Sugar, Textiles and Clothing, Mining and Metals, Chemicals, Tourism, Machinery and Equipment	Time zone: Mauritius Time	Climate: Tropical
Population: 1,268,000		Currency: Mauritian Rupee	Butterfield services: Group Support Services

GUERNSEY

49.4542° N, 2.5497° W (St. Peter Port)

**Land area:**
65 km²**Economic pillars:**
Financial Services,
Tourism,
Data/Digital**Currency:**
Guernsey Pound**Butterfield services:**
Private Client,
Intermediary and
Institutional Banking,
Credit and Treasury
Services, Asset
Management, Trust
and Fiduciary Services,
Custody**Population:**
62,000**Time zone:**
Greenwich Mean
Time**Climate:**
Temperate**JERSEY**

49.1805° N, 2.1032° W (St. Helier)

**Land area:**
119 km²**Economic pillars:**
Financial Services,
Tourism, Dairy,
Data/Digital**Currency:**
Jersey Pound**Butterfield services:**
Corporate and
Intermediary Banking,
Custody**Population:**
106,000**Time zone:**
Greenwich Mean
Time**Climate:**
Temperate**UNITED KINGDOM**

51.5074° N, 0.1278° W (London)

**Land area:**
242,495 km²**Economic pillars:**
Financial Services,
Information
Technology,
Construction, Oil
and Gas, Healthcare,
Manufacturing,
Education,
Transportation
and Logistics**Time zone:**
Greenwich Mean
Time**Climate:**
Temperate**Population:**
66,847,000**Currency:**
Pound Sterling**Butterfield services:**
UK Residential Property
Lending**SWITZERLAND**

46.2044° N, 6.1432° E (Geneva)

**Land area:**
39,997 km²**Economic pillars:**
Machinery
and Precision
Instruments,
Textiles, Watches,
Chemicals, Tourism,
Pharmaceuticals,
Financial Services**Time zone:**
Central European**Climate:**
Temperate**Population:**
8,547,000**Currency:**
Swiss Franc**Butterfield services:**
Trust and
Fiduciary Services**SINGAPORE**

1.3521° N, 103.8198° E

**Land area:**
724 km²**Economic pillars:**
Electronics and
Telecommunications,
Chemicals,
Foodstuffs,
Financial Services,
Petroleum Refining
and Equipment,
Biomedical Products**Time zone:**
Singapore Time**Climate:**
Tropical**Population:**
5,847,000**Currency:**
Singapore Dollar**Butterfield services:**
Trust and
Fiduciary Services

LETTER TO SHAREHOLDERS

Dear Shareholders,

Butterfield's vision is to be the world's leading, independent offshore bank and trust company. We are making solid progress toward achieving that goal through targeted acquisitions, investment in our people, emphasis on operational efficiencies, and an unrelenting focus on regulatory compliance.

During 2018, our strategy resulted in record net income of \$195.2 million, up from \$153.3 million in 2017, while core net income* (which excludes items that are not representative of our ongoing operations) rose to \$197.0 million from \$158.9 million the prior year. Our core return on average tangible common equity* was among the strongest in the banking industry at 25.6%.

Our unique business model produced revenue of \$517.8 million from a diversified mix of interest income and fees. Net interest income increased by 18% to \$343.0 million, buoyed by higher interest rates and low-cost deposits. Non-interest income rose by nearly \$11 million to \$168.7 million, partly as a result of the Deutsche Bank ("DB") trust acquisition in the first quarter. The DB Global Trust Solutions acquisition added scale to our existing trust operations in Guernsey, the Cayman Islands and Switzerland, and led to the establishment of a Singapore office from which we now serve our legacy and acquired client base.

The subsequent acquisition of Deutsche Bank's banking and custody business in the Cayman Islands and Channel Islands saw a majority of DB's financial intermediary clients in these markets transfer their banking relationships to Butterfield by the end of 2018. In connection with this transaction, Butterfield obtained a full banking license in Jersey, an important offshore market and one that we expect will be a driver of continued growth for the Bank.

Both transactions met our criteria for accretive investments in the highest quality offshore jurisdictions where we understand the business, regulatory, and cultural environment. We will continue to seek out trust and banking opportunities that complement our existing footprint and align with our core competencies.

With the addition of a Jersey bank to our network, we created a Channel Islands business segment comprising the Jersey and Guernsey businesses, reporting to Richard Saunders. Michael Neff was named Managing Director of Bermuda, and he and Richard joined the Executive Committee alongside Michael McWatt, Managing Director of Cayman, reflecting

the foundational importance of these communities to our ongoing performance. Under each of the Managing Directors, jurisdictional operations have been organized to optimize clients' experiences, giving them access to Butterfield's full range of banking, investment management and custody services through local relationship managers.

Earlier this year, we also launched two new international businesses, International Wealth Banking and International Corporate Banking, to address the unique requirements of high net worth families and multi-national companies whose interests and assets span multiple countries.

Although we added headcount and office locations during the year, the complimentary nature of the acquired operations meant that we were able to efficiently integrate new clients and employees into our existing businesses. Our core efficiency ratio* improved by 280 basis points to 61.5% during the year. We expect continued improvement in our cost structure through our focus on process improvements, automation and shifting certain functions to lower-cost jurisdictions within our network.

In Board matters, we welcomed Michael Covell as a Non-Executive Director in April. David Zwiener, who had served as a Director since August 2016 and as Lead Independent Director since July 2017, retired from the Board in October. James Burr, who has served as a Director since June 2016, was appointed Lead Independent Director upon David's retirement.

As we enter our 161st year of banking, we are excited about the future. We look forward to serving our communities in the ten jurisdictions in which we now have offices. I would like to thank our employees across the world, as well as my fellow Directors for making 2018 a successful year. Together, we look forward to creating sustainable value for our clients and shareholders.



Michael W. Collins
Chairman and Chief Executive Officer

BOARD OF DIRECTORS		
Michael Collins** Chairman and Chief Executive Officer 	James Burr Lead Independent Director 	Alistair Barbour Non-Executive Director 
Michael Covell Non-Executive Director 	Caroline Foulger Non-Executive Director 	Conor O'Dea Non-Executive Director 
Meroe Park Non-Executive Director 	Pamela Thomas-Graham Non-Executive Director 	John Wright Non-Executive Director 

EXECUTIVE COMMITTEE		
Elizabeth Bauman Group Head of Human Resources 	Andrew Burns Group Head of Internal Audit 	Siân Dalrymple Group Head of Compliance 
Daniel Frumkin Chief Operating Officer 	Michael McWatt Managing Director, Cayman Islands 	Shaun Morris General Counsel, Group Chief Legal Officer 
Michael Neff Managing Director, Bermuda 	Richard Saunders Managing Director, Channel Islands and the UK 	Michael Schrum Chief Financial Officer 

*Non-GAAP measure. See table "Reconciliation of Non-GAAP Financial Measures" on page 16 of the Annual Report on Form 20-F within this publication for a reconciliation of US GAAP results to non-GAAP measures.

**Michael Collins is also a member of the Executive Committee.

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

FORM 20-F

(Mark One)

REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

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

For the fiscal year ended December 31, 2018

OR

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

OR

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

Date of event requiring this shell company report

For the transition period from _____ to _____

Commission file number: 001-37877

The Bank of N.T. Butterfield & Son Limited

(Exact name of Registrant as specified in its charter)

Bermuda

(Jurisdiction of incorporation or organization)

65 Front Street, Hamilton, HM 12 Bermuda

(Address of principal executive offices)

Shaun Morris, 65 Front Street, Hamilton, HM 12 Bermuda

Telephone: (441) 295-1111; Fax: (441) 292-4365

(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Act.

Title of each class	Name of each exchange on which registered
voting ordinary shares of par value BMS 0.01 each	New York Stock Exchange Bermuda Stock Exchange

Securities registered or to be registered pursuant to Section 12(g) of the Act: **None**

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: **None**

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report.

As of December 31, 2018, there were 55,359,218 shares of the registrant's common stock outstanding.

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.

Yes No

Note – Checking the box above will not relieve any registrant required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 from their obligations under those Sections.

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of “accelerated filer and large accelerated filer” in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer

Accelerated filer

Non-accelerated filer

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP

International Financial Reporting Standards as issued by the International Accounting Standards Board

Other

If “Other” has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow.

Item 17 Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes No

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CROSS REFERENCE SHEET

Form 20-F

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EXPLANATORY NOTE

In this report, unless the context indicates otherwise, the term:

- **"Bank"** or **"Butterfield"** refers to:
 - The Bank of N.T. Butterfield & Son Limited;
- **"BMA"** refers to:
 - The Bermuda Monetary Authority;
- **"Board"** refers to:
 - The Board of Directors of the Bank;
- **"IPO"** refers to:
 - our initial public offering of 12,234,042 common shares completed on September 21, 2016;
- **"common shares"** refers to:
 - the voting ordinary shares of par value BM\$ 0.01 each in the Bank; and
- **"we", "our", "us", "the Company"** and **"the Group"** refer to:
 - the Bank and its consolidated subsidiaries.

PRESENTATION OF FINANCIAL AND OTHER INFORMATION

In this report, references to **"BMD"**, **"BM\$"**, or **"Bermuda Dollars"** are to the lawful currency of Bermuda, and **"USD"**, **"US\$"**, **"\$"** and **"US Dollars"** are to the lawful currency of the United States of America. The Bermuda Dollar is pegged to the US Dollar on a one-to-one basis and therefore, for all periods presented, BM\$1.00 = US\$1.00.

Certain monetary amounts, percentages and other figures included in this report have been subject to rounding adjustments. Accordingly, figures shown as totals in certain tables may not be the arithmetic aggregation of the figures that precede them, and figures expressed as percentages in the text may not total 100% or, as applicable, when aggregated may not be the arithmetic aggregation of the percentages that precede them.

Our consolidated financial statements as of and for the years ended December 31, 2018, 2017 and 2016 have been audited, as stated in the report appearing herein, by PricewaterhouseCoopers Ltd., Bermuda, and are included in this report and are referred to as our audited consolidated financial statements. We have prepared these financial statements in accordance with generally accepted accounting principles in the United States of America (**"US GAAP"**).

We believe that the non-GAAP measures included in this report provide valuable information to readers because they enable the reader to identify the financial measures we use to track the performance of our business and guide management. Furthermore, these measures provide readers with valuable information regarding our core activities, which allows for a more meaningful evaluation of relevant trends when considered in conjunction with measures calculated in accordance with US GAAP. Non-GAAP measures used in this report are not a substitute for US GAAP measures and readers should consider the US GAAP measures as well. For more information on non-GAAP measures, including a reconciliation to the most directly comparable US GAAP financial measures, see "Selected Consolidated Financial Data — Reconciliation of Non-GAAP Financial Measures".

INDUSTRY AND MARKET DATA

Some of the discussion contained in this report relies on certain market and industry data obtained from third-party sources that we believe to be reliable. Market estimates are calculated by using independent industry publications and third-party forecasts in conjunction with our assumptions about our markets. While we believe the industry and market data to be reliable as of the date of this report, this information is subject to change based on various factors, including those discussed under the headings "Cautionary Note Regarding Forward-Looking Statements" and "Risk Factors" in this report.

TRADEMARKS AND SERVICE MARKS

We own or have rights to trademarks and service marks for use in connection with the operation of our business. All other trademarks or service marks appearing in this report that are not identified as marks owned by us are the property of their respective owners. Solely for convenience, the trademarks, service marks and trade names referred to in this report are listed without the ®, (TM) and (sm) symbols, but we will assert, to the fullest extent under applicable law, our applicable rights in these trademarks, service marks and trade names.

IMPLICATIONS OF BEING A FOREIGN PRIVATE ISSUER

We are a foreign private issuer, and so long as we qualify as a foreign private issuer under the Securities Exchange Act of 1934 (the "**Exchange Act**"), we will be exempt from certain provisions of the Exchange Act that are applicable to US domestic public companies, including:

- the sections of the Exchange Act regulating the solicitation of proxies, consents or authorizations in respect of a security registered under the Exchange Act;
- the sections of the Exchange Act requiring insiders to file public reports of their share ownership and trading activities and liability for insiders who profit from trades made in a short period of time;
- the rules under the Exchange Act requiring the filing with the Securities and Exchange Commission (the "**SEC**") of quarterly reports on Form 10-Q containing unaudited financial and other specified information, or current reports on Form 8-K, upon the occurrence of specified significant events; and
- Regulation Fair Disclosure, or Regulation FD, which regulates selective disclosures of material information by issuers.

We are, however, required to file an annual report on Form 20-F within four months of the end of each fiscal year. In addition, we have published and intend to continue to publish our results on a quarterly basis through press releases, distributed pursuant to the rules and regulations of the New York Stock Exchange (the "**NYSE**"). Press releases related to financial results and material events have been and will continue to be furnished to the SEC on Form 6-K. However, the information we are required to file with or furnish to the SEC is less extensive and less timely compared to that required to be filed with the SEC by U.S. domestic issuers. As a result, you may not be afforded the same protections or information that would be made available to you, were you investing in a U.S. domestic issuer. For additional discussion on our foreign private issuer status, see "Management — Foreign Private Issuer Status".

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This annual report contains forward-looking statements. Forward-looking statements are neither historical facts nor assurances of future performance. Instead, they are based on our current beliefs, expectations or assumptions regarding the future of our business, future plans and strategies, our operational results and other future conditions. Forward-looking statements can be identified by words such as "anticipate," "believe," "estimate," "expect," "intend," "may," "plan," "predict," "project," "seek," "target," "potential," "will," "would," "could," "should," "continue," "contemplate" and other similar expressions, although not all forward-looking statements contain these identifying words. These forward-looking statements include all matters that are not historical facts. They appear in a number of places throughout this annual report and include statements regarding our intentions, beliefs or current expectation concerning, among other things, our results of operations, financial condition, capital and liquidity requirements, prospects, growth, strategies and the industry in which we operate.

There are important factors that could cause actual results to differ materially from those contemplated by such forward-looking statements. By their nature, forward-looking statements involve risks and uncertainties because they relate to events and depend on circumstances that may or may not occur in the future. We believe that these risks and uncertainties include, but are not limited to, those described in the "Risk Factors" section of this annual report, which include, but are not limited to, the following:

- changes in economic and market conditions;
- changes in market interest rates;
- our access to sources of liquidity and capital to address our liquidity needs;
- our ability to attract and retain customer deposits;
- our ability to effectively compete with other financial services companies and the effects of competition in the financial services industry on our business;
- our ability to successfully execute our business plan and implement our growth strategy;
- our ability to successfully manage our credit risk and the sufficiency of our allowance for credit loss;
- our ability to successfully develop and commercialize new or enhanced products and services;
- our ability to transact business in EU countries in the aftermath of Brexit;
- damage to our reputation from any of the factors described in this section, in "Risk Factors" and in "Management's Discussion and Analysis of Financial Condition and Results of Operations";
- our reliance on appraisals and valuation techniques;
- our ability to attract and maintain qualified employees and key executives;
- our reliance on third-party vendors;
- our reliance on the effective implementation and use of technology;
- our ability to identify and address cyber-security risks;
- the effect of a material breach of, or interruption to, the security of any of our vendors' systems;
- the failure or interruption of our information and communications systems;
- the effectiveness of our risk management and internal disclosure controls and procedures;
- our ability to maintain effective internal control over financial reporting;
- the likelihood of success in, and the impact of, litigation or regulatory actions;
- the complex and changing regulatory environment in which we operate, including any changing regulatory requirements and restrictions placed on us by our principal regulator, the BMA, and other regulators, the impacts to us of the enactment of the Tax Cuts and Jobs Act in the US on December 22, 2017 as well as our ability to comply with regulatory schemes in multiple jurisdictions.

These factors should not be construed as exhaustive and should be read with the other cautionary statements in this annual report.

Although we base these forward-looking statements on assumptions that we believe are reasonable when made, we caution you that forward-looking statements are not guarantees of future performance and that our actual results of operations, financial condition and liquidity, and the development of the industry in which we operate may differ materially from those made in or suggested by the forward-looking statements contained in this report. In addition, even if our results of operations, financial condition and liquidity, and the development of the industry in which we operate, are consistent with the forward-looking statements contained in this report, those results or developments may not be indicative of results or developments in subsequent periods.

Given these risks and uncertainties, you are cautioned not to place undue reliance on these forward-looking statements. Any forward-looking statement that we make in this report speaks only as of the date of such statement. Except to the extent required by applicable law, we undertake no obligation to update any forward-looking statements or to publicly announce the results of any revisions to any of those statements to reflect future events or developments. Comparisons of results for current and any prior periods are not intended to express any future trends or indications of future performance, unless specifically expressed as such, and should only be viewed as historical data.

INFORMATION ON THE COMPANY

Overview

We are a full service bank and wealth manager headquartered in Hamilton, Bermuda. We operate our business through three geographic segments: Bermuda, the Cayman Islands, and The Channel Islands and the UK. We offer banking services, comprised of retail and corporate banking, and wealth management, which consists of trust, private banking, and asset management in both our Bermuda and Cayman Islands segments. The Channel Islands and the UK segment includes the jurisdictions of Guernsey (Channel Islands), and the UK. In the Channel Islands, a broad range of services are provided to private clients and financial institutions including private banking and treasury services, internet banking, wealth management and fiduciary services. The UK jurisdiction provides mortgage services for high-value residential properties. We also have operations in the jurisdictions of The Bahamas, Canada, Mauritius, Singapore and Switzerland, which we include in our Other segment.

For the year ended December 31, 2018 we generated \$517.8 million in net revenue after provision for credit losses and other gains/losses ("**Net Revenue**"). Our total net revenue by each of our three geographic segments and our non-reportable segment for the years ended December 31, 2018, 2017 and 2016 are as follows:

In millions of \$	For the year ended		
	2018	2017	2016
Net Revenue			
Bermuda segment	\$ 299.4	\$ 268.7	\$ 228.0
Cayman Islands segment	\$ 152.6	\$ 133.1	\$ 123.0
Channel Islands and the UK	\$ 59.0	\$ 46.8	\$ 45.2
Other	\$ 15.2	\$ 11.6	\$ 9.3

Our Net Revenue for the year ended December 31, 2018 consisted of 56.9% from our Bermuda segment, 29.0% from our Cayman Islands segment, 11.2% from our Channel Islands and the UK segment and 2.9% from our Other segments. As of December 31, 2018, we had \$10.8 billion in total assets, \$4.0 billion in net loans, \$9.4 billion in customer deposits (60% USD deposits, 20% USD-pegged deposits), \$96.1 billion of trust assets under administration ("**AUA**"), and \$4.8 billion of assets under management ("**AUM**").

In our Bermuda and Cayman Islands segments, our bank provides a full range of retail and corporate banking services to individuals, local businesses, captive insurers, reinsurance companies, trust companies, and hedge funds. The key products we offer include personal and business deposit services, residential and commercial mortgages, small and medium-sized enterprise and corporate loans, credit and debit card suite, merchant acquiring, mobile / online banking, and cash management.

In all of our segments, we offer wealth management to high net worth and ultra-high net worth individuals, family offices, and institutional and corporate clients. Our wealth management platform has three lines of business: trust, private banking, and asset management.

The trust business line, which utilizes specialists in each of our geographic areas, meets client needs in estate and succession planning, administration of complex asset holdings, and efficient coordination of family affairs. In addition, the business provides pension and employee benefits services for multinational corporations, as well as services that involve administration of and fiduciary responsibility for customized trust structures holding a wide range of asset types including financial assets, property, business assets, and art. As of December 31, 2018, trust AUA totaled \$96.1 billion.

Our private banking business line offers access to a suite of services, targeted toward high net worth individuals, trusts, and family offices, that can be customized to each client's needs and preferences and delivered as part of a coordinated strategy by a dedicated private banker. We provide clients in our Bermuda, Cayman Islands, and Channel Islands and the UK segments with an integrated model that combines traditional wealth management with banking, lending, cash management, foreign exchange services, custody and access to asset management and trust professionals within Butterfield. We also provide our clients with immediate access to their account information through the use of internet banking. As of December 31, 2018, total deposits and loans in our private banking business were \$3.2 billion and \$1.1 billion, respectively.

Our asset management business line provides a broad range of portfolio management services to institutional and private clients. Our target client base includes institutions such as pension funds and captive insurance companies with investable assets over \$10 million and private clients such as high net worth individuals, families, and trusts with investable assets over \$1 million. Our principal services include discretionary investment management, managed portfolio services, money market, and mutual fund offerings. We also offer advisory and self-directed brokerage options. Over 90% of the business's discretionary investment mandates call for balanced growth to conservative allocations. We focus on delivery of reasonable appreciation with an emphasis on capital preservation. The Bank relies on third parties to provide research and investment management expertise, while our own services are concentrated on portfolio construction and managing client relationships. We also provide customized reporting to meet specific needs of our major clients. As of December 31, 2018 our asset management AUM were \$4.8 billion.

From 2014 to 2018, our GAAP net income to common shareholders and our core net income to common shareholders ("**Core Net Income to Common**") had compound annual growth rates ("**CAGRs**") of 16% and 17%, respectively⁽¹⁾. Our earnings generation has allowed us to build capital to return to shareholders and invest strategically, both organically and through acquisitions, to further enhance the growth prospects of our Company. We aim to continue to build excess capital in the future, which we can redeploy into growing our business and return to shareholders.

Our History

The origin of The Bank of N.T. Butterfield & Son Limited traces back to 1758, to the founding of the trading firm of Nathaniel Butterfield. In 1858, our company was established as a bank in Bermuda and has been instrumental to the local economy ever since. The Bank was later incorporated under a special act of the local Parliament in 1904. In the 1960s, as international businesses began contributing substantially to Bermuda's economy, we developed services to work to meet their needs. In 1967, we opened offices in the Cayman Islands and by the 1980s had expanded our operations to include retail banking, investment management, and fund administration. In 1973, we opened our Guernsey office in order to provide customers with access to the Pound Sterling currency after Bermuda's departure from the British Sterling zone. In addition to being Bermuda's first bank, we opened the first ATMs in Bermuda in the 1980s and launched Bermuda's first internet banking service in 2001. In 1971, we listed our common shares on the Bermuda Stock Exchange under the ticker symbol "NTB.BH".

In 2016, we listed our common shares on the New York Stock Exchange under the ticker symbol "NTB". In 2008 and 2009, as a result of the global financial crisis, we realized losses attributable primarily to US non-agency mortgage backed securities in our investment portfolio, as well as write-downs on local market hospitality loans. To raise capital to offset these losses, the Bank executed a \$200 million preference share offering in June 2009. In 2009 and 2010, we implemented a comprehensive restructuring plan for the Company: we hired a new management team, de-risked our balance sheet, and raised \$550 million of common equity from a group of investors that included Carlyle Global Financial Services and related entities (collectively, "The Carlyle Group" or "Carlyle") and Canadian Imperial Bank of Commerce ("CIBC"), as well as existing shareholders. As part of the transaction, we launched a rights offering of \$130 million on April 12, 2010, so as to allow the pre-transaction shareholders to participate in the recapitalization of the Company. The rights offering, which closed on May 12, 2010, was fully subscribed to, and the proceeds were used to repurchase shares from the recapitalization investors. As a result, the recapitalization investors' total investment was reduced to \$420 million.

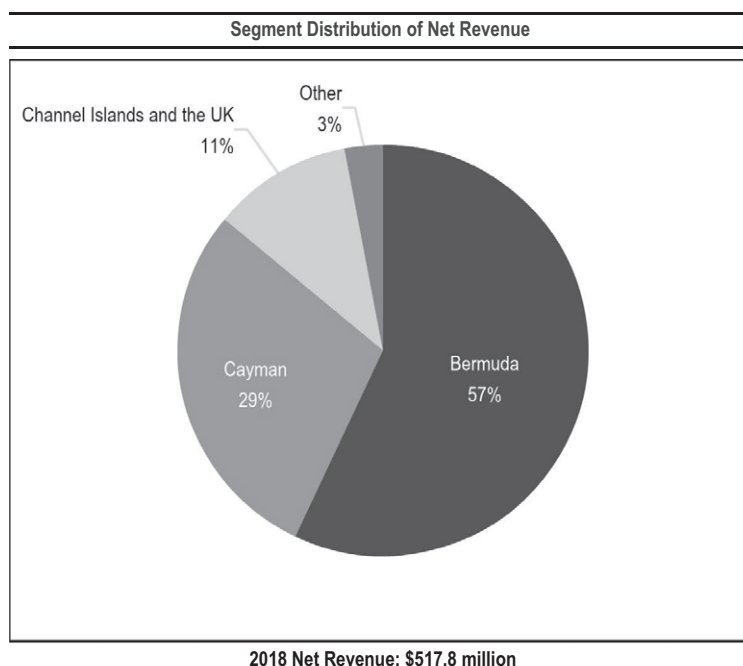
Since our restructuring, we have pursued a strategy to focus on our core business in banking and wealth management. We have executed upon our strategy by streamlining the Company's operations through exiting non-core markets, repositioning our balance sheet, investing in efficiency initiatives, and continuing to invest in our core business lines to grow both organically and through acquisitions. By following this strategy, we have improved our financial results, including growing Core Earnings to Common, every year since 2011 and have been able to initiate a progressive capital return policy for investors. The following items were key steps in executing our strategy:

- In 2010, we sold our operations in Hong Kong and Malta, and in 2012, we sold our operations in Barbados as they were no longer consistent with our strategy.
- In 2010, we sold \$820 million of asset-backed securities to cleanse our investment portfolio.
- In 2013, we implemented an annual cash dividend of \$0.40 per year plus a \$0.10 per year special dividend.
- In 2014, we completed two acquisitions, which allowed us to both expand and complement our existing business lines: Legis Group Holdings' Guernsey-based trust and corporate services business, as well as a significant portion of HSBC's corporate and retail banking business in the Cayman Islands.
- In April 2015, CIBC sold its 19% ownership stake. We repurchased and retired 8 million shares for a total of \$120 million, and The Carlyle Group purchased CIBC's remaining 2.3 million shares and subsequently sold them to other existing investors.
- In December 2015, we repositioned our balance sheet to better match the duration of our assets and liabilities and to reclassify a portion of our Available for Sale ("AFS") portfolio as Held to Maturity ("HTM").
- In February 2016, we commenced an orderly wind-down ("OWD") of our UK operations. We exited our private banking and asset management operations in our UK segment, but retain our UK high net worth mortgage lending business. The OWD was completed by early 2017 with the change in the business operations to mortgage lending services and the change of name of our UK operations to Butterfield Mortgages Limited. The excess capital in the UK was released early in 2017, which we invested in other areas of our business.
- In April 2016, we completed an acquisition of HSBC's Bermuda trust business and private banking investment management operations that added \$1.6 billion of deposits to our balance sheet. As part of the transaction, HSBC also entered into an agreement to refer its existing private banking clients to Butterfield.
- In September 2016, we successfully completed a \$288 million initial public offering and listing on the New York Stock Exchange, through which we raised approximately \$126 million in net primary proceeds.
- In December 2016, we redeemed and canceled all of our issued and outstanding preference shares, which had a book value of \$183 million, removing approximately \$16 million of annual preference dividend and guarantee fees. We also repurchased for cancellation the outstanding warrant from the Government of Bermuda, removing a potentially dilutive instrument.
- In February 2017, we successfully completed a first follow-on offering of 10,989,163 Common Shares. Following the closing of the offering, The Carlyle Group no longer held any Common Shares and the Investment Agreement between Butterfield and Carlyle was terminated.
- In October 2017, we entered into an agreement to acquire Deutsche Bank's Global Trust Solutions ("GTS") business, excluding its US operations. Upon completion of the transaction, Butterfield took over the ongoing management and administration of the GTS portfolio, comprising approximately 1,000 trust structures for some 900 private clients in Guernsey, Switzerland, the Cayman Islands and Singapore. This transaction was completed in March 2018.
- In February 2018, we entered into an agreement to acquire Deutsche Bank's banking and custody business in the Cayman Islands, Jersey and Guernsey, which provides services primarily to financial intermediaries and corporate clients. As part of the deal, we also purchased a service company in Mauritius to provide operations and support services to the Cayman and Channel Islands banking and custody businesses.
- In May 2018, we issued \$75 million aggregate principal amount of 5.25% Fixed to Floating Rate Subordinated Notes due 2028 to repay a portion of our outstanding indebtedness and for other general corporate purposes.

Our Markets

Our two largest segments are Bermuda and the Cayman Islands. As of December 31, 2018, 49% of our total assets were held by our Bermuda segment and 33% by our Cayman Islands segment. Bermuda is our largest segment by number of employees. As of December 31, 2018, our Bermuda segment had \$5.4 billion of assets, \$46.9 billion of trust AUA and \$3.9 billion of AUM, and our Cayman Islands segment had \$3.7 billion of assets, \$7.7 billion of trust AUA and \$0.8 billion of AUM.

The charts below provide the geographic distribution of our Net Revenue for the year ended December 31, 2018.



The Bermuda and Cayman Islands banking markets have historically been characterized by a limited number of participants and significant barriers to entry. In addition, these markets provide us with access to several attractive customer bases: in retail banking, we serve local residents and businesses; in corporate banking, we serve captive insurers, hedge funds, middle-market reinsurers, and other corporates; and in wealth management, we serve private trust clients and ultra-high net worth and high net worth individuals and families.

The international trust market is primarily concentrated in select jurisdictions, including Bermuda, the Cayman Islands, Guernsey, Hong Kong, Jersey, Singapore, and Switzerland. The leading international trust law firms serve as key introducers of clients to Butterfield and are the primary source of new business. Trust clients often hold assets that are international in nature, and as a result, performance of trust businesses is not generally linked to performance of the domestic economies where clients are served.

The private banking market in Bermuda, the Cayman Islands, and Guernsey is composed largely of resident high net worth individuals meeting minimum deposit and/or loan thresholds. Clients are introduced to the private bank through Butterfield's retail banking operation upon reaching the appropriate deposit or loan threshold, Butterfield's trust and asset management arms, as well as through external introducers. Although locally based, private banking clients often hold international assets, and as a result, business performance is not necessarily correlated to the domestic economies where clients are served.

Our asset management business line operates in Bermuda, the Cayman Islands, and Guernsey. As of December 31, 2018, 75% of our AUM was in Bermuda, 17% was in the Cayman Islands, 8% was in Guernsey. In Bermuda and the Cayman Islands, a majority of our institutional and private clients are domestic from a domicile perspective while a majority of our clients in Guernsey are tied to our trust business and are international in nature.

Corporate Information

We are a company incorporated under the laws of Bermuda, incorporated on October 22, 1904, pursuant to the The N.T. Butterfield & Son Bank Act, 1904 (the "Butterfield Act"). We are registered with the Registrar of Companies in Bermuda under registration number 2106. Our registered office and principal executive offices are located at 65 Front Street, Hamilton, HM 12, Bermuda. Our agent for service of process in the United States is C T Corporation System, 111 Eighth Avenue, New York, New York 10011. Our telephone number is (441) 295 1111. We maintain a website at www.butterfieldgroup.com. Neither this website nor the information on or accessible through this website is included or incorporated in, or is a part of, this report.

Summary Risk Factors

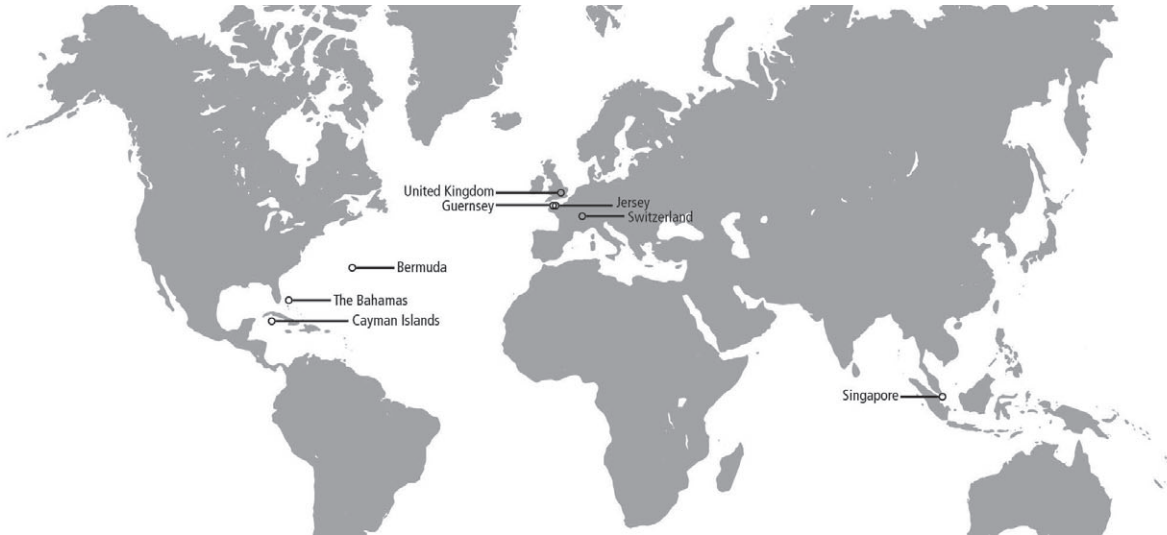
Any of the factors set forth under "Risk Factors" may limit our ability to successfully execute our business strategy. Among these important risks are the following:

- Adverse economic and market conditions, in particular in Bermuda and the Cayman Islands, have in the past resulted in and could in the future result in lower revenue, lower asset quality, increased provisions and lower earnings.
- Unlike geographically more diversified banks, our business is concentrated primarily in Bermuda and the Cayman Islands, and we may be more affected by a downturn in these markets than more diversified competitors.
- A decline in the residential real estate market, in particular in Bermuda, could increase the risk of loans being impaired and could have an adverse effect on our business, financial condition or results of operations.
- The value of the securities in our investment portfolio may decline in the future.
- Fluctuations in interest rates and inflation may negatively impact our net interest margin and our profitability.
- We depend primarily on deposits to fund our liquidity needs; if we are unable to effectively manage our liquidity across the jurisdictions in which we operate, our business, financial condition or results of operations could be adversely affected.
- We face competition in all aspects of our business, and may not be able to attract and retain wealth management, trust and banking clients at current levels.

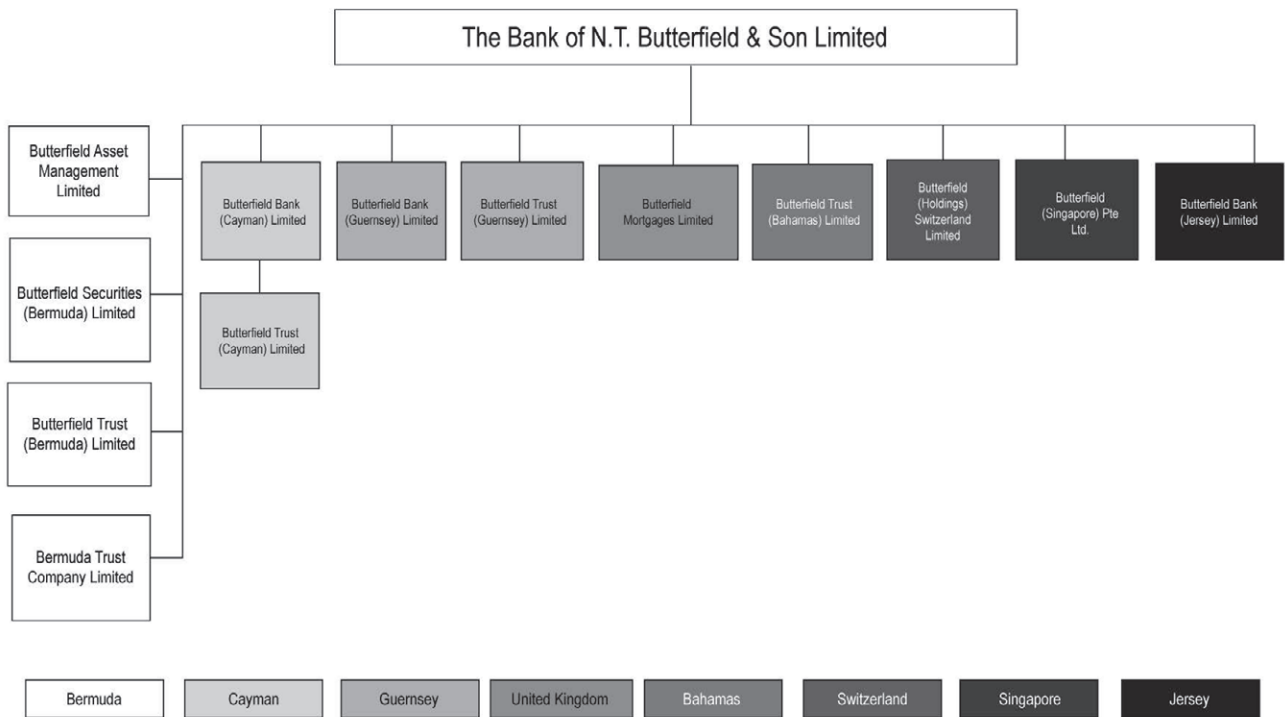
- We could fail to attract, retain or motivate highly skilled and qualified personnel, including our senior management, other key employees or members of the Board, which could adversely affect our business;
- Our controls and procedures may fail or be circumvented, which could have an adverse impact on our business, financial condition or results of operations.
- Volatility levels and fluctuations in foreign currency exchange rates may affect our business, financial position and results of operations.
- Our international business model exposes us to different and possibly conflicting regulatory schemes across multiple jurisdictions.
- US withholding tax and information reporting requirements imposed under the Foreign Account Tax Compliance Act may apply.
- The uncertainty resulting from the vote in June 2016 by the UK electorate in favor of a UK exit from the European Union ("EU"), as well as changes in US legislation, regulation and government policy under the current US administration, could adversely impact our business, financial condition and results of operations.
- Cyber-attacks, distributed denial of service attacks and other cyber-security matters, if successful, could have an adverse effect on our business, financial condition or results of operations.
- We operate in a complex regulatory environment and legal and regulatory changes could have a negative impact on our business, financial condition or results of operations.
- Provisions of Bermuda law and our bye-laws could adversely affect the rights of our shareholders or prevent or delay a change in control.
- Bermuda law differs from the laws in effect in the United States and might afford less protection to shareholders.

Our International Network and Group Structure

The following map presents the several geographic regions in which our business operates:



The following chart presents our corporate structure, indicating our principal regulated subsidiaries as of December 31, 2018:



Bermuda

The Bank itself is licensed in Bermuda to provide banking services and wealth management services. Through its wholly owned Bermuda subsidiary Butterfield Asset Management Limited, it provides asset management services and, through its wholly owned Bermuda subsidiaries Butterfield Trust (Bermuda) Limited, Bermuda Trust Company Limited and Grosvenor Trust Company Limited, it provides corporate trustee, fiduciary and corporate administration services. Bermuda Securities (Bermuda) Limited, a wholly owned subsidiary of the Bank, provides investment advisory and listing sponsor services.

Cayman Islands

Butterfield Bank (Cayman) Limited, a wholly owned subsidiary of the Bank, provides banking services and its wholly-owned subsidiary Butterfield Trust (Cayman) Limited provides trustee, fiduciary and corporate administration services.

Guernsey

Butterfield Bank (Guernsey) Limited is a wholly owned subsidiary of the Bank and provides private banking, custody and administered banking services. Butterfield Trust (Guernsey) Limited is a wholly owned subsidiary of the Bank and provides trustee and fiduciary services.

Bahamas

Butterfield Trust (Bahamas) Limited is a wholly owned subsidiary of the Bank and provides trust and fiduciary services.

Switzerland

Butterfield Trust (Switzerland) Limited is a wholly owned subsidiary of the Bank and provides investment services and through its wholly owned subsidiary Butterfield Trust (Switzerland) Limited provides trust and fiduciary services.

United Kingdom

Butterfield Mortgages Limited is a wholly owned subsidiary of the Bank and provides residential property lending services.

Singapore

Butterfield (Singapore) Pte. Ltd. is a wholly owned subsidiary of the Bank and provides trust and fiduciary services.

Jersey

Butterfield Bank (Jersey) Limited is a wholly owned subsidiary of the Bank, and provides deposit-taking, investment business and custody services.

Competition

The financial services industry and each of the markets in which we operate are competitive. We face strong competition in gathering deposits, making loans and obtaining client assets for management. We compete, both domestically and internationally, with globally oriented asset managers, retail and commercial banks, investment banking firms, brokerage firms and other investment service firms. Due to the trend toward consolidation in the global financial services industry, our larger competitors tend to have broader ranges of product and service offerings, increased access to capital, and greater efficiency. Larger financial institutions may also have greater ability to leverage increasing regulatory requirements and investment in expensive technology platforms. We also face competition from non-banking financial institutions. These institutions have the ability to offer services previously limited to commercial banks. In addition, non-banking financial institutions are not subject to the same regulatory restrictions as banks, and can often operate with greater flexibility and lower cost structures.

The Bermuda banking segment currently consists of four licensed banks and one licensed deposit-taking institution including one large subsidiary of an international bank, HSBC, and three domestic institutions, including Bermuda Commercial Bank and Clarien Bank. In the Cayman Islands, the Bank is one of six Class 'A' full service retail banks licensed to conduct business with domestic and international clients. There are also five non-retail Class 'A' banks and 135 limited service Class 'B' banks, including Cayman National and subsidiaries of international banks, such as RBC, according to CIMA. In certain interest rate environments, additional significant competition for deposits may be expected to arise from corporate and government debt securities and money market mutual funds. We view HSBC in Bermuda and RBC in the Cayman Islands as our most significant competitors.

In our wealth management business line, we face competition from local competitors, as well as much larger financial institutions, including financial institutions that are not based in the markets in which we operate. Revenues from the trust and wealth management business depend in large part on the level of assets under management, and larger international banks may have higher levels of assets under management.

In our trust business line, we face competition primarily from other specialized trust service providers. There are many trust companies in the main international financial centers, and many of our competitors in this sector offer fund administration and corporate services work alongside private client fiduciary services.

Competition for deposits is also affected by the ease with which customers can transfer deposits from one institution to another. Our cost of funds fluctuates with market interest rates and may be affected by higher rates being offered by other financial institutions. Our management believes that our most direct competition for deposits comes from international and domestic financial services firms that target the same customers as the Bank.

Deposits

We are a deposit-led institution with leading market share in our primary segments: Bermuda and the Cayman Islands. We strive to maintain deposit growth and to maintain a strong liquidity profile through a significant excess of deposits over loans through market cycles.

Our deposits are generated principally by our banking business line, which offers retail and corporate checking, savings, and term deposits through our segments in Bermuda, the Cayman Islands and the Channel Islands. In addition, wealth management, through its private banking business line, also provides deposit services to high net worth and ultra-high net worth clients in those same geographic segments. As of December 31, 2018, our Bermuda, Cayman Islands and Channel Islands and the UK segments contributed \$4.5 billion, \$3.2 billion and \$1.6 billion, respectively, to our total customer deposit base as of December 31, 2018.

Total deposits as of December 31, 2018 were \$9.5 billion, down 0.9% over total deposits as of December 31, 2017. Customer demand deposits, which include checking, savings and call accounts, totaled \$7.4 billion, or 79.1% of customer deposits, as of December 31, 2018, compared to \$7.8 billion, or 82.0%, as of December 31, 2017. Customer term deposits totaled \$2.0 billion as of December 31, 2018. The cost of funds on total deposits improved from 11 basis points in 2017 to 18 basis points as of December 31, 2018 as a result of an increase in non-interest bearing deposits and small rate decreases in some jurisdictions.

Lending

We offer a broad set of lending offerings including residential mortgage lending, automobile lending, credit cards consumer financing, and overdraft facilities to our retail customers, and commercial real estate lending, commercial and industrial loans, and overdraft facilities to our commercial and corporate customers. These offerings are provided to our retail, commercial, and private banking clients in our key jurisdictions including Bermuda and the Cayman Islands. We also offer residential mortgage lending through our private banking business in Guernsey and to our high net worth and ultra-high net worth clients in the UK. Our loan portfolio, net of allowance for credit losses stood at \$4.0 billion as of December 31, 2018. The loan portfolio represented 37.5% of total assets as of December 31, 2018, and loans, net of allowance for credit losses, as a

percentage of customer deposits were 42.9%. The effective yield on total loans for the year ended December 31, 2018 was 5.47%, compared to 5.10% for the year ended December 31, 2017.

Residential Mortgage Lending

The residential mortgage portfolio comprises mortgages to clients with whom we are seeking to establish (or already have) a comprehensive financial services relationship. It includes mortgages to individuals and corporate loans secured by way of first ranking charges over the residential property to which each specific loan relates generally on terms which allow for the repossession and sale of the property if the borrower fails to comply with the terms of the loan. As of December 31, 2018, residential mortgages (after specific allowance for credit losses) totaled \$2.7 billion (a \$165.6 million increase from December 31, 2017), accounting for approximately 65.4% of the Group's total gross loan portfolio (after specific allowance for credit losses) and approximately 66.7% of total non-accrual loans in the Group's loan portfolio.

Consumer Lending

We provide loans, as part of our normal banking business, in respect of automobile financing, consumer financing, credit cards and overdraft facilities to retail and private banking clients in the jurisdictions in which we operate. As of December 31, 2018, non-residential loans to consumers (after specific allowance for credit losses) totaled \$180.4 million, accounting for approximately 4.4% of the Group's total gross loan portfolio and approximately 2.1% of total non-accrual loans in the Group's loan portfolio.

Commercial Real Estate Lending

Commercial real estate loans are offered to real estate investors, developers and builders domiciled primarily in Bermuda and the United Kingdom. To manage the Group's credit exposure on such loans, the principal collateral is real estate held for commercial purposes and is supported by a registered mortgage. Cash flows from the properties, primarily from rental income, are generally supported by long-term leases.

As of December 31, 2018, our commercial real estate loan portfolio (after specific allowance for credit losses) totaled \$575.0 million, accounting for approximately 14.2% of the Group's total gross loan portfolio and approximately 8.3% of total non-accrual loans in the Group's loan portfolio.

Our commercial real estate loan portfolio is broken down into two categories: commercial mortgage and construction. As of December 31, 2018, commercial mortgages totaled \$497.0 million (before allowance for credit losses), and construction loans totaled \$78.7 million, accounting for approximately 86.3% and 13.7% of our commercial real estate loan portfolio before allowance for credit losses, respectively.

Other Commercial Lending

The commercial and industrial loan portfolio includes loans and overdraft facilities advanced primarily to corporations and small and medium-sized entities, which are generally not collateralized by real estate and where loan repayments are expected to flow from the operation of the underlying businesses. As of December 31, 2018, the Group's gross other commercial loan portfolio totaled \$542.5 million, accounting for approximately 13.4% of the Group's total gross loan portfolio. As of the same date, the Group's gross loans to governments totaled \$105.7 million, accounting for approximately 2.6% of our loan portfolio. As of December 31, 2018, other commercial loans accounted for approximately 22.9% of our total non-accrual loans.

Investments

Given the large customer deposit base commanded in our Bermuda and Cayman Islands operations, and the relatively low volume of lending demand from our customer base, our investment strategy is more important than may be the case for most financial institutions. In recognition of this, we maintain what we believe to be a conservative approach to investments, requiring the purchase of mainly fixed-rate investments in order to manage interest rate risk. Our investment portfolio is comprised mainly of securities issued or guaranteed by the US Government or federal agencies. The securities in which we invest are generally limited to securities that are considered investment grade (i.e., "BBB" and higher by S&P's Financial Services LLC or an equivalent credit rating). Effective July 31, 2012, we entered into an agreement with Alumina Investment Management LLC ("Alumina") pursuant to which Alumina provides investment advisory services to us in respect of our US Treasury and agency portfolio.

As of December 31, 2018, the Group held \$4.3 billion in investments, representing approximately 39.5% of total assets.

Cash and Liquidity Management

We operate across multiple currency jurisdictions with pervasive multi-currency products. In our deposit taking jurisdictions—Bermuda, the Cayman Islands and Guernsey—there are currently no dedicated central banks, and no deposit insurance scheme infrastructures (such as the Federal Deposit Insurance Corporation in the United States), with the exception of Bermuda, where a deposit insurance scheme has recently been implemented. In addition, we do not have access to borrowing or deposit facilities with the US Federal Reserve or the European Central Bank; therefore, we conservatively manage client deposit balances and the liquidity risk profile of our balance sheets. This involves the retention of significant cash or cash equivalent balances, management of intra-bank counterparty exposure and management of a significant short-dated US Treasury Bill portfolio. As of December 31, 2018, the cash due from banks of \$2.1 billion was composed primarily of \$1.4 billion in interest earning cash equivalents, which are investments with a less than ninety day duration. The remaining amounts were comprised of non-interest earning and interest earning deposits of \$0.1 billion and \$0.5 billion, respectively.

Foreign Exchange Services

We provide foreign exchange services in the normal course of business in all jurisdictions. The major contributors to foreign exchange revenues are Bermuda and the Cayman Islands, accounting for 92% and 90% of our foreign exchange revenue for the year ended December 31, 2018 and 2017, respectively. We do not maintain a proprietary trading book. Foreign exchange income is generated from client-driven transactions and totaled \$32.9 million during the year ended December 31, 2018, compared to \$32.2 million for the comparative period in 2017. The \$0.7 million period-over-period increase reflects increased client activity and related volumes in retail and institutional foreign exchange flows, as well as increased unrealized gains on client service derivatives held over period ends.

Administration Services

Through our wholly owned trust subsidiaries, we provide custody administration and settlement services to a wide range of internal and external investment clients dealing in global markets. Our custody service currently offers custody settlement and safekeeping services in 34 markets globally, including major markets and smaller, less-developed markets, with principal markets covered being the United States, Canada, Europe and Japan.

Our custody service offers safekeeping services for physical and book-entry assets. Custody for listed securities is conducted through Bank of New York Mellon ("BNYM"). Hedge funds, mutual funds and Exchange Traded Funds are held by Brown Brothers Harriman ("BBH"). Trading in investment transactions is settled via our global sub-custodians, BNYM and BBH. Custody services are offered from our Bermuda, Cayman Islands and Guernsey segments and complement core wealth management

services offered by other parts of the Group, and we currently anticipate this business to grow generally proportionally with our wealth management business. Clients of our custody service include a wide range of investment funds and other investment vehicles, corporations and trusts whose related banking requirements are provided by the Bank. As such, the custody client base, in addition to delivering a fee based income, also provides cash balances and foreign exchange transaction flows.

Custody fees comprise a basis point charge on the value of Assets Under Custody ("AUC"), which are subject to a minimum level for smaller, less complex portfolios and charged on a reducing scale as AUC values increase. In addition to these fees, custody clients are charged banking transactions fees based on account activity.

Employees

As of December 31, 2018, we had 1,373 employees on a full-time equivalency basis, which included 1,274 full-time and part-time employees and 99 temporary employees. As of December 31, 2018, we had 572 employees in Bermuda, 277 employees in the Cayman Islands, 331 in the Channel Islands and the UK, and 194 employees in the Other segment. We have not experienced any material employment-related issues or interruptions of services due to labor disagreements and are not a party to any collective bargaining agreements.

Information Technology

We devote significant resources to maintain stable, reliable, efficient and scalable information technology systems. We work with our third-party vendors to monitor and maximize the efficiency of our use of their applications. We use integrated systems to originate and process loans and deposit accounts, which reduces processing time, improves customer experience and reduces costs. Most customer records are maintained digitally. We are also currently executing several initiatives to enhance our online and mobile banking services to further improve the overall client experience.

Since 2011, we have made significant investments to align banking operations, as well as harmonize across the Group for products, services, licensing and hosting locations. Currently, our information technology is operationally divided into two platforms: (i) Bermuda and Cayman and (ii) Guernsey, the United Kingdom and Group Trust. In 2011, our Bermuda and Cayman operations transitioned to a single industry standard banking technology platform utilizing a predominantly outsourced and supported model hosted in Canada. In late 2013, our Guernsey and UK operations were placed under the Group Technology governance structure with a goal to hub core services in a single location Guernsey.

Protecting our systems to ensure the safety of our customers' information is critical to our business. We use multiple layers of protection to control access and reduce risk; including conducting penetration testing and regular vulnerability scanning on our platforms, systems and applications to reduce the risk that any attacks are successful. To protect against disasters, we have a backup offsite core processing system and recovery plans.

Marketing

Through our Marketing & Communications department, we engage select advertising, branding and promotional companies on an as-needed basis and provide business development and sales support for businesses in all jurisdictions. In support of our banking businesses, we broadly market our products and services through print, broadcast, web and social media advertising in Bermuda and the Cayman Islands. Trust and fiduciary services are marketed primarily to intermediaries through representative attendance at and sponsorship of industry conferences and through print advertising in international trade journals.

Intellectual Property

In the highly competitive banking industry in which we operate, intellectual property is important to the success of our business. We own a variety of trademarks, service marks, trade names and logos and spend time and resources maintaining this intellectual property portfolio. We control access to our intellectual property through license agreements, confidentiality procedures, non-disclosure agreements with third parties, employment agreements and other contractual rights to protect our intellectual property.

Properties

Our corporate headquarters is located at 65 Front Street, Hamilton HM 12, Bermuda. In addition to our corporate headquarters we also maintain offices in the Cayman Islands, Guernsey, Jersey, the United Kingdom, The Bahamas, Switzerland, Singapore, Mauritius and Canada. Additionally we operate four branch locations in Bermuda and three branch locations in the Cayman Islands.

Legal Proceedings

From time to time we are a party to various litigation matters incidental to the conduct and in the ordinary course of our business.

As publicly announced, in November 2013, the US Attorney's Office ("USAO") applied for and secured the issuance of so-called John Doe Summonses to six US financial institutions with which the Bank had correspondent bank relationships. The purpose of these Summonses was to identify US persons who may have been using our banking, trust, or other services to evade their own tax obligations in the United States. The Bank has been cooperating with the US authorities in their ongoing investigation.

Although we are unable to determine the amount of financial consequences, fines and/or penalties resulting from this tax compliance review, we have recorded as of December 31, 2018, a provision of \$5.5 million (December 31, 2017: \$5.5 million). As the investigation remains ongoing at this time, the timing and terms of the final resolution, including any fines or penalties, remain uncertain and the financial impact to the Bank could exceed the amount of the provision. In this regard, we note that the US authorities have not approved or commented on the adequacy or reasonableness of the provision. The provision is included on the consolidated balance sheets under other liabilities and on the consolidated statements of operations under other expenses.

SELECTED CONSOLIDATED FINANCIAL AND OTHER DATA

Consolidated Financial Information

The following tables present our selected consolidated financial information as of and for the years ended December 31, 2018, 2017, 2016, 2015, and 2014.

Our historical results for any prior period do not necessarily indicate our results to be expected for any future period. The following data should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations".

The selected consolidated financial information presented as of December 31, 2018 and 2017 and for the years ended December 31, 2018, 2017 and 2016 have been derived from the audited consolidated financial statements of The Bank of N.T. Butterfield & Son Limited included elsewhere in this report. The selected consolidated financial information presented as of December 31, 2016, 2015 and 2014 and for the years ended December 31, 2015 and December 31, 2014 have been derived from the audited consolidated financial statements of The Bank of N.T. Butterfield & Son Limited, which are not included elsewhere in this report.

Statement of Operations Data

(in millions of \$, unless indicated otherwise)	For the year ended December 31,				
	2018	2017	2016	2015	2014
Total interest income	367.6	305.6	274.9	262.6	265.1
Total interest expense	24.6	15.9	16.4	23.3	26.6
Net interest income before provisions for credit losses	343.0	289.7	258.5	239.3	238.5
Provisions for credit losses	7.0	5.8	(4.4)	(5.7)	(8.0)
Net interest income after provisions for credit losses	350.0	295.6	254.1	233.5	230.4
Total non-interest income	168.7	157.8	147.5	140.2	134.8
Total other gains (losses)	(0.9)	1.3	1.0	(9.4)	15.7
Total net revenue	517.8	454.7	402.6	364.3	381.0
Total non-interest expense	321.3	300.3	285.9	285.2	273.0
Net income before income taxes from continuing operations	196.5	154.3	116.7	79.0	108.0
Income tax (expense) benefit	(1.3)	(1.1)	(0.7)	(1.3)	0.2
Net income from continuing operations	195.2	153.3	115.9	77.7	108.2
Net income	195.2	153.3	115.9	77.7	108.2
Net income to common shareholders	195.2	153.3	58.4	61.2	91.6
<i>Earnings per common share from continuing operations (in US\$)⁽¹⁾</i>					
<i>Basic</i>	3.55	2.82	1.20	1.25	1.67
<i>Diluted⁽²⁾</i>	3.50	2.76	1.18	1.23	1.65
Cash Dividends declared per common share (in BM\$) ⁽¹⁾	1.52	1.28	0.40	0.50	0.50
Dividends declared per preference share (in US\$)	—	—	80.00	80.00	80.00

(1) Figures reflect the reverse share split that the Bank effected on September 6, 2016.

(2) Reflects only "in the money" options and warrants to purchase the common shares as well as certain unvested share awards, which have a dilutive effect. Warrants issued to the Government of Bermuda in exchange for the Government's guarantee of the preference shares are not included in the computation of earnings per share because the exercise price was greater than the average market price of the common shares for the relevant periods. In December 2016, in connection with the preference share redemption, the warrant issued to the Government of Bermuda was repurchased for cancellation by the Bank. Only share awards and options 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 common shares were considered dilutive, and therefore, included in the computation of diluted earnings per share.

Balance Sheet Data

(in millions of \$)	As of December 31,				
	2018	2017	2016	2015	2014
Assets					
Cash due from banks	2,053.9	1,535.1	2,101.7	2,288.9	2,063.3
<i>Of which cash and demand deposits with banks — non-interest bearing</i>	124.2	89.4	110.7	110.9	343.1
<i>Of which demand deposits with banks — interest bearing</i>	487.6	340.3	326.4	378.6	139.2
<i>Of which cash equivalents — interest bearing</i>	1,442.1	1,105.5	1,664.5	1,799.4	1,581.0
Securities purchased under agreement to resell	27.3	178.8	148.8	—	—
Short-term investments	52.3	250.0	519.8	409.5	394.8
Investment in securities	4,255.4	4,706.2	4,400.2	3,223.9	2,989.1
<i>Of which trading</i>	6.5	6.8	6.3	321.3	417.4
<i>Of which available-for-sale</i>	2,182.7	3,317.4	3,332.7	2,201.3	2,233.5
<i>Of which held-to-maturity⁽¹⁾</i>	2,066.1	1,382.0	1,061.1	701.3	338.2
Loans, net of allowance for credit losses	4,043.9	3,776.9	3,570.5	4,000.2	4,019.1
Premises, equipment and computer software	158.1	164.8	167.8	183.4	215.1
Accrued interest	20.9	24.9	22.8	17.5	19.2
Goodwill	24.0	21.5	19.6	23.5	24.8
Intangible assets	50.8	39.1	42.3	27.7	33.0
Equity method investments	14.7	14.1	13.5	12.8	12.8
Other real estate owned	5.3	9.1	14.2	11.2	19.3
Other assets	66.7	58.7	82.5	77.1	67.8
Total assets	10,773.2	10,779.2	11,103.5	10,275.6	9,858.4
Liabilities					
Total customer and bank deposits	9,452.2	9,536.5	10,033.6	9,182.1	8,671.6
<i>Of which customer deposits — Bermuda — non-interest bearing</i>	1,378.5	1,840.2	1,733.7	1,348.9	1,021.4
<i>Of which customer deposits — Bermuda — interest bearing</i>	3,117.1	3,412.6	4,213.4	2,922.8	2,848.7
<i>Of which customer deposits — non-Bermuda — non-interest bearing</i>	733.0	639.5	651.3	532.9	536.7
<i>Of which customer deposits — non-Bermuda — interest bearing</i>	4,189.9	3,631.6	3,411.4	4,363.1	4,224.8
<i>Of which bank deposits — Bermuda</i>	8.1	0.4	0.3	0.4	9.5
<i>Of which bank deposits — non-Bermuda</i>	25.7	12.0	23.5	14.1	30.4
Securities sold under agreement to repurchase	—	—	—	—	—
Employee future benefits	117.2	128.8	140.0	122.1	117.9
Accrued interest	5.1	2.4	2.1	2.7	4.8
Preference share dividends payable	—	—	—	0.7	0.7
Pending payable for investments purchased	—	51.9	—	—	—
Other liabilities	173.0	119.8	100.0	100.5	97.2
Long-term debt	143.3	117.0	117.0	117.0	117.0
Total liabilities	9,890.8	9,956.4	10,392.8	9,525.2	9,009.1
Total shareholders' equity⁽²⁾	882.3	822.9	710.7	750.4	849.4
<i>Of which common share capital⁽⁶⁾</i>	0.6	0.5	0.5	0.5 ⁽⁵⁾	0.6
<i>Of which preference share capital⁽³⁾</i>	—	—	—	—	—
<i>Of which contingent value convertible preference (CVCP) share capital⁽⁴⁾⁽⁶⁾</i>	—	—	—	—	—
Total liabilities and shareholders' equity	10,773.2	10,779.2	11,103.5	10,275.6	9,858.4
Common shares outstanding (number)⁽⁶⁾	55.4	54.7	53.3	47.3	55.0

(1) Fair value of held to maturity debt securities was \$2,036.2 million as of December 31, 2018, \$1,377.4 million as of December 31, 2017, \$1,046.8 million as of December 31, 2016, \$701.5 million as of December 31, 2015 and \$344.0 million as of December 31, 2014.

(2) As of December 31, 2018 the number of outstanding awards of unvested common shares was 0.9 million (December 31, 2017: 0.9 million, December 31, 2016: 0.8 million, December 31, 2015: 0.9 million and December 31, 2014: 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) the exercise price, if any, was lower than the average market price of \$34.72. A warrant, outstanding until the Bank repurchased it in December 2016, to purchase 0.43 million shares (December 31, 2015: 0.43 million, December 31, 2014: 0.43 million and December 31, 2013: 0.43 million) was excluded

from the computation of earnings per share because the exercise price was greater than the average market price of the common shares. Figures reflect the reverse share split that the Bank effected on September 6, 2016.

- (3) Preference share capital in all periods presented was nil, nil, nil, \$182,863 and \$183,046 as of December 31, 2018, 2017, 2016, 2015 and 2014, respectively, representing \$0.01 par value per preference share issued and outstanding as of the respective dates. In December 2016, the Bank redeemed and canceled all outstanding preference shares.
- (4) All CVCP shares were converted to common shares at a 1:1 ratio on March 31, 2015.
- (5) Reflects the repurchase for cancellation of 8,000,000 common shares previously held by CIBC effected on April 30, 2015. See "Management's Discussion and Analysis of Financial Condition and Results of Operations — Contingent Value Convertible Preference Shares — Share Buy-Back Program." Figures reflect the reverse share split that the Bank effected on September 6, 2016.
- (6) Figures reflect the reverse share split that the Bank effected on September 6, 2016.

Financial Ratios and Other Performance Indicators

We use a number of financial measures to track the performance of our business and guide our management. Some of these measures are defined by, and calculated in compliance with, applicable banking regulations, but such regulations often provide for certain discretion in defining and calculating the measures. These measures allow management to review our core activities, enabling us and our investors to evaluate relevant trends meaningfully when considered in conjunction with (but not in lieu of) measures that are calculated in accordance with US GAAP. Non-GAAP measures used in this report are not a substitute for US GAAP measures and readers should consider the US GAAP measures as well.

The following table shows certain of our key financial measures for the periods indicated. Because of the discretion that we and other banks and companies have in defining and calculating these measures, care should be taken in comparing such measures used by us with similarly titled measures of other banks and companies, as such measures may not be directly comparable.

Many of these measures are non-GAAP financial measures. We believe that each of these measures is useful for investors in understanding trends in our business that may not otherwise be apparent when relying solely on our GAAP-calculated results. For more information on the non-GAAP financial measures presented below, including a reconciliation to the most directly comparable GAAP financial measures, see "— Reconciliation of Non-GAAP Financial Measures."

(in %, unless otherwise indicated)	For the year ended December 31,				
	2018	2017	2016	2015	2014
Return on average common shareholders' equity ⁽¹⁾	23.1	19.9	8.9	10.1	13.7
Core return on average tangible common equity ⁽²⁾	25.6	22.4	20.5	17.6	14.4
Return on assets ⁽³⁾	1.8	1.4	1.1	0.8	1.2
Core return on average tangible assets ⁽⁴⁾	1.8	1.5	1.3	1.1	1.2
Net interest margin ⁽⁵⁾	3.25	2.73	2.45	2.48	2.74
Efficiency margin ⁽⁶⁾	61.8	66.2	69.3	74.0	72.0
Core efficiency ratio ⁽⁷⁾	61.5	64.3	63.8	66.0	67.7
Fee income ratio ⁽⁸⁾	32.5	34.8	36.7	37.5	36.9
Common equity Tier 1 capital ratio ⁽⁹⁾⁽¹⁰⁾	19.6	18.2	15.3	10.7	N/A
Tier 1 common ratio ⁽⁹⁾	N/A	N/A	N/A	12.0	14.6
Tier 1 capital ratio ⁽⁹⁾	19.6	18.2	15.3	16.2	19.0
Total capital ratio ⁽⁹⁾	22.4	19.9	17.6	19.0	22.2
Leverage ratio ⁽⁹⁾⁽¹⁰⁾	7.6	6.9	5.8	6.4	N/A
Tangible common equity/tangible assets ⁽¹¹⁾	7.5	7.1	5.9	5.1	6.2
Tangible total equity/tangible assets ⁽¹²⁾	7.5	7.1	5.9	6.8	8.1
Non-performing assets ratio ⁽¹³⁾	0.4	0.4	0.5	0.7	1.0
Non-accrual ratio ⁽¹⁴⁾	1.2	1.2	1.3	1.6	1.8
Non-performing loan ratio ⁽¹⁵⁾	1.4	1.3	1.6	2.0	2.4
Net charge-off ratio ⁽¹⁶⁾	0.1	0.1	0.3	0.2	0.4
Core earnings attributable to common shareholders ⁽¹⁷⁾⁽¹⁸⁾ (in BM\$ million)	197.0	158.9	123.0	97.4	89.9
Core earnings per common share fully diluted ⁽¹⁹⁾⁽²¹⁾ (in BM\$)	3.53	2.86	2.48	1.95	1.61
Common equity per share ⁽²⁰⁾⁽²¹⁾ (in BM\$)	15.94	15.05	13.34	12.24	12.25

- (1) Return on average common shareholders' equity ("**ROE**") measures profitability revealing how much profit is generated with the money invested by common shareholders. ROE represents the amount of net income to common shareholders as a percentage of average common equity and calculated as net income to common shareholders / average common equity. Net income to common shareholders is net income for the full fiscal year, before dividends paid to common shareholders but after dividends to preference shareholders. Average common equity does not include the preference shareholders' equity.
- (2) Core return on average tangible common equity ("**Core ROATCE**") is a non-GAAP financial measure. Core ROATCE measures core profitability as a percentage of average tangible common equity. Core ROATCE is the amount of core income to common shareholders as a percentage of average tangible common equity and is calculated as core earnings to common shareholders / average tangible common equity. Core earnings to common shareholders is net earnings to common shareholders for the full fiscal year (before dividends paid to common shareholders but after dividends to preference shareholders) adjusted to exclude certain items that are included in the financial results presented in accordance with GAAP. Average tangible common equity does not include the preference shareholders' equity or goodwill and intangible assets. For more information on the non-GAAP financial measures, see "— Reconciliation of Non-GAAP Financial Measures".

- (3) Return on assets ("**ROA**") is an indicator of profitability relative to total assets and is intended to demonstrate how efficient management is at using the assets to generate earnings. The ROA ratio is calculated as net income / average total assets.
- (4) Core return on average tangible assets ("**Core ROATA**") is a non-GAAP financial measure. Core ROATA is an indicator used to assess the core profitability of average tangible assets and is intended to demonstrate how efficiently management is utilizing its tangible assets to generate core net income. Core ROATA is calculated by taking the core income as a percentage of average tangible assets and is calculated as core net income / average tangible assets. Core net income is the net income adjusted to exclude certain items that are included in the financial results presented in accordance with GAAP. Core ROATA is a non-GAAP financial measure. For more information on the non-GAAP financial measures, see "— Reconciliation of Non-GAAP Financial Measures".
- (5) Net interest margin ("**NIM**") is a performance metric that examines how successful the Bank's investment decisions are compared to its cost of funding assets and is expressed as net interest income as a percentage of average interest-earning assets. NIM is calculated as net interest income before provision for credit losses / average interest-earning assets. Net interest income is the interest earned on cash due from banks, investments, loans and other interest earning assets minus the interest paid for deposits, short-term borrowings and long-term debt. The average interest-earning assets is calculated using daily average balances of interest-earning assets.
- (6) Efficiency margin is a non-GAAP financial measure. Efficiency margin is an indicator used to assess operating efficiencies and is intended to demonstrate how efficiently management is controlling expenses relative to generating revenues. The efficiency margin is calculated by taking the non-interest expenses as a percentage of total net revenue before total other gains (losses) and provisions for credit losses and is calculated as (non-interest expense - amortization of intangible assets) / (total non-interest income + net interest income before provision for credit losses). For more information on the non-GAAP financial measures, see "— Reconciliation of Non-GAAP Financial Measures".
- (7) The core efficiency ratio is a non-GAAP financial measure. The core efficiency ratio is an indicator used to assess operating efficiencies and is intended to demonstrate how efficiently management is controlling expenses relative to generating revenues. The core efficiency ratio is calculated by taking the core non-interest expenses as a percentage of total net revenue before provision for credit losses and other gains and losses and is calculated as (core non-interest expenses - amortization of intangible assets) / (core non-interest income + core net interest income before provision for credit losses). Core non-interest expenses excludes certain items that are included in the financial results presented in accordance with GAAP including income taxes and amortization of intangible assets. For more information on the non-GAAP financial measures, see "— Reconciliation of Non-GAAP Financial Measures".
- (8) The fee income ratio is a measure used to determine the proportion of revenues derived from non-interest income sources. The ratio is calculated as non-interest income / (non-interest income + net interest income after provision for credit losses).
- (9) The total capital ratio measures the amount of the Bank's capital in relation to the amount of risk it is taking. All banks must ensure that a reasonable proportion of their risk is covered by permanent capital. Prior to January 1, 2015, the Bank's regulatory capital was determined in accordance with Basel II guidelines issued by the BMA. Under Basel II, Pillar I, banks must maintain a minimum total capital ratio of 14.46%, inclusive of all capital buffers. In effect, this means that 14.46% of the risk-weighted assets must be covered by permanent or near permanent capital. The risk weighting process takes into account the relative risk of various types of lending. The higher the capital adequacy ratio a bank has, the greater the level of unexpected losses it can absorb before becoming insolvent. Under Basel III as implemented by the BMA for 2018, we must maintain a total capital ratio of 15.6%. The tier 1 capital ratio is the ratio of the Bank's core equity capital, as measured under Basel II, to its total RWA. RWA are the total of all assets held by the Bank weighted by credit risk according to a formula determined by the regulator. The Bank follows the Basel Committee on Banking Supervision ("BCBS") guidelines in setting formulas for asset risk weights. The tier 1 common ratio is equivalent to the tier 1 capital ratio except that it only includes common equity in the numerator and deducts the preference shareholders' equity. Note that the tier 1 common ratio is calculated in the same manner as the common equity tier 1 ("**CET1**") ratio discussed below, but differs in its inputs based upon RWA calculations under Basel II versus Basel III.
- (10) Effective January 1, 2015, the Bank's regulatory capital is determined in accordance with current Basel III guidelines issued by the BMA. However, the Bank was not required to publish its capital ratios under Basel III until January 1, 2016 as per guidance from the BMA and continued to publish certain ratios under Basel II during 2015. Basel III adopts CET1 as the predominant form of regulatory capital with the CET1 ratio as a new metric. Under Basel III as implemented by the BMA for 2018, we must maintain a minimum CET1 ratio of 9.4%. Basel III also adopts the new Leverage Ratio regime, which is calculated by dividing tier 1 capital by an exposure measure. Under Basel III, banks must maintain a minimum Leverage Ratio of 5.0%. The exposure measure consists of total assets (excluding items deducted from tier 1 capital) and certain off balance sheet items converted into credit exposure equivalents as well as adjustments for derivatives to reflect credit and other risks.
- (11) The tangible common equity/tangible assets ("**TCE/TA**") ratio is a non-GAAP financial measure. The TCE/TA ratio is a measure used to determine how significant of an unexpected loss can be incurred by the Bank before other forms of capital, other than common equity, are impacted. The TCE/TA ratio is calculated as (common equity - intangible assets - goodwill) / tangible assets. Tangible common equity does not include the preference shareholders' equity or goodwill and intangible assets. Tangible assets are the Bank's total assets from continuing operations less goodwill and intangibles. For more information on the non-GAAP financial measures, see "— Reconciliation of Non-GAAP Financial Measures".
- (12) The tangible total equity/tangible assets ("**TE/TA**") ratio is a non-GAAP financial measure. The TE/TA ratio is a measure used to determine how much loss the Bank can absorb before subordinated debt capital is impacted. The TE/TA ratio is calculated as (total shareholders' equity - intangible assets - goodwill) / tangible assets. Tangible assets are the Bank's total assets from continuing operations less intangible assets and goodwill. For more information on the non-GAAP financial measures, see "— Reconciliation of Non-GAAP Financial Measures".
- (13) The non-performing assets ("**NPA**") ratio is an indicator of the credit quality of the Bank's total assets by expressing the non-performing assets as a percentage of total assets. The NPA ratio is calculated as (gross non-accrual loans - specific allowance for credit losses on non-accrual loans + accruing loans past due 90 days + other real estate owned) / total assets.
- (14) The non-accrual ("**NACL**") ratio is an indicator used to assess the credit performance of the Bank's loan portfolio by calculating the non-accrual loans as a percentage of loans. The NACL ratio is calculated as gross non-accrual loans / gross total loans. Note the reference to gross implies the amounts prior to loan allowances for credit losses.
- (15) The non-performing loan ("**NPL**") ratio is an indicator used to assess the credit performance of the Bank's loan portfolio by calculating the non-performing loans as a percentage of loans. The NPL ratio is calculated as total gross non-performing loans / total gross loans.
- (16) The net charge-off ("**NCO**") ratio is an indicator used to assess the net credit loss of the Bank's loan portfolio by calculating the net charge-offs as a percentage of average total loans. The NCO ratio is calculated as net charge-off expense / average total loans. Average total loans is calculated as the average of the month-end asset balances during the relevant period.
- (17) Core net income is a non-GAAP financial measure. Core net income measures net income on a core basis. Core net income is calculated by adjusting net income for income or expense items which are not representative of the ongoing operations of our business. For a reconciliation of core net income to net income, see "— Reconciliation of Non-GAAP Financial Measures".
- (18) Core earnings attributable to common shareholders ("**CEACS**") is a non-GAAP financial measure. CEACS measures profitability attributable to common shareholders on a core basis. For a reconciliation of CEACS to net income, see "— Reconciliation of Non-GAAP Financial Measures".
- (19) Core net income per common share — fully diluted is a non-GAAP financial measure. Core net income per common share — fully diluted measures core profitability attributable to common shareholders on a per share basis. For a reconciliation to net income per share, see "— Reconciliation of Non-GAAP Financial Measures".
- (20) Common equity per share is calculated as total common equity / number of common shares issued and outstanding at period end.

(21) Figures reflect the reverse share split that the Bank effected on September 6, 2016.

Net Interest Income

Net interest income is the amount of interest earned on our interest-earning assets less interest paid on our interest bearing liabilities. The following table shows our net interest income before provision for credit losses for the periods indicated.

(in millions of \$)	For the years ended December 31,					
	2018			2017		
	Average balance (\$)	Interest (\$)	Average rate (%)	Average balance (\$)	Interest (\$)	Average rate (%)
Assets						
Cash due from banks and short-term investments	1,977.3	24.8	1.26 %	2,372.7	17.2	0.72 %
Investment in securities	4,578.9	124.3	2.71 %	4,573.9	101.4	2.22 %
Loans	3,995.8	218.5	5.47 %	3,665.8	187.0	5.10 %
Interest earning assets	10,552.0	367.6		10,612.4	305.6	
Other assets	350.7			346.0		
Total assets	10,902.7	367.6		10,958.4	305.6	
Liabilities						
Deposits	7,375.8	(17.6)	(0.24)%	7,445.0	(10.9)	(0.15)%
Securities sold under agreement to repurchase	1.6	—	(2.11)%	—	—	— %
Long-term debt	133.4	(6.9)	(5.21)%	117.0	(5.0)	(4.24)%
Interest bearing liabilities	7,510.8	(24.6)	(0.33)%	7,562.0	(15.9)	(0.21)%
Non-interest bearing current accounts	2,231.8			2,393.1		
Other liabilities	281.0			254.4		
Total liabilities	10,023.7	(24.6)	(0.25)%	10,209.6	(15.9)	(0.16)%
Shareholders' equity	879.0		—	748.9		—
Total liabilities and shareholders' equity	10,902.7		—	10,958.4		—
Non-interest bearing funds net of non-interest earning assets (free balance)	3,041.1			3,050.3		
Net interest margin		343.0	3.25 %		289.7	2.73 %

For the years ended December 31,

(in millions of \$)	2016			2015			2014		
	Average balance (\$)	Interest (\$)	Average rate (%)	Average balance (\$)	Interest (\$)	Average rate (%)	Average balance (\$)	Interest (\$)	Average rate (%)
Assets									
Cash due from banks and short-term investments	2,655.3	9.8	0.37 %	2,407.9	6.5	0.27 %	1,752.9	5.4	0.31 %
Investment in securities	3,940.6	77.2	1.95 %	3,217.0	69.6	2.16 %	2,877.8	67.7	2.35 %
Loans	3,921.1	188.0	4.78 %	4,026.7	186.5	4.63 %	4,075.0	192.0	4.71 %
Interest earning assets	10,517.0	275.0	2.61 %	9,651.6	262.6	2.72 %	8,705.7	265.1	3.05 %
Other assets	343.4			371.5			410.8		
Total assets	10,860.4	275.0	2.53 %	10,023.1	262.6	2.62 %	9,116.5	265.1	2.91 %
Liabilities									
Deposits	7,733.8	(11.8)	(0.15)%	7,156.7	(18.4)	(0.26)%	6,741.6	(20.9)	(0.31)%
Securities sold under agreement to repurchase	16.0	(0.1)	(0.73)%	2.1	—	— %	22.0	(0.1)	(0.38)%
Long-term debt	117.0	(4.5)	(3.84)%	117.0	(4.9)	(4.15)%	117.2	(5.6)	(4.80)%
Interest bearing liabilities	7,866.8	(16.4)	(0.21)%	7,275.8	(23.3)	(0.32)%	6,880.8	(26.6)	(0.39)%
Non-interest bearing current accounts	2,042.5			1,720.7			1,211.0		
Other liabilities	123.7			196.8			187.2		
Total liabilities	10,033.0	(16.4)	(0.16)%	9,193.3	(23.3)	(0.25)%	8,279.0	(26.6)	(0.32)%
Shareholders' equity	827.4			829.8			837.5		
Total liabilities and shareholders' equity	10,860.4			10,023.1			9,116.5		
Non-interest bearing funds net of non-interest earning assets (free balance)	2,650.2			2,375.8			1,824.9		
Net interest margin		258.6	2.45 %		239.3	2.48 %		238.5	2.74 %

Reconciliation of Non-GAAP Financial Measures

The tables below present computations of earnings and certain other financial measures, which exclude certain significant items that are included in the financial results presented in accordance with GAAP.

We focus on core net income in many of these measures and ratios, which we calculate by adjusting net income for income or expense items which are not representative of the ongoing operations of our business, which results in non-core gains, losses and expense measures. Core net income includes revenue, gains, losses and expense items incurred in the normal course of business. We consider the normal course of business to be the general operations of our business lines of banking and wealth management. We believe that expressing earnings and certain other financial measures excluding these non-core items provides a meaningful base for period-to-period comparisons, which management believes will assist investors in analyzing the operating results of the Bank and predicting future performance. Non-core items are determined by the Chief Financial Officer in conjunction with the Chief Executive Officer, and approved by our Board of Directors. Consideration is given to whether the expense, gain or loss is a result of exceptional circumstances or other decisions made not in the normal course of business. Items which are not in the normal course of business, such as business acquisition costs or impairment losses, or a result of exceptional circumstances, such as business restructuring costs, are considered non-core. These non-GAAP financial measures based on core net income are also used by management to assess the performance of the Bank's business because management does not consider the activities related to the adjustments to be indications of core operations. We believe that presentation of these non-GAAP financial measures will permit investors to assess the performance of the Bank on the same basis as that applied by management. Management and the Board utilize these non-GAAP financial measures utilizing core net income as follows:

- Preparation of the Bank's operating budgets;
- Quarterly financial performance reporting; and
- Monthly reporting of consolidated results (management reporting only).

We calculate core net income attributable to common shareholders by deducting preference dividend and guarantee fees from core net income. We calculate core net income per common share by dividing the core net income attributable to common shareholders by the average number of common shares issued and outstanding during the relevant period.

The core efficiency ratio (non-GAAP), which is a measure of productivity, is generally calculated as core expenses, which is total expenses excluding non-core expense items, *minus* amortization of intangible assets *divided* by core revenue before other gains and losses and provision for credit losses, which excludes non-core revenue items or non-core gains or losses. Management uses this ratio to monitor performance regarding the efficiency of expense management and believes this measure provides meaningful information to investors.

Tangible common shareholders' equity ratios and tangible total asset ratios have become a focus of some investors in analyzing the capital position of the Bank absent the effects of intangible assets and preference shareholders' equity. Traditionally, the BMA and other banking regulatory bodies have assessed a bank's capital adequacy based on Tier 1 capital, and from January 1, 2016 onwards, CET1, the calculation of which is codified in the Basel II and Basel III framework, respectively, implemented by the BMA. Because tangible common shareholders' equity and tangible total assets are not formally defined by GAAP, these measures are considered to be non-GAAP financial measures and other entities may calculate them differently. Since analysts and banking regulators may assess the Bank's capital adequacy using tangible common shareholders' equity or tangible assets, the Bank believes that it is useful to provide investors the ability to assess the Bank's capital adequacy on this same basis. The Bank calculates tangible common equity and tangible total assets on a period end basis. The Bank also measures performance relative to core net income over average tangible common shareholders' equity and average tangible assets to monitor performance and efficiency relative to the Bank's capital adequacy.

We believe the non-GAAP financial measures presented in this report provide useful information to management and investors that is supplementary to our financial condition, results of operations and cash flows computed in accordance with GAAP; however, we acknowledge that our non-GAAP financial measures have a number of limitations. As such, these disclosures should not be viewed as a substitute for results determined in accordance with GAAP, and they are not necessarily comparable to non-GAAP financial measures that other companies use.

The following tables provide: (1) a reconciliation of net income (GAAP) to core net income and core net income attributable to common shareholders (non-GAAP), (2) a computation of core net income attributable to common shareholders per common share fully diluted (non-GAAP), (3) a reconciliation of average and total shareholders' equity (GAAP) to average and total equity and average tangible common equity (non-GAAP), (4) a computation of core return to average tangible common equity (non-GAAP), (5) a reconciliation of average total assets (GAAP) to average tangible assets (non-GAAP), (6) a computation of core return on average tangible assets (non-GAAP), (7) a computation of tangible common equity to tangible assets (non-GAAP), (8) a computation of tangible total equity to tangible assets (non-GAAP), (9) a reconciliation of non-interest expenses (GAAP) to core non-interest expenses (non-GAAP), (10) a computation of the efficiency ratio (non-GAAP), and (11) a computation of the core efficiency ratio (non-GAAP).

For the year ended December 31,

(in millions of \$, unless otherwise indicated)

		2018	2017	2016	2015	2014
Reconciliation of Net Income (GAAP to Core Net Income (non-GAAP))						
Net income	A	195.2	153.3	115.9	77.7	108.2
Dividends and guarantee fee of preference shares		—	—	(15.7)	(16.5)	(16.5)
Premium paid on repurchase/redemption of preference shares ⁽¹⁾	B	—	—	(41.9)	—	(0.1)
Net income to common shareholders	C	195.2	153.3	58.4	61.2	91.6
Non-core (gains), losses and expenses						
<i>Non-core (gains) losses</i>						
Gain on disposal of a pass-through note investment (formerly a SIV) ⁽²⁾		(1.2)	(2.6)	(0.6)	—	(8.7)
Additional consideration from previously disposed of entities ⁽³⁾		—	—	—	—	(0.3)
Realized gain on private equity investment ⁽⁴⁾		—	—	—	—	(1.1)
Income tax refund ⁽⁵⁾		—	—	—	—	(1.0)
Impairment of and gain on disposal of fixed assets (including software) ⁽⁶⁾		—	—	—	5.1	2.0
Change in unrealized (gains) losses on certain investments ⁽⁷⁾		—	—	—	0.7	(9.9)
Adjustment to holdback payable for a previous business acquisition ⁽⁸⁾		—	0.1	0.9	—	1.2
Settlement loss on de-risking on a defined benefit plan ⁽⁹⁾		1.5	—	—	—	—
Total non-core (gains) losses	D	0.3	(2.5)	0.3	5.8	(17.8)
<i>Non-core expenses</i>						
Early retirement program, redundancies and other non-core compensation costs ⁽¹⁰⁾		—	0.2	1.8	8.2	2.7
Tax compliance review costs ⁽¹¹⁾		0.5	2.1	1.6	3.8	10.2
Provision in connection with ongoing tax compliance review ⁽¹²⁾		—	—	0.7	4.8	—
Business acquisition costs ⁽¹³⁾		1.0	2.0	3.2	1.0	3.1
Restructuring charges and related professional service fees ⁽¹⁴⁾		—	1.8	6.3	2.5	—
Investigation of an international stock exchange listing costs ⁽¹⁵⁾		—	—	—	10.1	—
Cost of 2010 legacy option plan vesting and related payroll taxes ⁽¹⁶⁾		—	—	8.8	—	—
Secondary offering costs ⁽¹⁷⁾		—	2.0	—	—	—
Total non-core expenses	E	1.5	8.1	22.4	30.4	16.0
Total non-core (gains), losses and expenses	F=D+E	1.8	5.6	22.7	36.2	(1.8)
Core net income	G=A+F	197.0	158.9	138.6	113.9	106.4
Reconciliation of Return on Equity (GAAP) to Core Return on Average Tangible Common Equity (non-GAAP)						
Core net income attributable to common shareholders⁽¹⁾	H=C-B+F	197.0	158.9	123.0	97.4	89.9
Average shareholders' equity		843.2	771.9	826.0	791.8	849.4
Less: average preference shareholders' equity		—	—	(168.8)	(182.9)	(183.4)
Average common equity	I	843.2	771.9	657.2	608.9	666.0
Less: average goodwill and intangible assets		(74.6)	(61.4)	(58.6)	(54.8)	(42.1)
Average tangible common equity	J	768.6	710.5	598.6	554.1	623.9
Return on equity	C/I	23.1 %	19.9 %	8.9 %	10.1 %	13.7 %
Core return on average tangible common equity	H/J	25.6 %	22.4 %	20.5 %	17.6 %	14.4 %

For the year ended December 31,

(in millions of \$, unless otherwise indicated)

Reconciliation of diluted earnings per share (GAAP) to core earnings per common share fully diluted (non-GAAP)

		2018	2017	2016	2015	2014
Adjusted weighted average number of diluted common shares (in thousands) ⁽¹⁸⁾	K	55.7	55.5	49.6	50.0	55.6
Earnings per common share fully diluted	C/K	3.50	2.76	1.18	1.23	1.65
Non-core items per share	(F-B)/K	0.03	0.10	1.30	0.72	(0.04)
Core earnings per common share fully diluted		3.53	2.86	2.48	1.95	1.61

Reconciliation of return on average assets (GAAP) to core return on average tangible assets (non-GAAP)

Total average assets	L	10,851.2	10,926.1	10,842.6	9,967.5	9,268.9
Less: average goodwill and intangible assets		(74.6)	(61.4)	(58.6)	(54.8)	(42.1)
Average tangible assets	M	10,776.6	10,864.8	10,784.0	9,912.7	9,226.8
Return on average assets	A/L	1.8 %	1.4 %	1.1 %	0.8 %	1.2 %
Core return on average tangible assets	G/M	1.8 %	1.5 %	1.3 %	1.1 %	1.2 %
Tangible equity to tangible assets						
Shareholders' equity		882.3	822.9	710.7	750.4	849.4
Less: goodwill and intangible assets		(74.7)	(60.6)	(61.9)	(51.1)	(57.9)
Tangible total equity	N	807.6	762.3	648.8	699.3	791.5
Less: preference shareholders' equity		—	—	—	(182.9)	(183.0)
Tangible common equity	O	807.6	762.3	648.8	516.4	608.5
Total assets		10,773.2	10,779.2	11,103.5	10,275.6	9,858.4
Less: goodwill and intangible assets		(74.7)	(60.6)	(61.9)	(51.1)	(57.9)
Tangible assets	P	10,698.4	10,718.6	11,041.6	10,224.5	9,800.5
Tangible common equity to tangible assets	O/P	7.5 %	7.1 %	5.9 %	5.1 %	6.2 %
Tangible total equity to tangible assets	N/P	7.5 %	7.1 %	5.9 %	6.8 %	8.1 %

Efficiency ratio

Non-interest expenses		321.3	300.3	285.9	285.2	273.0
Less: Amortization of intangibles		(5.1)	(4.2)	(4.5)	(4.4)	(4.3)
Non-interest expenses before amortization of intangibles	Q	316.3	296.1	281.4	280.8	268.7
Non-interest income		168.7	157.8	147.5	140.2	134.8
Net interest income before provision for credit losses		343.0	289.7	258.5	239.3	238.5
Net revenue before provision for credit losses and other gains/losses	R	511.7	447.6	406.0	379.5	373.3
Efficiency ratio	Q/R	61.8 %	66.2 %	69.3 %	74.0 %	72.0 %

Core efficiency ratio

Non-interest expenses		321.3	300.3	285.9	285.2	273.0
Less: non-core expenses	(E)	(1.5)	(8.1)	(22.4)	(30.4)	(16.0)
Less: amortization of intangibles		(5.1)	(4.2)	(4.5)	(4.4)	(4.3)
Core non-interest expenses before amortization of intangibles	S	314.7	288.0	259.0	250.4	252.7
Core revenue before other gains and losses and provision for credit losses	T	511.7	447.6	406.0	379.5	373.3
Core efficiency ratio	S/T	61.5 %	64.3 %	63.8 %	66.0 %	67.7 %

- Premium paid on the preference share buy-backs and redemption are removed from core net income available to common shareholders as management views these premium amounts as non-core.
- Reflects a gain realized on a liquidation settlement from the Avenir pass-through note, our last remaining structured investment, in 2014. As the Bank no longer holds structured investment products, management determined the gains represented by these liquidation settlements to be non-core. In 2016, 2017 and 2018, the Bank received a further distribution on this liquidation settlement.
- In 2014 and 2013, reflected the relevant portion of proceeds from the sale of our interest in Island Heritage Holdings Ltd. effected in 2012. As is detailed above, due to the nature of the underlying sale, management considers the additional earn-out proceeds realized from this sale to be non-core.
- Reflected a realized gain on the disposal of one of our investments in a private equity holding in the second quarter of 2014. This disposal was very opportunistic in nature as it represented a tender offer for a previously impaired private equity holding. This realization of a sale upon receipt of an opportunistic tender such as this is not in the normal course of business, and therefore management considers gains from it to be non-core.
- In 2014, reflected a tax refund granted by the Guernsey tax authorities relating to the ability to claim accelerated tax allowances on a new IT system that was implemented in 2013. While the Bank considers the costs associated with the implementation of the new IT system to be core to our operations, the benefit realized through the accelerated tax allowances was not the intended consequence. Therefore management considers the resulting gain to be non-core.
- In 2015, reflected impairment write-downs on the core banking system in the UK related to the orderly wind-down of the deposit taking and investment management businesses. In 2014, represented write-downs on certain Bermuda properties, which were being utilized for rental income, adjusting the recorded value to the market

value. These gains or losses were each individually a result of either decisions made which are not part of the core business strategy, such as the impairment write-down in the UK in 2015, or a result of isolated decisions made not in the normal course of business. Therefore management considers these gains and losses to be non-core.

- (7) These gains and losses were a result of the price movements of certain securities which were previously classified as AFS for our operations in Guernsey and the United Kingdom but should have been classified as trading securities in the previously published financial statements since 2011, which have been subsequently revised. This classification introduced unintended asymmetry between core accounting performance measures of the Bank and economic/risk performance of the Bank, and led management to the decision to prospectively dispose of the securities. Management considers this to be an exceptional circumstance, and accordingly has classified these as non-core items.
- (8) In 2017 and 2016, reflected an adjustment to the holdback payable for the acquisition of Legis due to continued strong revenue from legacy clients. In 2014, reflected an adjustment to the initial estimated holdback payable for the acquisition of Legis due to the change in payment probabilities as estimates were updated for actual results. While management considers the integrated operations of acquired entities to be core to our business operations, due to the limited and isolated nature of acquisitions, management does not consider the costs associated with these acquisitions to be a part of the normal course of business. Therefore management considers costs associated with acquisitions, including these contractual adjustments to the holdback payable amount, to be non-core.
- (9) In 2018, these losses reflected a non-core settlement loss on the de-risking of a defined benefit pension plan.
- (10) In 2013, this partially reflected the cost of an early retirement program offered to reduce staff costs. This program has not been offered since. In 2013, additional expenses reflected payments to Treasury and Operations staff whose roles were made redundant as a result of the implementation of a new core banking software. In 2014, a strategic cost program led to a review of work being done in several non-management roles in Guernsey which resulted in these roles being made redundant, and therefore costs as shown reflect payments to these non-management staff whose roles were affected. In 2015, predominantly reflected the cost of negotiated packages for three executives who stepped down from their positions during the year. In 2016, reflected payments to non-executive management staff whose roles were made redundant resulting from a span of control review. In 2017, primarily reflected severance payments to staff in our Bahamas segment as a result of management rescinding our banking license in that jurisdiction. Management does not consider the costs associated with these projects to be core to the strategy of the business.
- (11) In each of the periods reflected costs associated with a review and account remediation exercise to determine the US tax compliance status of US person account holders linked to the publicly announced so-called John Doe Summonses in November 2013 issued by the USAO to six US financial institutions with which the Bank had correspondent banking relationships. These expenses are a result of exceptional circumstances which arose outside of the normal course of business.
- (12) In 2015 and 2016, reflected a provision associated with the aforementioned review and account remediation exercise referenced in the above footnote. Although the Bank is unable to determine the amount of financial consequences, fine and/or penalties resulting from this tax compliance review, this reflects a provision which management believes to be appropriate. These expenses are a result of exceptional circumstances which arose outside of the normal course of business.
- (13) In 2017 and 2018, reflected contract negotiation, due diligence and other legal costs relating to the agreement to acquire Deutsche Bank's GTS business, excluding its US operations. In 2015 and 2016, reflected contract negotiation, due diligence and IT implementation costs relating to the acquisition of the Bermuda Trust Company Limited and the private banking investment management of operations of HSBC Bank Bermuda Limited; in 2014, reflected legal, due diligence and costs for temporary staff assisting with integration relating to the acquisitions of Legis and of select deposits and loans from HSBC Bank Cayman Limited. As above, due to the limited nature of acquisitions, management does not consider the costs associated with these acquisitions to be a part of normal course of business. Therefore, management considers costs associated with acquisitions, specifically including the costs associated with negotiation and integration of operations, to be non-core.
- (14) In 2015, 2016 and 2017, reflected costs associated with the orderly wind-down of the deposit taking, investment management and custody businesses of Butterfield Bank (UK) Limited which included staff redundancy expenses and professional fees. These expenses are a result of exceptional circumstances which arose outside of the normal course of business.
- (15) In 2015, reflected professional and legal fees related to the research and evaluation of an international stock exchange listing for the Bank's common shares. This research and evaluation was undertaken in an effort to provide a means for liquidity for the Bank's shareholders, and was therefore not in the normal course of business. Accordingly, management considers the expenses associated with this investigation to be non-core.
- (16) In 2016, reflected the expense for the vesting of the outstanding 2010 Performance Options resulting from the IPO which led to a \$8.5 million salaries and other employee benefits expense, and a related payroll tax expense of \$0.3 million. Management does not consider these expenses to be core to the strategy of the business.
- (17) In 2017, reflected professional and legal fees related to the secondary follow-on offering of the Bank's common shares. This offering was undertaken in an effort to provide further liquidity for the Bank's shareholders, and was therefore not in the normal course of business. Accordingly, management considers the expenses associated with this offering to be non-core.
- (18) Figures reflect the reverse share split that the Bank effected on September 6, 2016.

RISK FACTORS

The material risks and uncertainties that management believes affect us are described below. Any of the following risks, as well as risks that we do not know or currently deem immaterial, could have a material adverse effect on our business, financial condition or results of operations. Further, the risk factors below include cautionary statements identifying important factors that could cause actual results to differ materially from those expressed in any forward-looking statements made by us or on our behalf. See "Cautionary Note Regarding Forward-Looking Statements."

Risks Relating to Financial Conditions, Market Environment and General Economic Trends

Adverse economic and market conditions, in particular in Bermuda and the Cayman Islands, have in the past resulted in and could in the future result in lower revenue, lower asset quality, increased provisions and lower earnings.

Our financial performance generally, and in particular the ability of our borrowers to pay interest on and repay principal on outstanding loans and the value for the collateral securing those loans, as well as demand for loans and other products and services we offer and whose success we rely on to drive our future growth, is highly dependent upon the business environment in the markets in which we operate. Unlike larger banks that are more diversified, we provide banking and wealth management services mainly to customers in Bermuda and the Cayman Islands. A downturn in the markets in which we operate, in particular in Bermuda or the Cayman Islands, can have a profound impact on our business performance. Some elements of the business environment that affect our financial performance include short-term and long-term interest rates, any downgrade in sovereign credit ratings (such as the downgrade in Bermuda's sovereign rating in 2016), the prevailing yield curve, inflation and price levels, monetary policy, regulatory changes or changes in enforcement thereof, unemployment, investor or business confidence, natural or man-made disasters, the strength of the local economy in the markets in which we operate or a combination of these or other factors. Unfavorable market conditions can result in a deterioration in the credit quality of our borrowers and the demand for our products and services, an increase in the number of loan delinquencies, defaults and charge-offs, additional provisions for loan losses, decreases in asset values, deterioration in investment performance and an overall material adverse effect on the quality of our loan portfolio.

Unlike geographically more diversified banks, our business is concentrated primarily in Bermuda and the Cayman Islands, and we may be more affected by a downturn in these markets than more diversified competitors.

Our banking operations are concentrated in Bermuda and the Cayman Islands, and serve local customers in these markets. In the year ended December 31, 2018, 57% of our total net revenue was derived from our Bermuda segment and 29% of our total net revenue was derived from the Cayman Islands segment. In addition, in the year ended December 31, 2018, approximately \$2 billion, or 49%, of our loans originated in Bermuda and approximately \$1 billion, or 19%, of our loans originated in the Cayman Islands. Accordingly, a downturn in these markets may have a profound effect on our banking business. Because Bermuda and the Cayman Islands do not have well-diversified economies, a downturn in their key industries could affect their economies as a whole and have an adverse effect on our business, financial condition or results of operations. In addition, we have sought to expand our existing trust business line, including through recent acquisitions. Any reduction in demand for trust services in our Bermuda and Cayman Islands segments, due to perceived reputational risks, increasing regulatory scrutiny over activities in these jurisdictions or otherwise, may adversely impact our business and results of operations, including the ongoing success of any of our acquired trust business.

In particular, Bermuda and the Cayman Islands are international business centers in part due to their favorable tax treatment of entities and their political and economic stability. Bermuda is among the largest reinsurance markets, and the Cayman Islands is a leader in fund domiciliation for global asset managers, with 10,689 regulated mutual funds as of September 30, 2018 according to CIMA. These industries are key contributors to the Bermuda and the Cayman Islands economies. As a result, a downturn in these sectors, a change in tax laws, or a shift of business away from Bermuda or the Cayman Islands could result in job losses and harm the economies in these markets. Many of our commercial customers are reinsurance or regulated fund service providers. Accordingly, any downturn or further concentration in the reinsurance market could adversely affect our business, financial condition and results of operations. See "— Regulatory and Tax-Related Risks — Changes in US tax laws could cause the insurance and reinsurance industry to relocate from Bermuda, which could have an adverse effect on our business, financial condition and results of operations".

In addition, changes in legislation and regulation or an attempt by Bermuda to declare independence from the United Kingdom ("UK") or to implement changes in its constitution, including its fiscal and monetary policies, could have a negative effect on Bermuda's position as an international business center and Bermuda-based companies could move from Bermuda. This could have a significant negative effect on the local economy and in turn negatively affect our business.

Tourism is another major contributor to the economies of both Bermuda and the Cayman Islands. In 2017, travel and tourism contributed 17.1% of GDP in Bermuda and 29.5% of GDP in the Cayman Islands. The deterioration of the tourism industry could decrease the value of hotels and other commercial properties, which could adversely affect our commercial loan portfolio. A decline in tourism could similarly result in an increase in unemployment, which could affect the ability of our residential borrowers to make payments on their loans. Accordingly, a decline in tourism in either Bermuda or the Cayman Islands could have a material adverse effect on our business, financial condition or results of operations.

A decline in the residential real estate market, in particular in Bermuda, could increase the risk of loans being impaired and could have an adverse effect on our business, financial condition or results of operations.

We are exposed to the risk that our borrowers may not repay their loans according to their contractual terms and that the collateral securing the payment of these loans may be insufficient. As of December 31, 2018, approximately 57.1% of our Bermuda loan portfolio, net of allowance for credit losses, was composed of residential mortgages in Bermuda and approximately 73.4% of our loan portfolio, net of allowance for credit losses, in our remaining jurisdictions was comprised of residential mortgages. A decline in the real estate market, in particular in Bermuda, would mean that the collateral for our loans would hold less value. As a result, our ability to recover on defaulted loans by selling the underlying real estate would be diminished, and we would be more likely to suffer losses on the defaulted loans. Declines in the real estate market could also adversely affect demand for new loans, further decreasing the interest revenue generated by our loan portfolio. In addition, if our estimate for our allowance for credit losses proves to be incorrect and our allowance is inadequate, we will have to increase the allowance accordingly and may have future charge-offs. This may lead to impairment charges on loans and other assets, higher costs and incurred loan-loss provisions.

The risk of loan impairment may be compounded by the fact that there is no available economic and statistical data regarding the Bermuda, The Bahamas and the Cayman Islands real estate markets. Although reliable and comprehensive economic and statistical data is available for certain real estate markets, such as the Case-Schiller Home Price Index in the United States, there is no comparable statistical data or mechanism to value the overall real estate market in our markets. This lack of information makes it difficult to assess the market value of real estate in these markets, and requires us to rely on observations of the valuation of our own real estate originations in order to assess whether the value of mortgaged real estate has declined. See "—The appraisals and other valuation techniques we use in evaluating and monitoring loans secured by real property may not accurately describe the net value of the collateral that we can realize."

Any of the above factors could have an adverse effect on our business, financial condition or results of operations.

In addition, following the 2008 financial crisis, the Bermuda economy experienced consecutive years of negative GDP growth. International business activity declined from 2009 to 2011, with modest annual growth from 2012 onwards. Since 2015, the Bermuda economy's GDP was nominally positive and various local economic measures

appeared to have stabilized. The impact of the 2008 financial crisis and the resulting decline in international business on employment, population levels and real estate values was negative for several years, with recent apparent stability observed in terms of economic activity and stabilized real estate values. The Bermuda economy's ability to sustain or improve on this recent apparent economic stability is uncertain.

The value of the securities in our investment portfolio may decline in the future.

As of December 31, 2018, we owned \$4.3 billion of investment securities consisting primarily of securities issued by the US government and US governmental agencies. In 2018, our investment portfolio had an average yield of 2.71%.

The fair value of our investment securities may be adversely affected by market conditions, including changes in interest rates, and the occurrence of any events adversely affecting the issuer of particular securities in our investment portfolio. We perform periodic reviews to determine if an other-than-temporary impairment ("OTTI") has occurred. Our Asset and Liability Policy Committee reviews the results of impairment analysis and advises whether an OTTI exists. The process for determining whether an impairment is other-than-temporary usually requires complex, subjective judgments about the future financial performance of the issuer of the relevant security in order to assess the probability of receiving all contractual principal and interest payments on the security.

We did not record any OTTI losses on investments in the years ended December 31, 2018 and 2017. However, in prior periods we have experienced higher OTTI on investments, in particular as a result of investments in structured securities. See "— We depend primarily on deposits to fund our liquidity needs; if we are unable to effectively manage our liquidity across the jurisdictions in which we operate, our business, financial condition or results of operations could be adversely affected."

We may be required to recognize OTTI in future periods, which could have an adverse effect on our business, financial condition or results of operations.

Fluctuations in interest rates and inflation may negatively impact our net interest margin and our profitability.

Net interest income is a significant component of our revenues and changes in prevailing interest rates may adversely affect our business, including the level of net interest income we earn, and for our banking business, the levels of deposits and the demand for loans. The low interest rate environment following the global financial crisis has led to changes in savings rates and continues to shift the interest of savers away from low-rate retail bank deposits.

If interest rates increase, our net interest income would narrow if our cost of funding increased without a correlative increase in the interest we earn from loans and investments. Because we rely extensively on deposits to fund our operations, our cost of funding would increase if there is an increase in the interest rate we are required to pay our customers to retain their deposits. This could occur, for instance, if we are faced with competitive or regulatory pressures to increase rates on deposits. In addition, if the interest rates we are required to pay for other sources of funding increases, our cost of funding would increase. Moreover, increases in interest rates may decrease customer demand for loans as the higher cost of obtaining credit may deter customers from seeking new loans. Further, higher interest rates might also lead to an increased number of delinquent loans and defaults, which would affect the value of our loans.

Changes in interest rates may negatively affect the value of our assets and our ability to realize gains or avoid losses from the sale of those assets, all of which also ultimately affect earnings and capital, as well as our regulatory solvency position. A sustained increase in the inflation rate in our principal markets may also have an adverse effect on our business, financial condition or results of operations. For example, a sustained increase in the inflation rate may result in an increase in nominal market interest rates. A failure to accurately anticipate higher inflation and factor it into our product-pricing assumptions may result in mispricing of our products, which could adversely affect our business, financial position or results of operations. On the other hand, recent concerns regarding negative interest rates and the low level of interest rates generally may negatively impact our net interest income, which may have an adverse impact on our profitability.

If we are unable to effectively manage our liquidity we may need to seek additional financing and our business, financial condition or results of operations could be adversely affected.

We need liquidity to pay our operating expenses, interest on our debt and dividends on our capital stock, and to replace certain maturing liabilities. Without sufficient liquidity, we will be forced to curtail our operations and our business will suffer.

Our main source of funding is customer deposits. As of December 31, 2018, we had \$9.4 billion in customer deposits (60% USD deposits, 20% USD-pegged deposits), with 48% of our deposits derived from our Bermuda segment and 35% of our deposits derived from the Cayman Islands segment, with the balance derived from the Channel Islands. In addition, we source our funding from net income generated by the Bank, net of dividends paid, and to a lesser extent from other sources including the sale of securities to institutional counterparties under repurchase agreements and the sale of trading and AFS securities. Our deposit base includes both demand and term liabilities, but the significant majority of such deposits are demand deposits or are due within six months. Because we rely primarily on short-term deposits for funding, a sudden or unexpected shortage of funds in the banking systems in which we operate may prevent us from obtaining necessary funding without incurring higher costs. Our deposit base includes deposits from commercial and institutional clients which may be more sensitive to financial strength rating changes. A significant withdrawal of deposits in either of these markets could significantly affect our liquidity and our ability to meet our funding needs.

In addition, as a bank with subsidiaries located outside of Bermuda, access to inter-company funds can be restricted because our regulated banking subsidiaries are required to maintain certain liquidity ratios or minimum levels of capital in accordance with the laws of the jurisdictions in which they operate or otherwise. The necessity of maintaining these ratios or levels of capital or other liquidity considerations could restrict the ability of these subsidiaries to transfer funds to us, in the form of cash dividends, loans or advances. Recently, our subsidiaries' ability to upstream funds from certain jurisdictions has been increasingly restricted due to changes in the business and regulatory environments in such jurisdictions.

In the event that our current resources do not satisfy our needs, we may need to seek additional financing. The availability of additional financing will depend on a variety of factors, such as market conditions, the general availability of credit, the volume of trading activities, the overall availability of credit to the financial services industry, our credit ratings and credit capacity, as well as the possibility that customers or lenders could develop a negative perception of our long- or short-term financial prospects.

Banks domiciled in Bermuda, including us, are not supported by a central bank from which to borrow funds, so if we are unable to maintain sufficient liquidity by continuously attracting deposits and other short-term funding, our financial condition, including our capital ratios, funding costs or results of operations could be adversely affected.

Unlike many other jurisdictions, there is no central bank or similar governmental agency in Bermuda from which we may borrow US or Bermuda Dollars if we experience liquidity shortages, which may leave us without a lender of last resort in the event that Bermuda suffers a severe economic downturn at the same time as a liquidity shortage. Similarly, there is no central bank in the Cayman Islands, Jersey or Guernsey to act as a lender of last resort. We may therefore be unable to sufficiently fund our liquidity needs. While there is no central bank or similar governmental agency in Bermuda, the Cayman Islands, Jersey or Guernsey that insures bank deposits, such as the Federal Deposit Insurance Corporation in the United States, the Government of Bermuda has implemented a Deposit Insurance Scheme. See "Supervision and Regulation" and "— The Government of Bermuda has implemented a Deposit Insurance Scheme and we will incur additional costs". Without a central bank from which we could borrow

funds, liquidity management will be critical to the management of our consolidated balance sheet, and an inability to obtain sufficient liquidity could adversely affect our financial condition.

We could be negatively affected if the soundness of other financial institutions and counterparties deteriorates or if such counterparties, including clearing houses, are unwilling to do business with us, in particular in respect of US Dollar transactions.

Given the high level of interdependence between financial institutions, we are and will continue to be subject to the risk of actual or perceived deterioration in the commercial and financial soundness of other financial services institutions. Within the financial services industry, the default by any one institution could lead to defaults by other institutions. Concerns about, or a default by, one institution could lead to significant liquidity problems, losses or defaults by other institutions, because the commercial and financial soundness of many financial institutions may be closely related as a result of their credit, trading, clearing or other relationships. Even the perceived lack of creditworthiness of, or questions about, a financial institution may lead to market-wide liquidity problems and losses or defaults by us or by other institutions. This risk is sometimes referred to as "systemic risk" or "contagion" and may adversely affect financial intermediaries, such as clearing agencies, clearing houses and banks with whom we interact on a daily basis. In particular, BNYM and Wells Fargo act as clearing houses for all our US Dollar transactions. If BNYM's or Wells Fargo's ability to act as our clearing houses becomes impaired or BNYM or Wells Fargo cease to act as our clearing houses for any other reason and other financial institutions are not willing to provide the services currently provided to us by BNYM and Wells Fargo, we could lose our ability to engage in US Dollar transactions, which could lead to severe disruptions in our operations and adversely impact our business, financial condition or results of operations.

The Government of Bermuda has implemented a Deposit Insurance Scheme and we will incur additional costs.

Pursuant to the Deposit Insurance Act 2011 and the Deposit Insurance Rules 2016 of Bermuda, a Deposit Insurance Scheme ("DIS") has come into effect in Bermuda. The DIS is administered by the Bermuda Deposit Insurance Corporation. The DIS is designed to protect the deposits of individuals, charities, unincorporated associations, partnerships, sole proprietors and small businesses by guaranteeing up to \$25,000 of their aggregate Bermuda Dollar deposits in the event of a Bermuda deposit taking institution's failure. The DIS is backed by a Deposit Insurance Fund which is in turn funded from premium contributions that are payable by all banks and credit unions licensed by the BMA. As a bank licensed by the BMA, we are required to be a member of the DIS and pay contributions to the Deposit Insurance Fund. Currently, our premium contribution is calculated by the Bermuda Deposit Insurance Corporation as 0.25% per annum of the average total amount of our Bermuda Dollar deposits that are covered by the DIS guarantee over a rolling three-month period, with our initial contribution backdated to July 1, 2016. Each contribution to the Deposit Insurance Fund (including the initial contribution) is payable every three months in arrears. The amount of the contribution we are liable to pay may change from time to time as the total level of our insured Bermuda Dollar deposits changes; in addition there is no guarantee that the current rate of premium contributions charged by the Bermuda Deposit Insurance Corporation will stay the same and not increase or that the Bermuda Deposit Insurance Corporation will not require additional contributions in the event that the Deposit Insurance Fund is insufficient to pay compensation due to insured depositors. We may also not be able to recover our contributions to the Deposit Insurance Fund from any failed institution whose insured depositors receive payments from the Deposit Insurance Fund. Any contributions we are required to make as part of the DIS (and any associated costs) are a cost to our business, and such costs, including any future increases, may have an adverse effect on our business, financial condition or results of operations.

Changes in banks' inter-bank lending rate reporting practices or the method pursuant to which LIBOR is determined may adversely affect our business and results of operations.

LIBOR and other indices which are deemed "benchmarks" are the subject of recent national, international, and other regulatory guidance and proposals for reform. Some of these reforms are already effective while others are still to be implemented. These reforms may cause such benchmarks to perform differently than in the past, or have other consequences which cannot be predicted. In particular, regulators and law enforcement agencies in the United Kingdom and elsewhere are conducting criminal and civil investigations into whether the banks that contribute information to the British Bankers Association (BBA), which was integrated into UK Finance in 2017, in connection with the daily calculation of LIBOR may have been under-reporting or otherwise manipulating or attempting to manipulate LIBOR. A number of BBA member banks have entered into settlements with their regulators and law enforcement agencies with respect to this alleged manipulation of LIBOR. Actions by the regulators or law enforcement agencies, as well as ICE Benchmark Administration (the current administrator of LIBOR) may result in changes to the manner in which LIBOR is determined or the establishment of alternative reference rates. For example, on July 27, 2017, the U.K. Financial Conduct Authority announced that it intends to stop persuading or compelling banks to submit LIBOR rates after 2021 (the "2017 Announcement"). The 2017 Announcement indicates that the continuation of LIBOR on the current basis cannot and will not be guaranteed after 2021. Consequently, at this time, it is not possible to predict whether LIBOR will continue to be viewed as an acceptable benchmark, whether and to what extent banks will continue to provide LIBOR submissions to the administrator of LIBOR or whether any additional reforms to LIBOR may be enacted in the United Kingdom or elsewhere. Similarly, it is not possible to predict what rate or rates may become accepted alternatives to LIBOR or the effect of any such alternatives on the value of LIBOR-linked financial instruments.

LIBOR is used as a reference or base rate in our loan portfolio, our investment portfolio and our subordinated debt outstanding. Any of the above changes or any other consequential changes to LIBOR or any alternative rate or benchmark as a result of any international, national, or other proposals for reform or other initiatives or investigations, or any further uncertainty in relation to the timing and manner of implementation of such changes, could have a material adverse effect on the value of the investment portfolio, or impact the interest earned on loans and interest payable on our subordinated debt.

As a result of the transition away from LIBOR, we are reviewing our loan agreements and our investments to understand the events that trigger a LIBOR substitution event and how a LIBOR substitution will be implemented on a case by case basis. In certain instances, legacy instruments do not address these matters in clear and workable ways, and we are working with counterparties to address these on a case by case basis to determine the most effective transition.

Any alternative reference or base rate may result in interest payments that are lower than or that do not otherwise correlate over time with the payments that would have been made on the elements of our balance sheet if the LIBOR rate was available in its current form.

More generally, any of the above changes or any other consequential changes to LIBOR as a result of international, national or other proposals for reform or other initiatives or investigations, or any further uncertainty in relation to the timing and manner of implementation of such changes, could have a material adverse effect on our business and results of operations

Our operations are reliant on effective implementation and use of technology and require us to adapt to new technologies, and a breach, interruption or failure of our technology services or the inability to effectively integrate new technologies could have an adverse effect on our business, financial condition or results of operations.

We rely heavily on communications and information systems to conduct business in the banking industry. In particular, we rely on technology to provide key components of our information system infrastructure, including loan, deposit and general ledger processing, risk management information collection and processing for internal control purposes, internet connections and network access. Any disruption in service of these key components, due to a natural catastrophe, or the termination of any third-party software licenses upon which any of these systems is based, could adversely affect our ability to effectively deliver products and services to clients, to detect, assess and manage risk and otherwise to conduct operations. See "— We rely on third parties to provide services that are integral to our ordinary course operations, and their failure to

perform in a satisfactory manner could negatively affect us". Furthermore, any security breach, due to computer viruses, programming, malfeasance or human errors or other events or developments, of information systems or data, whether managed by us or third parties, could interrupt our business, harm our reputation or cause a decrease in the number of clients using our services. The financial services industry is continually undergoing rapid technological change with frequent introductions of new, technology-driven products and services. The effective use of technology increases efficiency and enables financial institutions to better serve customers and to reduce costs. We have continually invested in upgrades to our core banking systems in our two largest markets (Bermuda and the Cayman Islands), made upgrades in Guernsey and the UK, and introduced mobile banking in Bermuda and the Cayman Islands. However, we face the risk of having to establish and maintain further improved technological capabilities, and our future success depends, in part, on an ability to recognize and implement new technologies to address our operational and internal control needs and to meet the demands of our clients. See "— Cyber-attacks, distributed denial of service attacks and other cyber-security matters, if successful, could have an adverse effect on our business, financial condition or results of operations".

Many of our competitors have substantially greater resources to invest in technological improvements than we do. We may not be able to effectively implement new, technology-driven products and services or be successful in marketing these products and services to our customers. In addition, the implementation of technological changes and upgrades to maintain current systems and integrate new ones may also cause service interruptions, transaction processing errors and system conversion delays and may cause us to fail to comply with applicable laws. Failure to successfully keep pace with technological change affecting the financial services industry and avoid interruptions, errors and delays could have an adverse effect on our business, financial condition or results of operations.

We face competition in all aspects of our business, and may not be able to attract and retain wealth management, trust and banking clients at current levels.

We compete, both domestically and internationally, with a broad range of financial institutions. Many of our competitors are larger and have broader ranges of product and service offerings, increased access to capital, greater efficiency and pricing power. We face competition from other domestic and foreign lending institutions and from numerous other providers of financial services, including the following:

- *Non-banking financial institutions.* The ability of these institutions to offer services previously limited to commercial banks has intensified competition. Because non-banking financial institutions are not subject to the same regulatory restrictions as banks, they can often operate with greater flexibility and lower cost structures; and
- *Competitors that have greater financial resources.* Some of our larger competitors, including certain international banks that have a significant presence in our market area, may have greater capital and resources, higher lending limits and may offer products, services and technology that we do not. We cannot predict the reaction of our customers and other third parties with respect to our financial or commercial strength relative to our competition, including our larger competitors.

In our banking business, we face competition mainly from other local banks, such as Bermuda Commercial Bank and Clarien Bank in Bermuda and from Cayman National Corporation in the Cayman Islands, as well as from subsidiaries of international banks, RBC in the Cayman Islands and HSBC in Bermuda, whom we view as our most significant competitors. In our wealth management business line, we face competition from local competitors as well as much larger financial institutions including financial institutions that are not based in the markets in which we operate. Revenues from the trust and wealth management business depend in large part on the level of assets under management, and larger international banks may have higher levels of assets under management.

In our trust business line, we face competition primarily from other specialized trust service providers. There are approximately 500 trust companies in the main international financial centers, and many of our competitors in this sector offer fund administration and corporate services work alongside private client fiduciary services.

Our ability to successfully attract and retain trust, wealth management and banking clients is dependent upon our ability to compete with competitors' investment products, retail products and services, level of investment performance, client services and marketing and distribution capabilities. If we are not successful, our business, financial condition or results of operations may be adversely affected.

Our strategy includes expansion of our business through acquisitions of, or investments in, other companies or new products and services, but we may not be able to achieve regulatory approval for such transactions or be able to achieve the anticipated cost savings, growth opportunities and other benefits anticipated from such transactions.

We seek to grow both organically and through acquisitions. In the past several years, we have made various acquisitions and investments intended to complement and expand our businesses, including our March 2018 acquisition of Deutsche Bank's GTS business, excluding its US operations and our February 2018 agreement with Deutsche Bank to refer Deutsche Bank's clients from their banking and custody business in the Cayman and Channel Islands to us. Our long-term growth strategy includes identifying and effecting selective acquisitions in our core geographies, but we cannot be sure that we will be able to continue to identify suitable acquisition candidates or investment opportunities. Even if we identify suitable targets, there can be no assurance that we will be able to obtain the necessary funding on acceptable terms, if at all, to finance any of those potential acquisitions or investments.

We may also be required to obtain the BMA's approval prior to any potential acquisition or investment and, depending on the transaction, may require other regulatory approvals. Regulators consider a number of factors when determining whether to approve a proposed transaction, and we may have difficulty obtaining the necessary regulatory approvals, government permits or licenses required for such acquisitions. We may fail to pursue, evaluate or complete strategic and competitively significant business opportunities as a result of our inability, or our perceived inability, to obtain any required regulatory approvals in a timely manner or at all.

Even where we are able to complete an acquisition or an investment, we cannot be sure that such acquired entity, business or asset or such investment will perform in line with our assumptions or expectations or otherwise complement our business or strategy.

Future acquisitions could also divert management's time and focus from operating the existing business, and there are no guarantees that our strategic growth initiatives will yield the expected returns. In addition, integrating an acquired company, business or technology possesses significant risks and could result in unforeseen operating difficulties and expenditures including, among other things:

- the incorporation of new technologies into our existing business infrastructure;
- the maintenance of standards, controls, procedures and policies throughout the organization (including effective internal controls over financial reporting and disclosure controls and procedures);
- the consolidation of our corporate or administrative functions;
- the coordination of our sales and marketing functions to incorporate the new business or technology;
- the potential for liabilities and claims arising out of the acquired businesses;
- the maintenance of morale, retention and integration of key employees to support the new business or technology and management of our expansion in capacity; and
- compliance with the regulatory regimes of newly entered jurisdictions.

In addition, a significant portion of the purchase price of companies that we may acquire may be allocated to goodwill and other intangible assets. Intangible assets are tested for impairment annually or when there is a triggering event requiring such testing; an intangible asset that is subject to amortization is periodically reviewed for impairment. Goodwill is tested for impairment on an annual basis. As of December 31, 2018, we had \$74.7 million of goodwill and intangible assets. In the future, if our acquisitions do not yield expected returns or there are changes in discount rates, we may be required to take additional charges to our earnings based on the impairment assessment process, which could harm our business, financial condition, results of operations and prospects.

We rely on our reputation and the appeal of our brand to our customers. Any damage to our reputation and appeal could harm us and our business prospects.

The success of our strategy relies significantly on our reputation and the reputation of our senior management and the Board. In addition, on our customers and key introducers must continue to associate our brand with meeting customer needs and delivering value to those customers. Adverse publicity (whether or not justified) relating to activities by our management, employees, agents or others with whom we do business, such as customer service mishaps or noncompliance with laws, could tarnish our reputation and reduce the value of our brand. With the increase in the use of social media outlets such as Facebook, YouTube, Instagram and Twitter, adverse publicity can be disseminated quickly and broadly, making it increasingly difficult for us to effectively respond. This unfavorable publicity could also require us to allocate significant resources to rebuild our reputation.

As a bank operating offshore, including in Bermuda and the Cayman Islands, we are subject to increasing scrutiny with respect to potential or alleged legal and regulatory breaches and unethical behavior and associated reputational risks. Any circumstance that causes real or perceived damage to our brand or reputation, or offshore banking or wealth management generally, may negatively affect our relationships with our customers and key introducers, which would have an adverse effect on our business, financial conditions or results of operations.

Potential reputational issues include, but are not limited to:

- breaching or facing allegations of having breached legal and regulatory requirements (including, but not limited to, conduct requirements, money laundering, anti-terrorism financing requirements, laws against assisting in tax evasion, cybersecurity and data protection laws);
- acting or facing allegations of having acted unethically (including having adopted inappropriate sales and trading practices);
- failing or facing allegations of having failed to maintain appropriate standards of customer privacy, customer service and record-keeping;
- failing to appropriately address potential conflicts of interest;
- experiencing technology failures that impact customer services and accounts;
- failing to properly identify legal, reputational, credit, liquidity and market risks inherent in products offered; and
- changing the terms of our product offerings and pricing that may result in outcomes for customers that are unfair or perceived to be unfair.

A failure to address the above or any other relevant issues appropriately could make customers unwilling to do business with us, which could have an adverse effect on our business, financial condition or results of operations and could damage our relationships with our employees and regulators.

The appraisals and other valuation techniques we use in evaluating and monitoring loans secured by real property may not accurately describe the net value of the collateral that we can realize.

In considering whether to make a loan secured by real property, we generally require an appraisal of the property. However, an appraisal is only an estimate of the value of the property at the time the appraisal is made, and, as real estate values may change significantly in relatively short periods of time (especially in periods of heightened economic uncertainty), this estimate may not accurately describe the net value of the real property collateral after the loan is made. As a result, we may not be able to realize the full amount of any remaining indebtedness when we foreclose on and sell the relevant property. In addition, we rely on appraisals and other valuation techniques to establish the value of our other-real-estate-owned portfolio ("OREO") and to determine certain loan impairments. If any of these valuations is inaccurate, our consolidated financial statements may not reflect the correct value of our OREO, and our allowance for credit losses may not reflect accurate loan impairments. This could have an adverse effect on our business, financial condition or results of operations.

The Bank's credit ratings have a direct effect on its competitive position, and declines in the Bank's ratings would increase the cost of borrowing funds and make our ability to raise new funds, attract and retain deposits or renew maturing debt more difficult, which may negatively affect long-term and short-term funding.

The Bank's credit strength ratings are an important component of its liquidity profile and competitive position. Ratings show each agency's view of our financial strength, operating performance and ability to meet debt obligations as they become due. Nationally recognized statistical rating organizations ("NRSROs") periodically review the financial performance and condition of banks and may downgrade or change the outlook on a bank's ratings due to, for example: a change in a bank's regulatory capital ratios; a change in an NRSRO's determination of the amount of capital cushion required to maintain a particular rating; an increase in the perceived risk of a bank's investment portfolio; reduced confidence in management; or other considerations that may or may not be under our control. The Bank has credit ratings from Standard & Poor's ("S&P"), Moody's Investor Service ("Moody's") and Fitch Ratings ("Fitch"). Each of the rating agencies reviews its ratings and rating methodologies on a recurring basis and may decide on a downgrade at any time. The Bank's ratings as of December 31, 2018 are shown in the table below:

	Ratings		
	Fitch	Moody's	S&P
Long-term issuer	BBB	A3	BBB+
Short-term issuer	F2	P-2	A-2
Subordinated debt	BBB-	A3	
Long-term counterparty risk assessment		A2	
Short-term counterparty risk assessment		P-1	

A downgrade in our credit ratings could adversely affect clients' perception of us and our ability to compete successfully in the marketplace for deposits (or result in the withdrawal of deposits). A downgrade in our short-term debt ratings will affect our short-term funding capabilities. As a result, the impact of a one-notch downgrade in credit ratings is currently not likely to have a direct impact on funding programs, activities, borrowing capacity or borrowing costs. In addition, there has been no measurable correlation or effect on deposit levels during previous downgrades and, as a result, historically, no material impacts on the Bank's operations or results.

Negative changes in the Bank's long-term deposit ratings would also likely increase the cost of raising long-term funding in the capital markets or of borrowing funds. Even where we can access the capital markets, negative changes in our ratings could affect our share price and make any equity offerings more difficult and dilutive to current shareholders, further driving down the Bank's share price. Our ability to replace maturing or existing debt may be more difficult and expensive. In addition, our lenders and counterparties in derivative transactions are sensitive to the risk of a ratings downgrade. However, we may issue additional debt securities in the future which may increase the impact of a one-notice downgrade in credit ratings.

Management cannot predict what actions rating agencies may take, or what actions we may take in response to the actions of rating agencies that could adversely affect our business. As with other companies in the financial services industry, our ratings could be downgraded at any time and without any notice by any NRSRO, which could adversely affect our business, financial conditions or results of operations.

Cyber-attacks, distributed denial of service attacks and other cyber-security matters, if successful, could have an adverse effect on our business, financial condition or results of operations.

We are under continuous threat of loss due to cyber-attacks, especially as we continue to expand customer capabilities to utilize the internet and other remote channels to transact business. Third parties with whom we or our customers do business also present operational and information security risks to us, including security breaches or failures of their own systems. Two of the most significant cyber-attack risks that we face are e-fraud and loss of sensitive customer data. Loss from e-fraud occurs when cyber-criminals extract funds directly from customers' or our accounts using fraudulent schemes that may include internet-based funds transfers. Such attacks are infrequent, but could present significant reputational, legal and regulatory costs to us if successful.

We also face risks related to cyber-attacks and other security breaches in connection with credit card transactions that typically involve the transmission of sensitive information regarding our customers through various third parties, including merchant acquiring banks, payment processors, payment card networks (e.g., Visa or Mastercard), our processors, and BNYM and Wells Fargo as clearing banks. Some of these parties have in the past been the target of security breaches and cyber-attacks, and because the transactions involve third parties and environments such as the point of sale that we do not control or secure, future security breaches or cyber-attacks affecting any of these third parties could impact us through no fault of our own, and in some cases we may have exposure and suffer losses for breaches or attacks relating to them, including from remediation costs, increased future protection costs, reputational harm, loss of customers and potential regulatory inquiries and/or civil litigation. We also rely on numerous other third-party service providers to conduct other aspects of our business operations and face similar risks relating to them.

Recently, there has been a series of distributed denial of service attacks on financial services companies. Distributed denial of service attacks are designed to saturate the targeted online network with excessive amounts of network traffic, resulting in slow response times, or in some cases, causing the site to be temporarily unavailable.

Generally, these attacks are conducted to interrupt or suspend a company's access to internet service. The attacks can adversely affect the performance of a company's website and in some instances prevent customers from accessing a company's website. Potential cyber threats that include hacking and other attempts to breach information technology security controls are rapidly evolving and we may not be able to anticipate or prevent all such attacks. As these threats continue to evolve, we may be required to expend significant additional resources to continue to modify or enhance our layers of defense or to investigate and remediate any information security vulnerabilities. We may also be required to incur significant costs in connection with any regulatory investigation or civil litigation resulting from a cyber-attack or information security breach that impacts us.

In addition, in April 2016, the Society for Worldwide Interbank Financial Telecommunication ("SWIFT") announced that one of its member banks was a target of a cyber-attack in February 2016. During 2017 and 2018, there were several instances of cyber-attacks involving access to the SWIFT platform. The SWIFT platform is used by more than 10,000 financial institutions around the world, including us, to effect fund transfers. A cyber-attack on the SWIFT network can result in theft of funds and other adverse consequences, and our business, financial condition or results of operations may be adversely affected in the event that such a cyber-attack is successful.

Our operational risk management and control systems and processes are designed to help ensure that the risks associated with our activities, including those arising from cyber-attacks, breaches of information security and failure of security and physical protection, are appropriately controlled. However, these systems and processes have inherent limitations, and it is possible that we may not be able to anticipate, detect or recognize threats to our systems or data or that our preventative measures will not be effective to prevent an attack or a security breach. We also have insurance coverage that may, subject to policy terms and conditions, cover certain losses associated with cyber-attacks or information security breaches, but it may be insufficient to cover all losses from any such attack or breach. A successful cyber-attack could result in reputational harm, loss of customers, regulatory fines, civil litigation, remediation costs, increased insurance premiums and/or additional cybersecurity protection costs, any of which could materially and adversely affect our business, financial condition or results of operations.

We could fail to attract, retain or motivate highly skilled and qualified personnel, including our senior management, other key employees or members of the Board, which could adversely affect our business.

Our ability to implement our strategic plan and our future success depends on our ability to continue to attract, retain and motivate highly skilled and qualified personnel, including our senior management and other key employees and directors, competitively with our peers. The marketplace for skilled personnel is becoming more competitive, which means the cost of hiring, incentivizing and retaining skilled personnel may continue to increase. The failure to attract or retain, including as a result of an untimely death or illness of key personnel, or replace a sufficient number of appropriately skilled and key personnel could place us at a significant competitive disadvantage and prevent us from successfully implementing our strategy or effectively managing our risk framework and business operations. This could impair our ability to implement our strategic plan successfully, achieve our performance targets and otherwise have an adverse effect on our business, financial condition or results of operations.

We may also be unable to attract and retain staff due to our locations. Many of our employees are employed in Bermuda and the Cayman Islands, which are small markets. To the extent we have needs for employees in these locations, this may be an impediment to attracting and retaining experienced personnel. Further, immigration laws in small markets may impose limitations on attracting experienced personnel.

In addition, governmental scrutiny with respect to matters relating to compensation and other business practices in the financial services industry has increased dramatically in the past several years and has resulted in more aggressive and intense regulatory supervision in certain markets in which we operate. Future legislation or regulation or government views on compensation may result in us altering compensation practices in ways that could adversely affect our ability to attract and retain talented employees.

We rely on third parties to provide services that are integral to our ordinary course operations, and their failure to perform in a satisfactory manner could negatively affect us.

We rely on third parties to provide services that are integral to our ordinary course operations, including providers of information technology, administrative or investment advisory services. For example, we have a contract with Alumina pursuant to which it provides investment advisory services to us and a contract with DXC Technologies ("DXC") to supply technology infrastructure and application development management, information security and technical support for our locations in Bermuda and the Cayman Islands. We rely on Alumina to provide investment advisory services in respect of our US treasury and agency portfolio and to provide investment advice. Poor

performance on the part of providers of investment advisory services could adversely affect our financial performance. A material breach of customer data, including by DXC, may negatively impact our business reputation and cause a loss of customer business; result in increased expense to contain the event and/or require that we provide credit monitoring services for affected customers; result in regulatory fines and sanctions; and/or may result in litigation. We rely on our outsourced service providers to implement and maintain prudent cyber security controls. We have procedures in place to assess a vendor's cyber security controls prior to establishing a contractual relationship and to periodically review assessments of those control systems; however, these procedures are not infallible and a vendor's system can be breached despite the procedures we employ.

In addition, BNYM and Wells Fargo act as clearing houses for all our US Dollar transactions and, if our relationships with BNYM and Wells Fargo are terminated, we could lose our ability to engage in US Dollar transactions. For more information see "— We could be negatively affected if the soundness of other financial institutions and counterparties deteriorates or if such counterparties, including clearing houses, are unwilling to do business with us, in particular in respect of US Dollar transactions."

We may be alleged to have infringed upon intellectual property rights owned by others or may be unable to protect our own intellectual property.

Competitors or other third parties may allege that we, or consultants or other third parties retained or indemnified by us, infringe on their intellectual property rights. Even in instances where we believe that claims and allegations of intellectual property infringement against us are without merit, defending against such claims is time consuming and expensive and could result in the diversion of time and attention of our management and employees. In addition, although in some cases a third party may have agreed to indemnify us for such costs, such indemnifying party may refuse, or be unable, to uphold its contractual obligations.

Moreover, we rely on a variety of measures to protect our intellectual property and proprietary information, including copyrights, trademarks, and controls on access and distribution. These measures may not prevent misappropriation or infringement of our intellectual property or proprietary information and a resulting loss of competitive advantage. In any event, we may be required to litigate to protect our intellectual property and proprietary information from misappropriation or infringement by others, which is expensive and could cause a diversion of resources and may not be successful.

Our insurance coverage may not be adequate to cover all possible losses that we could suffer, and our insurance costs could increase in the future.

Our insurance policies do not cover all types of potential losses and liabilities and are subject to limits and excesses. There can be no assurance that our insurance will be sufficient to cover the full extent of all losses or liabilities for which we are ultimately responsible, which could result in losses being incurred by the Bank. Additionally, we cannot guarantee that we will be able to renew our current insurance policies on favorable terms, or at all.

Severe weather, natural disasters and other external events could disrupt our businesses and adversely affect our financial condition or results of operations.

Our business is concentrated primarily in Bermuda and the Cayman Islands and is therefore subject to the risks associated with severe tropical storms, hurricanes and tornadoes, including downed telephone lines, flooded facilities, power outages, fuel shortages, damaged or destroyed property and equipment, and work interruptions. Although hurricanes in the Caribbean during 2017 and 2018 did not negatively impact the Bank's operations nor cause any insurable losses, such severe weather conditions and natural disasters may, in the future, negatively impact us and our clients and their ability to meet their financial obligations to us, including the repayment of loans. Such events may also result in an impairment of the value of property or other collateral used to secure the loans that we extend.

In addition, we cannot predict whether we will continue to be able to obtain insurance for hazard-related damages to our premises or, if obtainable and carried, whether this insurance will be adequate to cover our losses. Moreover, we expect any insurance of this nature to be subject to substantial deductibles and to provide for premium adjustments based on claims, and we do not carry insurance against all types of losses. For all these reasons, any future hazard-related costs and work interruptions could have an adverse effect on our business, financial condition or results of operations.

In addition, we are exposed to risks arising out of geopolitical events, such as trade barriers including the imposition of tariffs and other limitations on international trade and travel, exchange controls, government shutdowns and other measures taken by sovereign governments, including by the US, that can hinder economic or financial activity levels. Furthermore, unfavorable political, military or diplomatic events, armed conflict, pandemics and terrorist acts and threats, and the responses to them by governments, could also negatively affect economic activity and have an adverse effect upon our business, financial condition or results of operations.

Our controls and procedures may fail or be circumvented, which could have an adverse impact on our business, financial condition or results of operations.

We face the risk that the design of our controls and procedures that govern operations, financial reporting and compliance across jurisdictions, including those to mitigate the risk of human error or fraud by employees or outsiders, or to monitor financial reporting, may be inadequate, circumvented or exposed to variations in compliance at the local level, thereby causing inaccuracies in data and information or delays in the detection of errors. At present, we do not have a uniform core banking platform in place across the jurisdictions in which we operate and, therefore, we need to use manual processes to compile certain financial information from certain subsidiaries. Moreover, in the past, our information technology capabilities in Bermuda and other jurisdictions have experienced difficulties with certain identified weaknesses, including internal control deficiencies in our facilities and operations (including wire transfer and foreign exchange and interest rate calculation functions). To address these weaknesses we resorted to using manual processing, data spreadsheets or a combination thereof. Use of such manual procedures and data spreadsheets presents financial reporting and operational risks and increases the importance of staff compliance with internal operating and security procedures. In addition, we may incur operational losses due to non-compliance by our staff with internal operating and control procedures and arising from human error. Any failure or circumvention of our controls and procedures or failure to comply with any current or future regulations related to controls and procedures could have an adverse effect on our business, financial condition or results of operations.

Our risk management framework, systems and process, and related guidelines and policies, may prove inadequate to manage our risks, and any failure to properly assess or manage such risks could harm us.

Our approach to risk management requires senior management to make complex judgments, including decisions (based on assumptions about economic factors) about the level and types of risk that we are willing to accept in order to achieve our business objectives. These also include the maximum level of risks we can assume before breaching constraints determined by regulatory capital and liquidity needs and our regulatory and legal obligations including, among others, from a conduct and prudential perspective. Given these complexities, and the dynamic environment in which we operate, the decisions made by senior management may not be appropriate or yield the results expected. In addition, senior management may be unable to recognize emerging risks for us quickly enough to take appropriate action in a timely manner.

Information provided to us about clients and counterparties may not be accurate or complete.

In deciding whether to extend credit or enter into other transactions with clients and counterparties, we rely on information furnished by or on behalf of clients and counterparties, including financial statements and other financial information. We also may rely on representations of clients and counterparties as to the accuracy and completeness of that information and, with respect to financial statements, on reports of independent auditors. Such information could turn out to be inaccurate, including as a result of fraud or misrepresentation on behalf of our clients, counterparties or other third parties, which would increase our credit risk and expose us to possible write-downs and losses.

We cannot be certain that our underwriting and operational controls will prevent or detect such fraud or that we will not experience fraud losses or incur costs or other losses related to such fraud. Our clients and counterparties may also experience fraud in their businesses which could adversely affect their ability to repay their loans or make use of our services.

During the periods reported in this annual report, we have not experienced any material losses, or had to write down collateral, as a result of fraud or misrepresentation, but we cannot be certain that the Bank will not experience any such losses or have to write down any such collateral in the future, which could have a material adverse impact on our results of operation and financial condition.

The markets in which we operate do not have systemic credit bureau reports.

Unlike the United States where the Fair Credit Reporting Act ("FCRA") is designed to help ensure that credit bureaus furnish correct and complete information when evaluating loan applications, the markets in which we operate do not have systemic credit bureau reports. Therefore, we manually review each loan and we use a formal and documented tiered credit approval process that is administered through and governed by our risk management framework. Due to limitations in the availability of information, our assessment of credit risk associated with a particular customer may not be based on complete, accurate or reliable information. In addition, although we have made and continue to make improvements to our credit scoring systems to better assess borrowers' credit risk profiles, we cannot assure you that our credit scoring systems collect complete or accurate information reflecting the actual behavior of customers or that their credit risk can be assessed correctly. Without complete, accurate and reliable information, we have to rely on other publicly available resources and our internal resources, which may not be effective. As a result, our ability to effectively manage our credit risk and subsequently our impairment losses and allowance for credit losses may be materially adversely affected. In addition, because our credit approval process involves detailed analyses of the customer or credit risk, taking into account both quantitative and qualitative factors, it is subject to human or information technology systems errors. In exercising their judgment on current or future credit risk behavior of our customers, our employees may not always be able to assign an accurate credit rating, which may result in our exposure to higher credit risks than indicated by our risk rating system. In addition, we have been trying to refine our credit policies and guidelines to address potential risks associated with particular industries or types of customers. However, we may not be able to timely detect all possible risks before they occur, or due to limited tools available to us, our employees may not be able to effectively implement them, which may increase our credit risk. Failure to effectively implement, consistently follow or continuously refine our credit risk management system may result in an increase in the level of nonperforming loans and a higher risk exposure for us, which could have a material adverse effect on us.

Volatility levels and fluctuations in foreign currency exchange rates may affect our business, financial position and results of operations.

We are exposed to foreign currency risk as a result of our holdings of foreign currency denominated assets and liabilities, investment in foreign subsidiaries, and future foreign currency denominated revenue and expense. Fluctuations in exchange rates may raise the potential for losses resulting from foreign-currency trading positions, where aggregate obligations to purchase and sell a foreign currency do not offset each other or offset each other in different time periods. In addition, Brexit has introduced volatility for the Pound Sterling, which may continue in the future. Such volatility may adversely affect our operations that employ the Pound Sterling as the functional currency and materially affect our results of operations. In addition, the discussion on trade policy in the US has caused significant volatility for the US dollar, which may continue in the future. Such volatility may have negative impacts on our business, financial position and results of operations.

We also provide foreign exchange services to our clients, including trading on behalf of clients in all major currencies and providing hedging solutions to manage foreign exchange risk. Foreign currency volatility influences the level of client activity. Changes in client activity may result in reduced foreign exchange trading income.

In addition, as a result of an order issued under the Bermuda Monetary Authority Act 1969, since 1981, one Bermuda Dollar is equivalent to one US Dollar. However, we cannot make assurances that this parity will continue. In the event that the Government of Bermuda issues an order that materially affects the Bermuda Dollar Parity Order 1981, the value of our common shares could be adversely affected. Moreover, our US Dollar deposits are used to fund mortgages in Bermuda Dollars. As the Bermuda Dollar is pegged to the US Dollar at a one-to-one ratio, we do not engage in hedging activities to counteract this currency risk. If the Bermuda Dollar ceased to be pegged to the US Dollar at this ratio, however, we could be exposed to significant currency risks.

Changes in accounting policies and practices, may be adopted by applicable regulatory agencies or other authoritative bodies, which could materially impact our financial statements.

Our accounting policies and methods are fundamental to how we record and report our financial condition and results of operations. From time to time, applicable regulatory agencies and other authoritative bodies change the financial accounting and reporting standards that govern the preparation of our financial statements. These changes can be difficult to predict and can materially impact how we record and report our financial condition and results of operations.

Our business is subject to risks related to litigation and regulatory actions.

We are, from time to time, involved in various legal proceedings arising from our normal business activities. These claims and legal actions, including supervisory actions by our regulators or proceedings or investigations brought by other regulators, could involve large monetary claims and significant defense costs. The outcome of these cases is uncertain. Substantial legal liability or significant regulatory action against us could have material financial effects or cause significant reputational harm to us, which in turn could seriously harm our business, financial condition, results of operations and prospects. We may be exposed to substantial uninsured liabilities, which could materially affect our results of operations and financial condition.

As previously publicly announced, in November 2013, the USAO applied for and secured the issuance of so-called John Doe Summonses to six US financial institutions with which the Bank had correspondent bank relationships. The purpose of these summonses was to identify US persons who may have been using our banking, trust, or other services to evade their own tax obligations in the United States. Although the Bank has been cooperating with the US authorities in their ongoing investigation, we are unable at this point to predict the timing or outcome of the investigation and it is possible that the ultimate resolution of this matter may be material to our financial results. Although we are unable to determine the amount of financial consequences, fines and/or penalties resulting from this tax compliance review, we have recorded as of December 31, 2018, a provision of \$5.5 million (December 31, 2017: \$5.5 million). As the investigation remains ongoing at this time, the timing and terms of the final resolution, including any fines or penalties, remain uncertain and the financial impact to the Bank could exceed the amount of the provision. In this regard, we note that the US authorities have not approved or commented on the adequacy or reasonableness of the provision.

Regulatory and Tax-Related Risks

We operate in a complex and changing regulatory environment and legal and regulatory changes or our failure to comply with laws and regulations could have a negative impact on our business, financial condition or results of operations.

Our business is subject to ongoing changes in laws, regulations, policies, voluntary codes of practice and interpretations in the markets in which we operate. We currently face an increasingly extensive and complex stricter set of laws, regulations and standards as a result of the concerns enveloping the global financial sector. We are exposed to potential changes in governmental or regulatory policies, price controls, capital controls, exchange controls, other restrictive actions, unfavorable political and diplomatic developments and changes in legislation.

Some areas of potential regulatory change involve multiple jurisdictions seeking to adopt a coordinated approach. This may result in conflicts with specific requirements of the jurisdictions in which we operate and, in addition, such changes may be inconsistently introduced across jurisdictions. See "—Our international business model exposes us to different and possibly conflicting regulatory schemes across multiple jurisdictions."

Changes may also occur in the oversight approach of regulators. It is possible that governments in jurisdictions in which we operate or obtain funding might revise their application of existing regulatory policies that apply to, or impact, the Bank's business, including for reasons relating to national interest and/or systemic stability. The powers exercisable by our regulators may also be expanded in the future.

Regulatory changes and the timing of their introduction continue to evolve and we manage our businesses in the context of regulatory uncertainty. The nature and impact of future changes are not predictable and are beyond our control. Regulatory compliance and the management of regulatory change are an important part of our planning processes. We expect that we will be required to continue to invest significantly in compliance and the management and implementation of regulatory change and, at the same time, significant management attention and resources will be required to update existing, or implement new, processes to comply with new regulations.

Changes and restrictions imposed by our principal regulator, the BMA, and other regulators may also impact our operations by requiring us to have increased levels of liquidity and higher levels of, and better quality, capital and funding as well as place restrictions on the businesses we conduct (including limiting our ability to provide products and services to certain customers), require us to amend our corporate structure or require us to alter our product or service offerings. If a regulatory change has any such effect, it could adversely affect one or more of our businesses, restrict our flexibility, require us to incur substantial costs and impact the profitability of one or more of our business lines. Any such costs or restrictions could adversely affect our business, prospects, financial performance or financial condition.

Effective as of January 1, 2015, the BMA adopted capital and liquidity regulatory requirements consistent with Basel III, a framework released by the Basel Committee on Banking Supervision. The finalization of the implementation is subject to ongoing consultation with the BMA regarding the implementation and interpretation of these new rules. Because the Basel III framework is relatively new and the BMA retains certain limited discretions, we cannot guarantee that we will be able to fully comply with all changing requirements. We also cannot predict what effect Bermuda's adoption of Basel III will have on our operations in other jurisdictions, some of which have not yet adopted Basel III and still operate under the Basel II framework. Furthermore, because Basel III can require capital to be held sometimes far in excess of capital required under Basel II, if other jurisdictions in which we operate move to a Basel III framework, we may not be able to meet our total capital adequacy requirements in those jurisdictions, which may lead us to move more capital into a given jurisdiction. Further, as our capital requirements remain under continuous review by the BMA, we cannot guarantee that the BMA will not seek a higher total capital ratio requirement at any time. Finally, we may be subject to heightened regulatory oversight by the BMA or other regulatory bodies in the future. For more information, see "Supervision and Regulation — Bermuda — Supervision and Monitoring by the BMA".

Our failure or inability to fully comply with the laws and regulations could lead to fines, public reprimands, reputational damage, civil liability, enforced suspension of operations or, in extreme cases, withdrawal of authorization to operate, which could adversely affect our business, financial condition or results of operations. We could also be required to incur significant expenses to comply with new or revised regulations. Future developments or changes in laws, regulations, policies, voluntary codes of practice and their effects are expected to require greater capital resources and significant management attention, and may require us to modify our business strategies and plans.

The costs of complying with, or our failure to comply with, US and foreign laws related to privacy, data security and data protection, such as the EU General Data Protection Regulation, could adversely affect our financial condition, operating results and our reputation.

Regulatory authorities have increased their focus on how companies collect, process, use, store, share and transmit personal data. New privacy security laws and regulations, including the United Kingdom's Data Protection Act 2018 ("DPA") and the European Union General Data Protection Regulation 2016 ("GDPR"), pose increasingly complex and rigorous compliance challenges, which may increase our compliance costs. Any failure to comply with data privacy laws and regulations could result in significant penalties, fines, legal challenges and reputational harm.

Failure to comply with any applicable anti-corruption legislation could result in fines, criminal penalties and an adverse effect on our business, financial condition or results of operations.

We must comply with all applicable laws and regulations, which include anti-corruption, anti-money laundering and anti-terrorist financing laws and regulations. Recently, there has been a substantial increase in the global enforcement of these laws and regulations, in particular in respect of the financial services industry. The measures and procedures we have in place may not be entirely effective in preventing third parties from using us (and our correspondent banks) as a conduit for money laundering (including illegal cash operations) or terrorist financing without our (and our correspondent banks') knowledge or consent. Although, as of the date of this report, we have not been subject to any fines or penalties, as a result of violations of anti-money laundering laws and regulations, there can be no assurances that we will not be subject to such fines, penalties or losses or harm in the future. If we were to be associated with money laundering (including illegal cash operations) or terrorist financing, our reputation could be harmed and we could become subject to fines, sanctions or legal enforcement (including being added to any "blacklists" that would prohibit certain parties, potentially including US Dollar clearing banks, from engaging in transactions with us), which could have an adverse effect on our business, financial condition or results of operations.

Our international business model exposes us to various and possibly conflicting regulatory regimes across multiple jurisdictions.

Our international business model exposes us to different regulatory schemes across multiple jurisdictions. Although our central management and a large part of our business are located in Bermuda, our operations are spread throughout six international jurisdictions. In addition to the logistical and communications challenges this creates, the financial services industry is heavily regulated in many jurisdictions, and each line of the business is exposed to different, constantly evolving and possibly conflicting regulatory schemes. Our management has enacted internal controls and procedures that are designed to result in compliance with these regulatory schemes, which are periodically reviewed and updated, but in the future we might have difficulty meeting and remaining in compliance with existing or new regulatory requirements imposed by a particular jurisdiction, particularly in light of the increasing regulatory scrutiny of financial institutions and their subsidiaries. Our current internal controls for one jurisdiction may not sufficiently comply with the demands of increased oversight in another jurisdiction.

To the extent we are unable to comply with the regulatory scheme of a particular jurisdiction, we might not be able to operate in that jurisdiction, or we may incur fines or penalties for compliance failures or incur costs in order to remediate compliance failures, any or all of which could adversely affect our business, financial condition or results of operations.

The Financial Action Task Force ("FATF") may identify any of the jurisdictions in which we operate as a jurisdiction which has strategic Anti-Money Laundering and/or Anti-Terrorist Financial deficiencies, which could have an adverse effect on our business.

The FATF is an international body that identifies jurisdictions with weak measures to combat money laundering and terrorist financing in public documents published three times a year. FATF and its regional bodies work with such jurisdictions governments and regulatory bodies and report on progress made in addressing identified deficiencies. Such reviews are at a country level, rather than an entity-specific level and thus, whilst the Bank can have in place globally accepted standards to fight money laundering and terrorist financing, the existing regulations in any of the jurisdictions in which we operate may not meet FATF requirements, which could adversely affect our reputation, our ability to obtain financing from the international markets and attract foreign investments.

Our business may be negatively impacted by the proposed economic substance reform in Bermuda and the Cayman Islands.

In December 2018, Bermuda passed The Economic Substance Act 2018. Also in December 2018, the Cayman Islands passed International Tax Co-operation (Economic Substance) Law. In both jurisdictions, this legislation was enacted in response to a 2017 report by the EU's Economic and Financial Affairs Council ("ECOFIN"), which noted that Bermuda and the Cayman Islands (along with a number of other jurisdictions) had committed to address concerns relating to tax evasion and other matters relating to economic substance, by the end of the 2018. We are not able to predict whether the EU will consider Bermuda's and the Caymans Islands' passages of these pieces of legislation as having addressed its obligations, what future developments in this area may be, or the extent to which the requirements of the legislation could impact on our customer base.

Our business in Bermuda may be negatively impacted by the proposed Bermuda Tax Reform legislation.

During 2018, the Bermuda Tax Reform Commission released a report which proposed a number of new taxes, and reforms to existing taxes. None of the proposals have been legislated as yet. However, if any of the proposals or similar reforms are enacted there may be an impact on our tax compliance obligations.

We are required to obtain approval from our regulators before engaging in certain activities.

The laws, regulations, policies, voluntary codes of practice and interpretations applicable to us govern a variety of matters, including the permissible activities that we may engage in. As our principal regulator, the BMA requires that we obtain its prior consent and/or approval before engaging in certain activities, including paying dividends on our common shares, entering into material acquisitions or issuing or repurchasing our common shares, and there can be no assurance that any regulatory approvals we may require will be obtained, either in a timely manner or at all. Our regulators have the ability to compel us to, or restrict us from, taking certain actions entirely, such as actions that our regulators deem to constitute an unsafe or unsound banking practice. Any restrictions on our business placed by a regulator could have a negative impact on our ability to execute on our growth strategy.

Our ability to pay dividends to non-residents of Bermuda and the transfer of our common shares to non-residents of Bermuda could be impaired by Bermuda regulations.

A large number of our shareholders are resident outside of Bermuda, and our common shares are listed on the BSX and the NYSE. Bermuda regulations impacting non-Bermuda holders of our common shares are set by the Bermuda's Controller of Foreign Exchange whose current policy:

- permits the conversion of Bermuda Dollars for payment of dividends in foreign currency to shareholders who are non-residents of Bermuda for exchange control purposes, provided that all payments are processed through an authorized dealer, including, for this purpose, us; and
- permits the free transferability of equity securities of a Bermuda company for so long as such equity securities of such company are listed on an "appointed stock exchange" appointed by the Minister of Finance under section 2(9) of the Companies Act 1981.

However, if the Controller of Foreign Exchange were to change the foregoing policies, our ability to pay dividends in US Dollars to non-residents of Bermuda for exchange control purposes could be impaired. Furthermore each transfer of our common shares to or from non-residents of Bermuda for exchange control purposes could require specific approval by the Controller of Foreign Exchange. This could impact the liquidity of the market for our common shares, and the value of the common shares could be adversely affected.

If we are considered to be a passive foreign investment company, such characterization could result in adverse US federal income tax consequences to shareholders that are US investors.

Special adverse US federal income tax rules apply if a US shareholder holds shares of a company that is treated as a passive foreign investment company ("PFIC"), for any taxable year during which the US shareholder held such shares. A foreign corporation will be considered a PFIC for any taxable year in which (1) 75% or more of its gross income is passive income (the "income test"), or (2) 50% or more of the average fair market value of its assets is attributable to assets that produce or are held for the production of passive income (the "asset test"). Passive income for this purpose generally includes dividends, interest, royalties, rents, annuities and gains from assets that produce passive income. If a foreign corporation owns at least 25% (by value) of the stock of another corporation, the foreign corporation is treated, for purposes of the PFIC tests, as owning a proportionate share of the other corporation's assets and receiving its proportionate share of the other corporation's income.

Banks generally derive a substantial part of their income from assets that are interest-bearing or that otherwise could be considered passive under the PFIC rules. The US Internal Revenue Service (the "IRS"), has issued a notice, and has proposed regulations, that exclude from passive income any income derived in the active conduct of a banking business by a qualifying foreign bank.

Based upon the proportion of our income derived from activities that are "bona fide" banking activities for US federal income tax purposes, we believe that we were not a PFIC for the taxable year ending December 31, 2018 (the latest period for which the determination can be made) and, based further on our present regulatory status under local laws, the present nature of our activities, and the present composition of our assets and sources of income, we do not expect to be a PFIC for the current year or for any future years. However, because PFIC status is a factual determination and because there are uncertainties in the application of the relevant rules, there can be no assurances that we will not be a PFIC for any particular year. If we were a PFIC in any taxable year during which a US shareholder owns our common shares and the US shareholder does not make a "mark-to-market" election, as discussed under the heading "Certain Taxation Considerations — Material US Federal Income Tax Consequences — US shareholders — Passive Foreign Investment Company Considerations," or a special "purging election," we generally would continue to be treated as a PFIC with respect to such US shareholders in all succeeding years, regardless of whether we continue to meet the income or asset test discussed above. US shareholders are urged to consult their own tax advisers with respect to the tax consequences to them if we were to become a PFIC for any taxable year in which they own our common shares.

US withholding tax and information reporting requirements imposed under the Foreign Account Tax Compliance Act may apply.

As discussed below under the heading "Certain Taxation Considerations — Material US Federal Income Tax Consequences — Foreign Account Tax Compliance Act Withholding," pursuant to the Foreign Account Tax Compliance Act ("FATCA") enacted in 2010, a 30% withholding tax will be imposed on certain payments to certain non-US financial institutions that fail to comply with certain information-reporting, account identification, withholding, certification and other FATCA-related requirements in respect of their direct and indirect US shareholders and/or US accountholders. To avoid becoming subject to FATCA withholding, we and other financial institutions may be required to report information to the IRS regarding the holders of our common shares and to withhold on a portion of payments under our common shares to certain holders that fail to comply with the relevant information reporting requirements (or that hold our common shares directly or indirectly through certain non-compliant intermediaries). Such withholding would not apply to payments made with respect to common shares before January 1, 2019.

Many countries, including Bermuda, have entered into agreements with the United States ("intergovernmental agreements" or "IGAs") to facilitate the implementation of FATCA. These IGAs modify the FATCA withholding regime described above. In December 2013, Bermuda entered into a Model 2 IGA with the United States (the "Bermuda IGA") pursuant to which Bermudian financial institutions are directed by the Bermudian authorities to register with the IRS and to enter into an agreement (an "FFI Agreement") with the IRS to perform specified due diligence, reporting and withholding functions.

Fulfilling public company financial reporting and other regulatory obligations in the United States is expensive, time-consuming and may strain our resources.

As a public company registered in the United States, we are subject to the reporting requirements of the Exchange Act, and are required to implement specific corporate governance practices and adhere to a variety of reporting requirements under the Sarbanes-Oxley Act of 2002 ("Sarbanes-Oxley") and the related rules and regulations of the SEC, as well as the rules of the NYSE. The Exchange Act requires us to file, among other things, annual reports with respect to our business and financial condition. As of January 1, 2017 we were subject to certain disclosure requirements that apply to other public companies but did not previously apply to us due to our status as an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012, including compliance with the auditor attestation requirements in the assessment of our internal control over financial reporting and compliance with any requirement that may be adopted by the Public Company Accounting Oversight Board. These additional efforts may strain our resources and divert management's attention from other business concerns, which could have an adverse effect on our business, financial condition or results of operations. Failure to comply with these requirements could subject us to enforcement actions by the SEC, which could divert management's attention, damage our reputation and adversely affect our business, operating results or financial condition.

The uncertainty resulting from Brexit, as well as changes in US legislation, regulation and government policy as a result of the current US administration, could adversely impact our business, financial condition and results of operations.

The UK's June 2016 vote to leave the EU ("Brexit") and the US Administration's present and future policies may generate greater uncertainty and instability in the global financial markets, which could lead to weaker macroeconomic conditions that continue for the foreseeable future. Such economic weakness and uncertainty may adversely affect our business, financial condition and results of operations.

Brexit could impair our ability to transact business in EU countries, as well as the territories and dependencies of the UK. We expect that Brexit could lead to legal uncertainty and potentially divergent national laws and regulations as the UK determines which EU laws to replicate or replace. If the UK were to significantly alter its regulations affecting the banking industry, we could face significant new costs, particularly as it relates to our banking operations in certain UK territories and dependencies, namely Bermuda, the Cayman Islands and Guernsey. It may also be time-consuming and expensive for us to alter our internal operations in order to comply with new regulations. The long-term financial and legal effects of Brexit will depend in part on any agreements the UK makes to retain access to EU markets following the UK's withdrawal from the EU, and there is considerable uncertainty as to when any relationship will be agreed and implemented. Without further agreement, the UK will formally leave the EU in March 2019. The political and economic instability created by Brexit has caused and may continue to cause significant volatility in the global financial market. Political and economic uncertainty has in the past led to, and the outcome of Brexit could lead to, declines in market liquidity and activity levels, volatile market conditions, a contraction of available credit, lower or negative interest rates, weaker economic growth and reduced business confidence, all of which could impact our business.

The US Administration's present and future policies could also lead to increased regulatory uncertainty for our industry and for us. It is unknown at this time to what extent new legislation will be passed into law or pending or new regulatory proposals will be adopted, or the effect that such passage or adoption would have, either positively or negatively, on our industry or on us. If any new legislation and/or regulations are implemented, it may be time-consuming and expensive for us to alter our internal operations in order to comply with such legislation and/or regulations.

Risks Relating to the Common Shares

The value of the common shares may fluctuate significantly.

The value of our common shares may fluctuate significantly as a result of a large number of factors, including, in part, changes in our actual or forecasted operating results and the inability to fulfill the profit expectations of securities analysts, as well as the high volatility in the securities markets generally, and more particularly in shares of financial institutions. The current market price of our common shares may not be indicative of future market prices.

Other factors, beside our financial results, that may impact the price of our common shares include, but are not limited to:

- market expectations of the performance and capital adequacy of financial institutions in general;
- investor perception of the success and impact of our strategies;
- investor perception of our positions and risks;
- a downgrade or review of our credit ratings;
- potential litigation or regulatory action involving us;
- announcements concerning financial problems or any investigations into the accounting practices of other financial institutions; and
- general market circumstances.

Holders of our common shares may not receive dividends.

The dividend policy described under "Dividend Policy" should not be construed as a dividend forecast. Our results of operations and financial condition are dependent on our performance. There can be no assurance that we will declare and pay dividends in the future. Any decision to declare and pay dividends in the future will be subject to the prior approval of the BMA and be made at the discretion of the Board. Such dividends shall be declared and paid by the Board only as permitted under applicable law. In determining the amount of any future dividends, factors the Board may take into account include: (1) our financial results; (2) our available cash, as well as anticipated cash requirements (including debt servicing); (3) our capital requirements, including the capital requirements of our subsidiaries; (4) contractual, legal, tax and regulatory restrictions on, and implications of, the declaration and payment of dividends by us to our shareholders; (5) general economic and business conditions; (6) restrictions applicable to the Bank and its subsidiaries under Bermuda and other applicable laws, regulations and policies, including the requirement to obtain the BMA's prior approval for the payment of dividends on our common shares; and (7) any other factors that the Board may deem relevant. Therefore, there can be no assurance that we will declare or pay any dividends to holders of the common shares, or as to the amount of any such dividends.

Our ability to declare and pay dividends may also depend on the level of distributions, if any, received from our operating subsidiaries. Our operating subsidiaries may be precluded from declaring and paying dividends by various factors, such as their own financial condition, or restrictions applicable to us and our subsidiaries under Bermuda and other applicable laws, regulations and policies. The ability of certain of our subsidiaries to upstream funds has been increasingly restricted due to changes in the business and regulatory environments in the jurisdictions in which those subsidiaries operate. In addition, any change in tax treatment of dividends or interest received by us may reduce the level of yield received by our shareholders.

We are a "foreign private issuer" under US securities law. Therefore, we are exempt from certain requirements applicable to US domestic registrants.

Although we are subject to the periodic reporting requirements of the Exchange Act, the periodic disclosure required of foreign private issuers, including us, under the Exchange Act is different from periodic disclosure required of US domestic registrants. Therefore, there may be less publicly available information about us than is regularly published by or about US domestic registrants. We are exempt from certain other sections of the Exchange Act to which US domestic registrants are subject, including the requirement to provide our shareholders with information statements or proxy statements that comply with the Exchange Act. In addition, our insiders and large shareholders are not obligated to file reports under Section 16 of the Exchange Act, and we are not required to comply with certain corporate governance rules imposed by the NYSE applicable to US domestic registrants. See "Implications of Being a Foreign Private Issuer".

Provisions of Bermuda law and our bye-laws could adversely affect the rights of our shareholders or prevent or delay a change in control.

Under the provisions of the Banks and Deposit Companies Act 1999 ("BDCA"), the rights of our shareholders could be impaired if any such shareholder becomes a shareholder controller, which is defined as a person who, among other things, acquires control of 10% or more of the voting power of our common shares. The BDCA prohibits a person from becoming a shareholder controller of any company licensed under the BDCA unless the person provides written notice to the BMA of his intent to do so and the BMA does not object. The definition of shareholder controller is set out in the BDCA but generally refers to a person who, among other things, either alone or with any associate or associates (within the meaning of the BDCA) (i) holds 10% or more of the shares in the licensed institution or another company of which it is a subsidiary company; or (ii) is entitled to exercise, or control the exercise of 10% or more of the voting power at any general meeting of the licensed institution or another company of which it is such a subsidiary.

The BDCA distinguishes between shareholder controllers of the following threshold descriptions: "10% shareholder controllers," "20% shareholder controllers," "30% shareholder controllers," "40% shareholder controllers," "50% shareholder controllers," "60% shareholder controllers" and "principal shareholder controllers" who have a 75% or greater interest. A person who intends to become a shareholder controller, or a shareholder controller who intends to increase his shareholding/control, meaning generally, ownership of shares or the ability to exercise or control the exercise of voting rights attached to shares, beyond his present threshold, must provide written notice to the BMA that he intends to do so. It is an offense not to give this notice.

The BMA may object to a person's notice of intent to become a shareholder controller of any description or to an existing shareholder controller where it appears to the BMA that, among other things, such person is not or is no longer a fit and proper person to be such a controller of the Bank. Prior to serving a notice of objection, the BMA will serve the person seeking to become a shareholder controller or will serve an existing shareholder controller with a preliminary written notice stating that the BMA is considering service on that person of a notice of objection, stating, among other things, the reasons for the BMA's proposed objection. The statement of the BMA's reasons for their proposed objection will however, be subject to the BMA's determination that such statement would involve the disclosure of confidential information, the disclosure of which would be prejudicial to a third party. A person served with a preliminary written notice may, within a period of 28 days beginning with the day on which the notice is served, make written representations to the BMA and the BMA shall take any such representations into account in deciding whether to serve a notice of objection.

If three months pass from the date of notifying the BMA of a new shareholder controller or an increased shareholding/control beyond a shareholder controller's then current threshold, without the BMA serving a notice of objection, then the person may become a shareholder controller as requested in the notice. In practice, the BMA's procedure is generally to respond to a person's shareholder controller notification.

If a person becomes a shareholder controller or increases his shareholding/control in spite of the BMA's objection thereto, if a shareholder controller fails to comply with the foregoing notice requirements or if a shareholder controller continues as such after being given notice of objection to his being a shareholder controller, the BMA may take the actions specified in the BDCA, including, among other things revoking the relevant license of the Bank under the BDCA. For more information, see the summaries of relevant provisions of the BDCA regulations under "Supervision and Regulation".

Further, under the BDCA, any person who becomes a significant shareholder of a deposit-taking institution, which is defined as a person who is not a shareholder controller but who, either individually or with any associate or associates (within the meaning of the BDCA) (i) holds 5% or more of the shares in the licensed institution or another company of which it is a subsidiary company; or (ii) is entitled to exercise, or control the exercise of 5% or more of the voting power of any general meeting of the licensed institution or another company of which it is such a subsidiary, must notify the BMA in writing of that fact within seven days. Failure to provide the BMA with prompt and appropriate notice would make the person guilty of an offense that could result in a fine.

In addition to these restrictions, the provisions of our bye-laws provide that a person who is not "Bermudian" (as such term is defined in the Companies Act) who is "interested" (as such term is defined in the bye-laws) in our shares which constitute more than 40% of all shares then issued and outstanding is not entitled to vote the shares which are in excess of such 40% interest at any general meeting without the prior written approval of the Minister of Finance. See also "Supervision and Regulation".

Certain provisions of our bye-laws may have an anti-takeover effect.

There are provisions in our bye-laws that may be used to delay or block a takeover attempt. For example, proposals for an amalgamation, merger, consolidation or sale and other such transactions would require an affirmative vote of not less than two-thirds of all voting rights attached to all issued and outstanding shares unless the proposal received the prior approval of the Board. For a detailed summary of the anti-takeover provisions in our bye-laws, see "Description of Share Capital" in our registration statement on Form F-1 filed with the SEC on February 13, 2017 with file number 333-216018. These provisions could discourage, delay or prevent a change in control of the Bank and could adversely impact the value of our common shares.

The issuance of additional shares in connection with future acquisitions, any share incentive or share option plan or otherwise may dilute all other shareholdings.

We may seek to raise capital to fund future acquisitions and other growth opportunities. We may, for these and other purposes, such as in connection with share incentive and share option plans, issue additional equity or convertible securities. Any issuance of additional shares, however, is subject to prior BMA approval, and we cannot guarantee that their approval will be obtained, either in a timely manner or at all. In the event that we are able to and do issue additional shares, existing shareholders could suffer dilution in their percentage ownership.

Our common shares trade on more than one market and this may result in price variations; in addition, investors may not be able to easily move shares for trading between such markets.

Our common shares have traded on the BSX since 1971 and began trading on the NYSE in September 2016. Trading in our common shares on these markets take place in different currencies (US Dollars on the NYSE and Bermuda Dollars on the BSX), and at different times (resulting from different time zones, different trading days and different public holidays in the United States and Bermuda). The trading prices of our common shares on these two markets may differ due to these and other factors. Any decrease in the price of our common shares on the BSX could cause a decrease in the trading price of our common shares on the NYSE, or vice versa. Investors could seek to sell or buy our common shares to take advantage of any price differences between the markets through a practice referred to as arbitrage. Any arbitrage activity could create unexpected volatility in both our share prices on one exchange, and the shares available for trading on the other exchange.

We are a Bermuda company. It may be difficult for US shareholders to enforce judgments against us or against our directors and executive officers.

We are incorporated under the laws of Bermuda. As a result, the rights of holders of our shares will be governed by Bermuda law, including the Companies Act 1981, the Butterfield Act and our bye-laws. Our business is based outside of the United States, a majority of our directors and officers reside outside of the United States and a majority of our assets and some or all of the assets of such persons are located outside of the United States. As a result, it may be difficult or impossible to effect service of process on us or our directors and officers in the United States or to enforce in the United States judgments obtained in the United States courts against us or those persons based on the civil liability provisions of the United States securities laws. In addition, it is doubtful whether courts in Bermuda will enforce judgments obtained in other jurisdictions, including the United States, against us or our directors or officers under the securities laws of those jurisdictions or entertain actions in Bermuda against us or our directors or officers under the securities laws of other jurisdictions.

Bermuda law differs from the laws in effect in the United States and might afford less protection to shareholders.

We are a Bermuda-based company. As a result, the rights of holders of our common shares will be governed by Bermuda law, including the Companies Act, the Butterfield Act and our bye-laws. The rights of shareholders under Bermuda law may differ from the rights of shareholders of companies incorporated in other jurisdictions. In particular, under Bermuda law, the duties of directors and officers of a company are generally owed to the company only, and shareholders do not generally have rights to take action against directors or officers of the company. In addition, class actions and derivative actions are generally not available to shareholders under Bermuda law.

Not only are the laws in Bermuda different from, and sometimes incompatible with, laws in the United States, but the processes by which they are established are also different. The status of laws currently in place, and areas not currently governed, are subject to change. The interests of our shareholders could be adversely affected if significant regulations are added or deleted from Bermuda's existing statutory framework.

Purchases of our ordinary shares under our new share repurchase program may have resulted in the price of our ordinary shares being higher than the price that otherwise might have existed in the open market.

On December 6, 2018, we announced that our Board of Directors approved a new share repurchase program. Pursuant to the program, the Bank is authorized to repurchase up to 2.5 million ordinary shares of the Bank through February 29, 2020. The timing, manner, price and amount of any repurchases will be determined by the Company, in its discretion, based upon the evaluation of economic and market conditions, stock price, available cash, applicable legal and regulatory requirements and other factors, and which may include purchases pursuant to Rule 10b5-1 of the Exchange Act. The program does not require the Company to repurchase any specific number of shares and there can be no assurance that any shares will be repurchased under the program. The program may be suspended, extended, modified or discontinued by the Company at any time. These activities may have had the effect of maintaining the market price of our common stock or retarding a decline in the market price of the common stock, and, as a result, the price of our common stock may have been higher than the price that otherwise might have existed in the open market.

MARKET INFORMATION

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

The following table sets forth for the periods indicated the reported high and low closing sale prices per common share and the average daily trading volume on each of the NYSE and the BSX. The Bank's common shares began trading on the NYSE on September 16, 2016:

Period	NYSE High (US\$)	NYSE Low (US\$)	NYSE Average Daily Trading Volume (Shares)	BSX High (BM\$)	BSX Low (BM\$)	BSX Average Daily Trading Volume (Shares)
Annual						
2014	—	—	—	20.50	14.90	5,756
2015	—	—	—	21.00	16.00	2,426
2016	32.90	23.75	244,611	32.00	16.00	7,210
2017	40.80	29.81	310,526	39.50	30.20	3,714
2018	53.43	30.03	288,125	53.00	30.50	3,242
Quarterly						
First Quarter 2017	34.92	29.81	294,835	34.00	30.20	3,940
Second Quarter 2017	35.45	30.58	376,686	34.00	30.62	3,144
Third Quarter 2017	36.70	31.36	259,001	36.00	31.50	4,374
Fourth Quarter 2017	40.80	34.86	311,334	39.50	34.55	3,144
First Quarter 2018	47.09	36.67	326,387	46.25	36.50	3,229
Second Quarter 2018	49.10	43.57	216,782	49.00	44.00	2,430
Third Quarter 2018	53.43	46.45	186,057	53.00	46.00	4,463
Fourth Quarter 2018	53.11	30.03	425,622	52.25	30.50	2,878
First Quarter 2019 (through Feb 25, 2019)	41.23	31.12	260,098	35.50	31.00	2,036
Monthly						
August 2018	53.43	50.03	194,751	53.00	49.50	4,468
September 2018	52.61	49.51	194,979	52.15	49.50	5,740
October 2018	53.11	37.89	559,534	52.25	38.00	3,417
November 2018	42.09	38.01	282,067	42.00	38.00	4,295
December 2018	39.69	30.03	422,183	35.50	30.50	901
January 2019	36.24	31.12	232,946	35.50	31.00	1,789
February 2019 (through February 25, 2019)	41.23	34.64	295,736	35.00	34.95	3,393

DIVIDEND POLICY

Dividend Policy

It is our intention to pay a quarterly dividend of \$0.44 per share, subject to the requisite approvals. There can be no assurance, however, that we will pay such dividend amount for any given period, and the declaration of dividends remains subject to the approval of our Board and the BMA.

Although we currently expect to pay dividends according to our dividend policy, we may elect not to pay dividends. Any declarations of dividends will be at the discretion of the Board and will be subject to the prior approval of the BMA. Such dividends may be declared and paid by the Board only as permitted under applicable law. In determining the amount of any future dividends, the Board may take into account: (1) our financial results; (2) our available cash, as well as anticipated cash requirements (including debt servicing); (3) our capital requirements, including the capital requirements of our subsidiaries; (4) contractual, legal, tax and regulatory restrictions on, and implications of, the payment of dividends by us to our shareholders; (5) general economic and business conditions; (6) restrictions applicable to us and our subsidiaries under Bermuda and other applicable laws, regulations and policies, including the requirement to obtain the BMA's prior approval for the payment of dividends on our common shares; and (7) any other factors that the Board may deem relevant. Therefore, there can be no assurance that we will declare or pay any dividends to holders of the common shares, or as to the amount of any such dividends.

See "Risk Factors — Risks Relating to the Common Shares — Holders of our common shares may not receive dividends."

Our Historical Dividends

Since 2013 we have declared and paid dividends on a quarterly basis. For the year ended December 31, 2018, we declared four quarterly dividends of \$0.38 per quarter totaling \$1.52 for each common share held on record as of the applicable record dates.

During the years ended December 31, 2016, 2015, 2014 and 2013, we declared the full 8.00% cash dividends on our issued and outstanding preference shares. Preference share dividends declared and paid were \$14.6 million during 2016, \$14.6 million during 2015 and \$14.7 million during 2014. Guarantee fees paid to the Government of Bermuda pursuant to an agreement whereby the Government of Bermuda guaranteed payments as to dividends on certain preference shares were \$1.7 million during the nine months ended September 30, 2016, \$1.8 million during 2015 and \$1.8 million during 2014. On December 15, 2016, we completed the mandatory redemption of our preference shares and all shareholders of record of the preference shares as of December 1, 2016 were issued a make whole payment on December 15, 2016 of \$1,180 per preference share, comprising the sum of the most recent dividend per preference share, the net present value of future dividend payments that would have been paid through June 22, 2019 and the \$1,000 liquidation preference on each preference share, discounted for present value.

The following table sets forth dividends per share paid per common share during the periods indicated.

	Year ended December 31,		
	2018	2017	2016
(in \$, unless otherwise indicated) ⁽¹⁾			
Period			
First Quarter	0.38	0.32	0.10
Second Quarter	0.38	0.32	0.10
Third Quarter	0.38	0.32	0.10
Fourth Quarter	0.38	0.32	0.10
Total dividends per common share	1.52	1.28	0.40
Total dividends per common share as a percentage of earnings per share (in %)	42.8 %	46.4 %	33.9 %

(1) Figures reflect the reverse share split that the Bank effected on September 6, 2016.

On February 18, 2019, the Board of Directors declared a fourth interim dividend of \$0.44 per common share to be paid on March 15, 2019 to shareholders of record on March 4, 2019.

**MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION
AND RESULTS OF OPERATIONS**

This section presents management's perspective on our financial condition and results of operations. The following discussion and analysis is intended to highlight and supplement data and information presented elsewhere in this report, including the consolidated financial statements and related notes and should be read in conjunction with the accompanying tables and our financial statements included in this report. The consolidated financial statements and notes have been prepared in accordance with US GAAP. Certain statements in this discussion and analysis may be deemed to include "forward-looking statements" and are based on management's current expectations and are subject to uncertainty and changes in circumstances. Forward-looking statements are not historical facts but instead represent only management's belief regarding future events, many of which by their nature are inherently uncertain and outside of management's control. Actual results may differ materially from those included in these statements due to a variety of factors, including worldwide and local economic conditions, success in business retention and obtaining new business and other factors. Factors that could cause these differences are discussed in the sections titled "Cautionary Note Regarding Forward-Looking Statements" and "Risk Factors." For management's considerations and determinations of each non-core item discussed, please see "Selected Consolidated Financial Data—Reconciliation of Non-GAAP Financial Measures".

Overview

We are a full service bank and wealth manager headquartered in Hamilton, Bermuda. We operate our business through three geographic segments: Bermuda, the Cayman Islands, and The Channel Islands and the UK. We offer banking services, comprising of retail and corporate banking, and wealth management, which consists of trust, private banking, and asset management. In our Bermuda and Cayman Islands segments, we offer retail banking and wealth management. In our Channel Islands and the UK segments, we offer wealth management, and specifically in the UK jurisdiction, we offer residential property lending. The Other segment includes the jurisdictions of the Bahamas, Canada, Mauritius, Singapore and Switzerland. In these jurisdictions we either provide wealth management or are service centers. These jurisdictions individually and collectively do not meet the quantitative threshold for segmented reporting and are therefore aggregated as a non-reportable operating segment.

The following table details our Net Revenue in total and by segment, as well as our total assets, total loans, total deposits, total AUA (which includes trust and custody assets under administration) and AUM for the years ended December 31, 2018, December 31, 2017 and December 31, 2016.

	For the year ended December 31		
	2018	2017	2016
Net Revenue			
% of Net Revenue from:			
Bermuda segment	56.9%	58.4%	56.2%
Cayman Islands segment	29.0%	28.9%	30.3%
Channel Islands and the UK segment	11.2%	10.2%	11.2%
Other segment	2.9%	2.5%	2.3%
(in millions of \$)			
Summary Balance Sheet			
Total Assets	10,773.2	10,779.2	
Total Loans	4,043.9	3,776.9	
Total Deposits	9,452.2	9,536.5	
Assets under administration			
Custody and other administration services	24,514.1	27,533.5	
Trust	96,064.2	95,432.7	
Assets under management			
Butterfield Funds	2,058.4	2,089.7	
Other assets under management	2,786.4	2,947.4	

Management's Discussion and Analysis of Financial Condition and Results of Operations for the Year Ended December 31, 2018

2018 Overview

In 2018, our net income increased to \$195.2 million from \$153.3 million in 2017, which was driven by a continued focus on prudent expansion within our core businesses and markets, diligent management of capital, expenses and risks. While net income increased by \$41.9 million to \$195.2 million, this increase was further augmented by certain items which management believes are not representative of our financial results, or "non-core". Excluding these items, Core Net Income improved by \$38.2 million to \$197.0 million, building on our strong capital position with Total and Tier 1 capital ratios of 22.4% and 19.6%, respectively. To enhance common shareholder returns, the Board declared a fourth interim dividend of \$0.44 per common share on February 18, 2019. The Board will continue to evaluate capital planning options and the payment of future dividends as warranted, subject to regulatory approval. See "Dividend Policy" and "Risk Factors – Risks Relating to the Common Shares — Holders of our common shares may not receive dividends" elsewhere in this report for further details.

The quality of our assets remained strong as total assets decreased marginally by \$6.1 million to \$10.8 billion, driven by an increase in loans outstanding, which increased by \$0.3 billion to \$4.0 billion as a result of new residential mortgage lending in our UK jurisdiction. Deposits decreased \$84.2 million to \$9.5 billion, primarily a result of several large customers withdrawing deposits during the year. Investments decreased by \$0.5 billion to \$4.3 billion to help fund lending opportunities. However, held-to maturity investments increased by \$0.7 billion to \$2.1 billion as investment duration extended. Overall liquidity remained very strong, as measured by cash due from banks, securities

purchased under agreement to resell, short-term investments and investments in securities as a percentage of total assets, ended the year at 59.3% compared to 61.9% in the prior year.

Our shareholders' equity increased by \$59.5 million to \$882.3 million, which was a result of the strong return on equity driven by net income net of dividends paid out during the year, which was offset by mark-to-market movements in the value of our fixed income investments, which decreased as interest rates rose during the year.

Key contributors to our 2018 results were as follows:

- **Profitability:** Net income increased \$41.9 million, or 27.4%, to \$195.2 million, which was largely attributable to increases in non-interest and net interest income. After eliminating items which management believes are not representative of our financial results, or "non-core", our Core Net Income increased \$38.2 million to \$197.0 million. Increases in non-interest income were driven largely by additional revenues earned from trust fees as a result of the recent acquisition of Deutsche Bank's GTS business. Increases in net interest income were largely a result of continued increased yields on loans as a result of base rate increases in certain jurisdictions and increased yields on investments resulting from a rising interest rate environment.

The significant non-core items excluded from Core Net Income are as follows: due diligence and other legal costs relating to the agreement to acquire Deutsche Bank's GTS business and Deutsche Bank's Channel Islands and Cayman Islands banking businesses, a loss recorded due to a non-core settlement loss on the de-risking of a legacy defined benefit pension plan; and tax compliance review costs, which were partially offset by a gain on liquidation of a legacy structured investment vehicle.

- **Net interest margin:** NIM increased by 52 basis points to 325 basis points compared to 273 basis points in 2017, and the cost of funding increased by 7 basis point to 18 basis points. The primary driver of the increase in NIM was an increase in loan yields by 37 basis points to 547 basis points as a result of base rate increases in certain jurisdictions during the year. The investment portfolio augmented the increase, with yields increasing by 49 basis points to 271 basis points due to an average increase in the long-term yield of US Treasury debt over the year, which was reflected in our portfolio due to the high proportion of our portfolio in adjustable-rate securities as well as purchases of longer duration, higher yielding securities into our held-to-maturity ("HTM") portfolio.
- **Expenses:** Total non-interest expenses increased \$21.0 million to \$321.3 million in 2018 due largely to the increased salaries and other employee benefits resulting from an increased headcount from the two acquisitions and increased discretionary compensation, in conjunction with increased professional fees associated with the two acquisitions, increased costs supporting our cyber risk protection program, which include staffing and other professional fees and other regulatory compliance costs. These items were augmented by expense items discussed above that management does not believe are representative of our ongoing operations. After removing the effect of these items, core non-interest expenses increased by \$27.6 million, from \$292.2 million in 2017, to \$319.8 million in 2018. The core efficiency ratio decreased from 64.3% in 2017 to 61.5% in 2018, reflecting the rate of core non-interest expense relative to the relative increase in revenue.
- **Deposits:** Customer deposits decreased by \$105.6 million as of December 31, 2018 due to several large corporate clients withdrawing their deposits during the year, partially offset by organic growth and growth from the acquisition of Deutsche Bank's banking and custody business in the Cayman and Channel Islands, while interest bearing deposit costs increased by 9 basis points to 24 basis points in 2018 and 2017. Taken together with non-interest bearing deposits totaling \$2.1 billion on December 31, 2018, the average cost of deposits for the year increased by 7 basis point to 18 basis points.
- **Loan quality:** As of December 31, 2018, we had gross non-accrual loans of \$48.7 million representing 1.2% of total gross loans, relatively flat from the \$43.9 million, or 1.2%, of total loans at year-end 2017. Net non-accrual loans were \$33.8 million, equivalent to 0.8% of net loans, after specific provisions of \$14.9 million, reflecting an increase in the specific provision coverage ratio of 30.6%, down from 31.1% on December 31, 2017.

2017 Overview

In 2017, our net income increased to \$153.3 million from \$115.9 million in 2016, which was driven by a continued focus on prudent expansion within our core businesses and markets, diligent management of capital, expenses and risks. While net income increased by \$37.3 million to \$153.3 million, this increase was further augmented by certain items which management believes are not representative of our financial results, or "non-core". Excluding these items, Core Net Income improved by \$20.3 million to \$158.9 million, building on our strong capital position with Total and Tier 1 capital ratios of 19.9% and 18.2%, respectively.

While our balance sheet decreased slightly, the quality of our assets remained strong. Total assets decreased by \$0.3 billion to \$10.8 billion, driven by a \$0.5 billion decrease in customer deposit levels which were primarily a result of several large customer deposits transferring to Butterfield Money Market Funds, which are off-balance sheet assets. In spite of these decreased deposits, investments increased by \$0.3 billion to \$4.7 billion to take advantage of attractive pricing points and increased yield opportunities. Cash due from banks and short-term investments decreased by \$566.5 million and \$269.8 million, respectively, to fund these purchases. Overall liquidity, as measured by cash due from banks, securities purchased under agreement to resell, short-term investments and investments in securities excluding held-to-maturity investments as a percentage of total assets, ended the year at 49.1% compared to 55.0% in the prior year.

Our shareholders' equity increased by \$112.1 million to \$822.9 million, which was a result of organic growth through net income net of dividends paid out during the year.

We completed the planned wind-down of the deposit taking, investment management and custody businesses in the UK jurisdiction by the end of the first quarter. We successfully transitioned our UK segment to a mortgage lending business funded primarily by excess Sterling liquidity in our Guernsey segment.

Key contributors to our 2017 results were as follows:

- **Profitability:** Net income increased \$37.3 million, or 32.2%, to \$153.3 million, which was largely attributable to increases in non-interest and net interest income. After eliminating items which management believes are not representative of our financial results, or "non-core", our core net income further increased \$20.3 million to \$158.9 million. Increases in non-interest income were driven largely by additional fees earned from revised banking fee schedules in certain jurisdictions. Increases in net interest income were largely a result of increased yields on loans as a result of base rate increases in certain jurisdictions and increased yields on investments resulting from a rising interest rate environment.

The significant non-core items excluded from Core Net Income are as follows: costs associated with the successful first follow-on equity offering, principally comprised of professional fees; contract negotiation, due diligence and other legal costs relating to the agreement to acquire Deutsche Bank's GTS business, excluding its US operations; restructuring charges related to the orderly wind-down of the deposit taking and investment management business of our UK segment; compensation costs relating to redundancies and early retirement packages; and tax compliance review costs, which were partially offset by liquidation settlements received from a structured investment vehicle.

- **Net interest margin:** NIM increased by 28 basis points to 273 basis points compared to 245 basis points in 2016, and the cost of funding declined by 1 basis point to 11 basis points. The primary driver of the increase in NIM was an increase in investment portfolio yields by 27 basis points to 222 basis points due to an average

increase in the long-term yield of US Treasury debt over the year, which was reflected in our portfolio due to the high proportion of our portfolio in adjustable-rate securities. This was augmented by an increase in the yield on our loans due to base rate increases in certain jurisdictions.

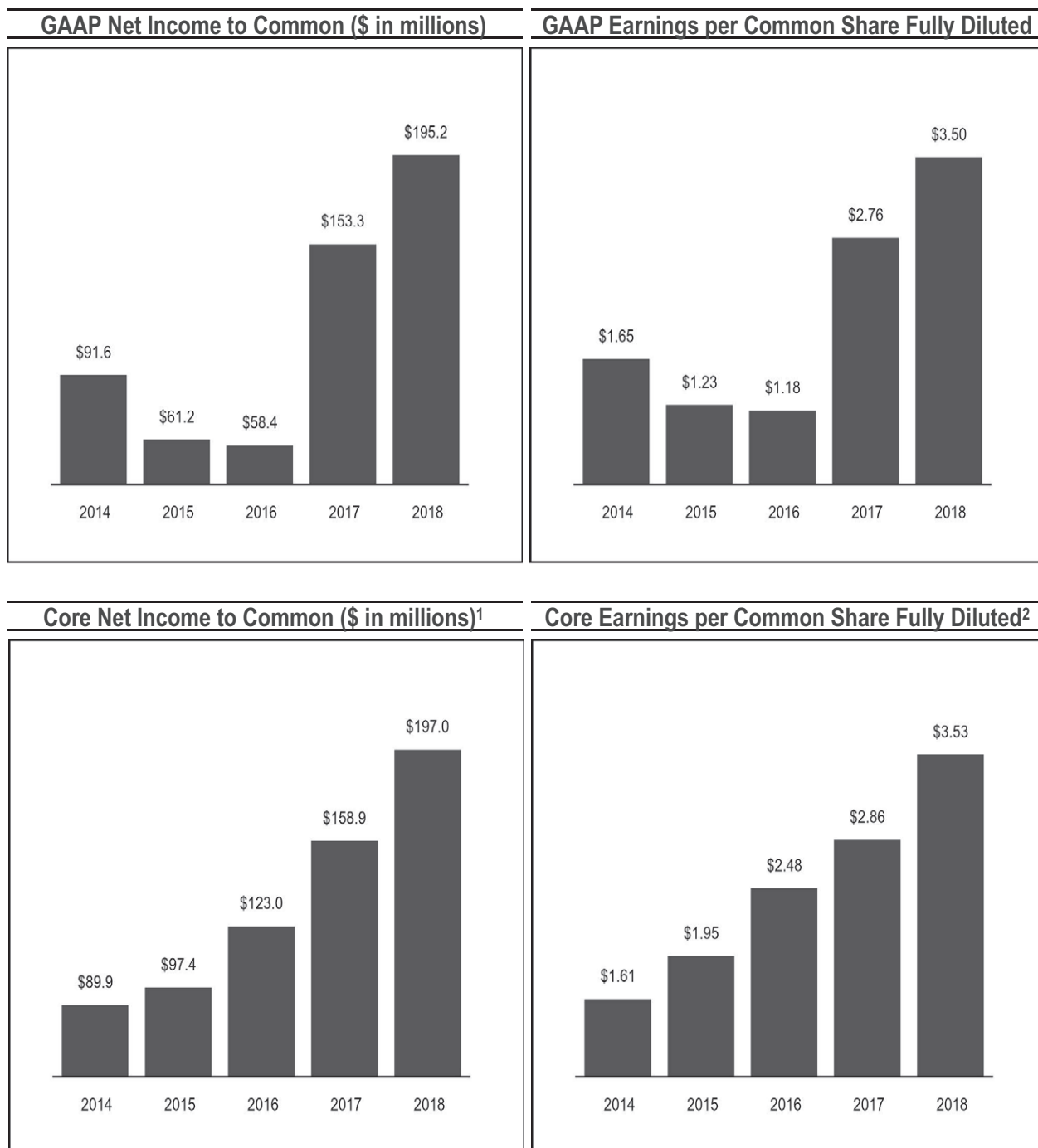
- **Expenses:** Total non-interest expenses increased \$14.4 million to \$300.3 million in 2017 due largely to the increased professional fees associated with the implementation of the Bank's Sarbanes-Oxley compliance program and other regulatory compliance costs, as well as increased salaries and other employee benefits resulting from increased post-retirement medical plan costs, and an increased headcount and increased discretionary compensation, in conjunction with items discussed above that management does not believe are representative of our ongoing operations. After removing the effect of these items, core non-interest expenses increased by \$28.7 million, from \$263.5 million in 2016, to \$292.2 million in 2017. The core efficiency ratio increased slightly from 63.8% in 2016 to 64.3% in 2017, reflecting the rate of core non-interest expense relative to the lower relative increase in revenue.
- **Deposits:** Customer deposits decreased by \$485.9 million as of December 31, 2017 due to several term deposits maturing and moving into off-balance sheet mutual funds, partially offset by organic growth, while interest bearing deposit costs were flat at 15 basis points in 2017 and 2016. Taken together with non-interest bearing deposits totaling \$2.5 billion on December 31, 2017, the average cost of deposits for the year decreased by 1 basis point to 11 basis points.
- **Loan quality:** As of December 31, 2017, we had gross non-accrual loans of \$43.9 million representing 1.2% of total gross loans, reflecting an improvement from the \$48.5 million, or 1.3%, of total loans at year-end 2016. Net non-accrual loans were \$30.2 million, equivalent to 0.8% of net loans, after specific provisions of \$13.6 million, reflecting a increase specific provision coverage ratio of 31.1%, up from 24.2% on December 31, 2016.

Financial Summary

Summary Balance Sheet (in millions of \$, except per share data)	As at December 31,		Dollar change	Percent change
	2018	2017		
Cash due from banks	2,053.9	1,535.1	518.8	33.8 %
Securities purchased under agreement to resell	27.3	178.8	(151.5)	(84.7)%
Short-term investments	52.3	250.0	(197.7)	(79.1)%
Investment in securities	4,255.4	4,706.2	(450.8)	(9.6)%
Loans, net of allowance for credit losses	4,043.9	3,776.9	267.0	7.1 %
Premises, equipment and computer software	158.1	164.8	(6.7)	(4.1)%
Goodwill and intangible assets	74.7	60.6	14.1	23.3 %
Total assets	10,773.2	10,779.2	(6.0)	(0.1)%
Total deposits	9,452.2	9,536.5	(84.3)	(0.9)%
Long-term debt	143.3	117.0	26.3	22.5 %
Shareholders' equity				
Common and contingent value convertible preference shareholders' equity	882.3	822.9	59.4	7.2 %

Summary Income Statement (in millions of \$, except per share data)	For the year ended December 31,			Dollar change		Percent change	
	2018	2017	2016	2017 to 2018	2016 to 2017	2017 to 2018	2016 to 2017
Interest income							
Loans	218.5	187.0	188.0	31.5	(1.0)	16.8 %	(0.5)%
Investments	124.3	101.4	77.2	22.9	24.2	22.6 %	31.3 %
Deposits with banks	24.8	17.2	9.8	7.6	7.4	44.2 %	75.5 %
Interest expense	(24.6)	(15.9)	(16.4)	(8.7)	0.5	54.7 %	(3.0)%
Net interest income before provision for credit losses	343.0	289.7	258.5	53.4	31.2	18.4 %	12.1 %
Non-interest income	168.7	157.8	147.5	11.0	10.3	7.0 %	7.0 %
Net revenue	511.7	447.6	406.0	64.1	41.6	14.4 %	10.2 %
Provision for credit losses	7.0	5.8	(4.4)	1.2	10.2	20.7 %	(231.8)%
Salaries and other employee benefits	(159.8)	(145.1)	(140.2)	(14.7)	(4.9)	10.1 %	3.5 %
Other non-interest expenses (including income taxes)	(162.8)	(156.3)	(146.4)	(6.5)	(9.9)	4.2 %	6.8 %
Net income before other gains (losses)	196.0	152.0	114.9	44.0	37.1	28.9 %	32.3 %
Total other gains (losses)	(0.9)	1.3	1.0	(2.2)	0.3	(169.2)%	30.0 %
Net income	195.2	153.3	115.9	41.9	37.4	27.3 %	32.3 %
Non-core items	1.8	5.6	22.7	(3.8)	(17.1)	(67.9)%	(75.3)%
Core net income (Non-GAAP)	197.0	158.9	138.6	38.1	20.3	24.0 %	14.6 %
Dividends and guarantee fee of preference shares	—	—	(57.6)	—	57.6	— %	(100.0)%
Core earnings to common shareholders (Non-GAAP)	197.0	158.9	81.1	38.1	77.8	24.0 %	95.9 %
Common dividends paid	(83.7)	(69.7)	(19.3)	(14.0)	(50.4)	20.1 %	261.1 %

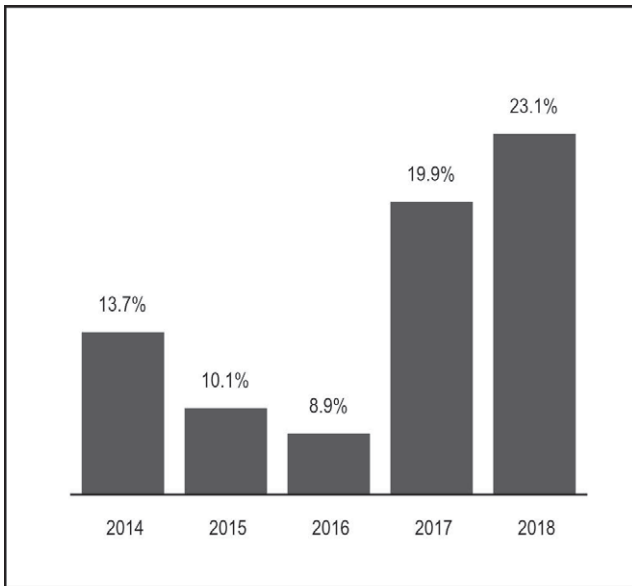
The following charts show the trajectory of our performance from 2014 to 2018:



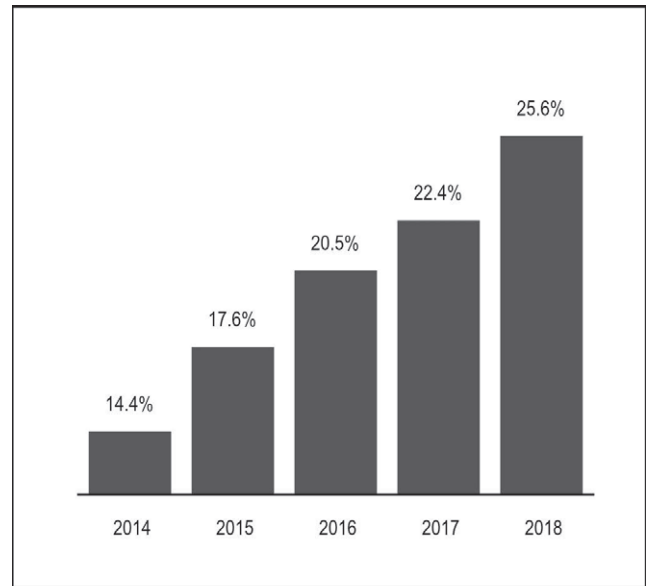
- (1) Core Net Income to Common is a non-GAAP financial measure that is calculated by adjusting net income for income or expense items which management considers not to be representative of the ongoing operations of our business and preference share dividends, guarantee fees and premiums paid on preference share buybacks and redemptions. For a reconciliation of Core Net Income to Common to GAAP net income to common, see "Selected Consolidated Financial and Other Data – Reconciliation of Non-GAAP Financial Measures".
- (2) Core Earnings per Common Share Fully Diluted is a non-GAAP financial measure that is calculated by dividing Core Earnings to Common by the weighted average shares outstanding. For a reconciliation of Core Earnings per Common Share Fully Diluted to GAAP earnings per share, see "Selected Consolidated Financial and Other Data – Reconciliation of Non-GAAP Financial Measures".

Our return on equity for 2018 of 23.1% and our Core ROATCE¹ for 2018 of 25.6% were driven by a number of factors, including: significant fee income with historically low capital requirements, low cost deposits, a high yielding loan portfolio, a conservative capital efficient securities portfolio, and our operations in corporate income tax neutral jurisdictions. As a result, our business generated core net income in 2018 well in excess of that needed to execute our organic balance sheet growth strategy.

Return on Equity



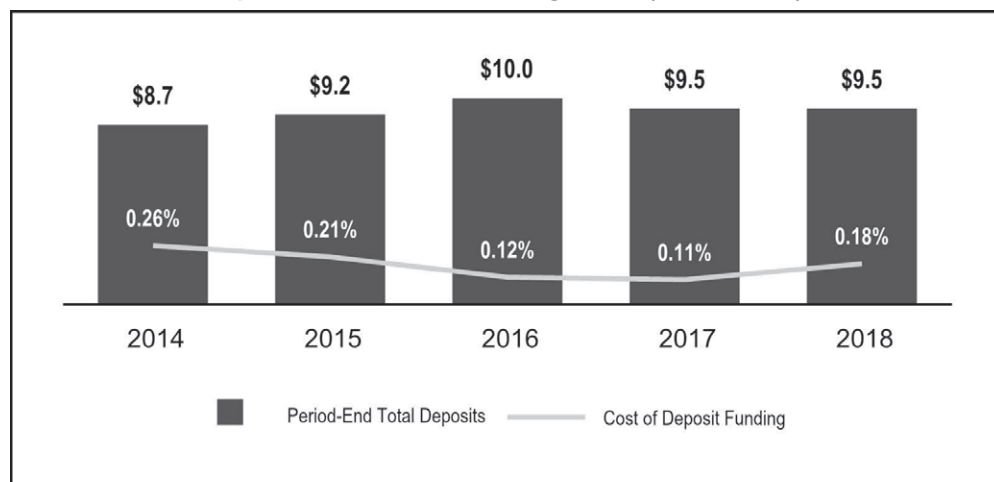
Core ROATCE¹



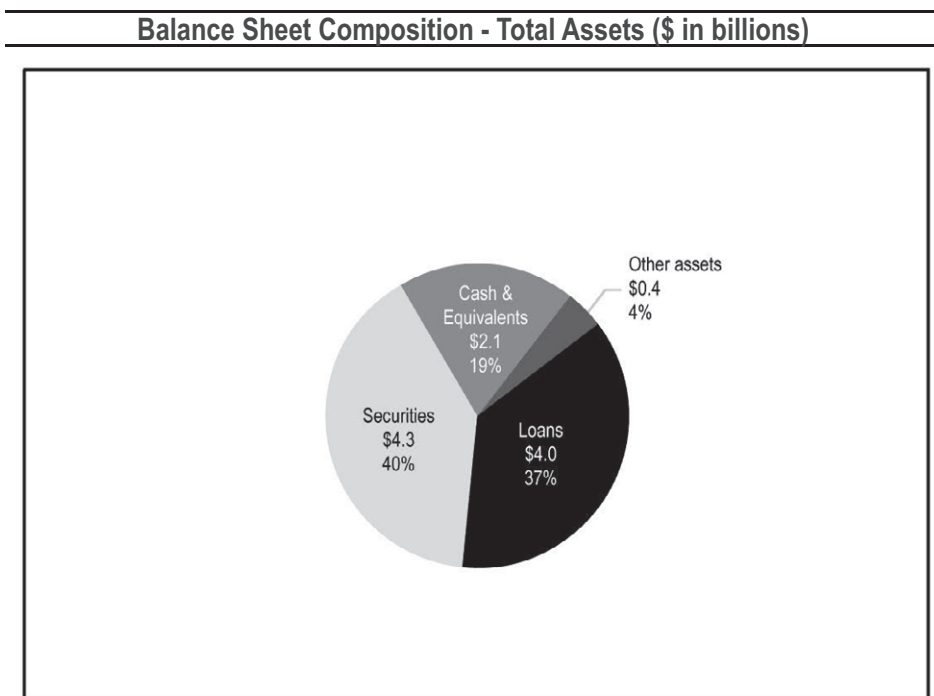
⁽¹⁾ Core ROATCE is a non-GAAP financial measure that is calculated by dividing core earnings to common shareholders by average tangible common equity. Average tangible common equity does not include the preference shareholders' equity or goodwill and intangible assets. For more information on the non-GAAP financial measures, see "Selected Consolidated Financial and Other Data — Reconciliation of Non-GAAP Financial Measures."

The following chart shows customer deposit trends for 2014 to 2018:

Deposit Balance and Funding Costs (\$ in billions)



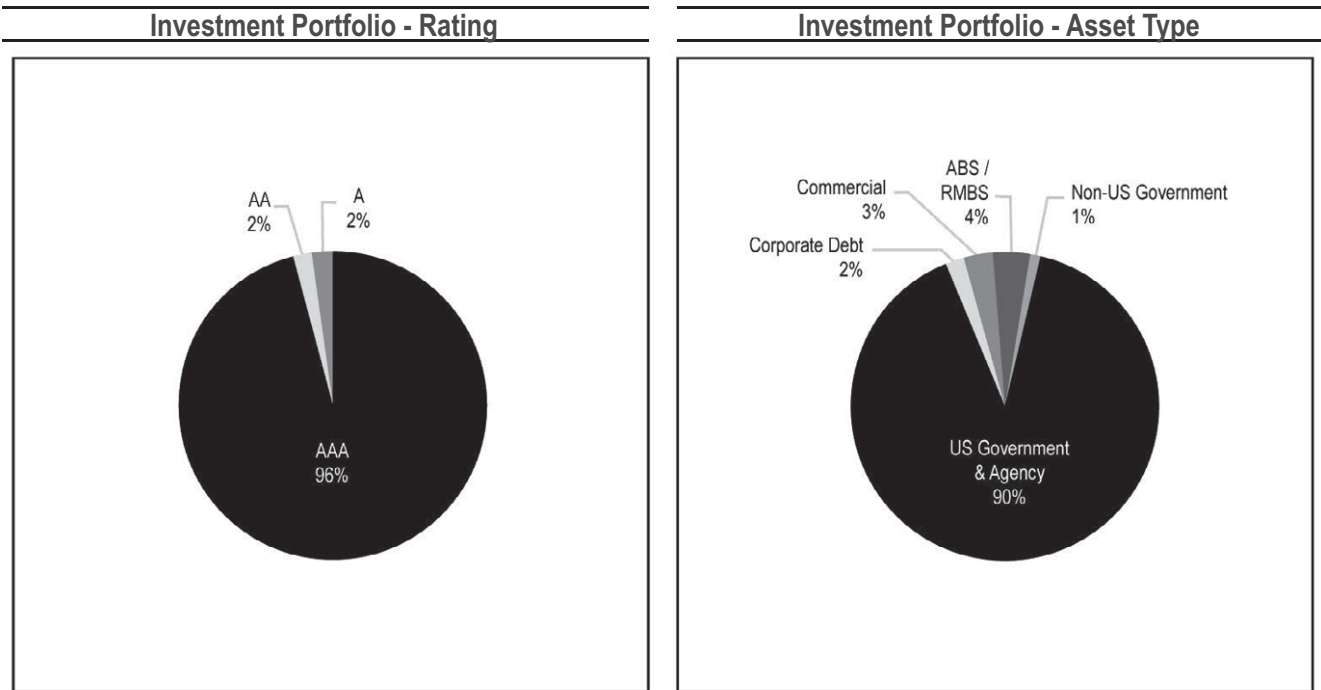
Historically, the markets in which we operate generate fewer loans than deposits, which has led us to take a conservative approach to managing our balance sheet. We accomplish this by maintaining a large cash balance and investing in high quality and liquid securities. The following chart illustrates our asset composition as of December 31, 2018:



As of December 31, 2018, 19% of our balance sheet was cash and cash equivalents, which included cash and demand deposits with banks, unrestricted term deposits, certificates of deposits, and treasury bills with a maturity less than three months.

In addition to maintaining a large cash and cash equivalents balance, we also have a large and conservative securities investment portfolio. We have a disciplined investment portfolio selection process and invest in highly rated securities. We also seek to ensure that our portfolio remains liquid across market cycles: 90.5% of our portfolio was invested in US government treasuries and mortgage-backed securities issued by US governmental agencies. Our investment strategy as of December 31, 2018, aims to align the behavioral interest rate risk profile of our assets and liabilities — as of December 31, 2018, the average duration of our AFS investment portfolio was 3.1 years, the average duration of our HTM investment portfolio was 4.9 years, and the average duration of our total investment portfolio was 4.0 years. As of December 31, 2018, the total carrying value of our AFS investment portfolio was \$2.2 billion, and the total carrying value of our HTM investment portfolio was \$2.1 billion.

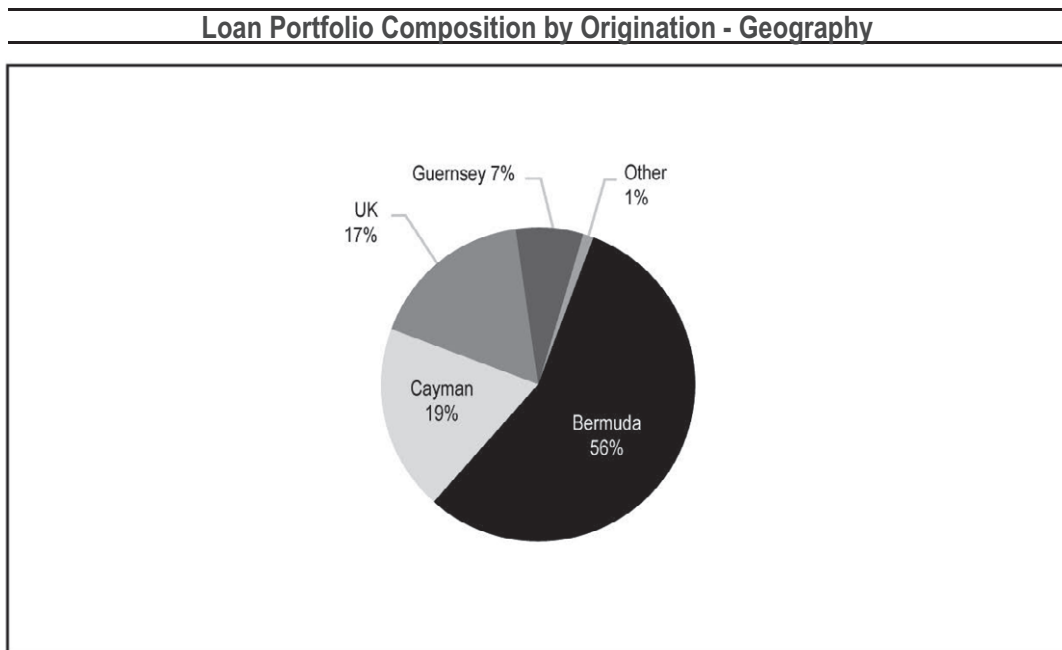
The following charts show the composition of our investment portfolio by rating and asset type as of December 31, 2018:



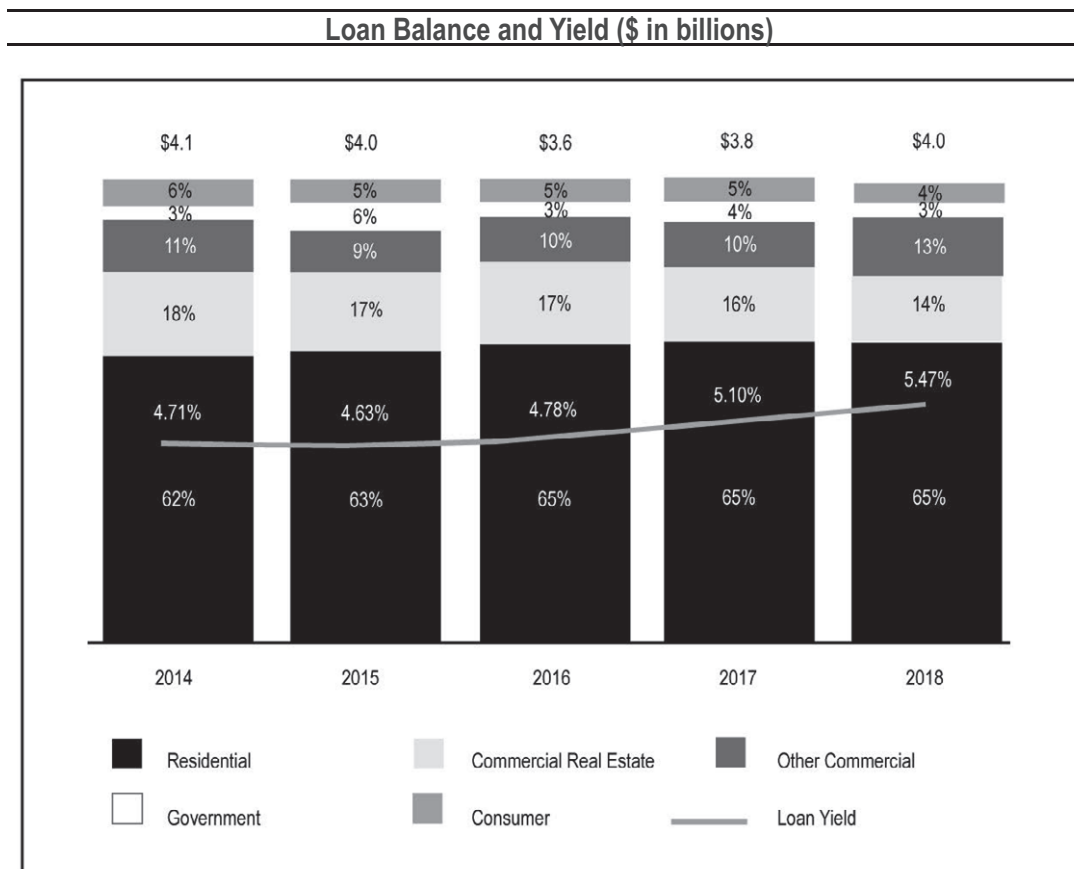
The combination of our significant cash and securities portfolios helps drive our capital efficient balance sheet, with risk-weighted assets equal to 40.1% of our total assets and a Basel III total capital ratio of 22.4%, each as of December 31, 2018.

Our loan underwriting process requires that we complete a full credit assessment of every customer prior to committing to a loan, which we believe has resulted in a high quality loan portfolio. Our lending markets do not have secondary markets for loans and as such we hold all of our originated loans on our balance sheet. In 2017 and 2018, net charge-offs represented 0.1% and 0.1%, respectively, of average loans. As of December 31, 2018, our non-accrual loan balance was \$48.7 million, or 1.2% of total loans, and 1.9% of our loans past due were full recourse residential mortgages. As of December 31, 2018, our loan portfolio consisted of 84% floating-rate loans and 16% fixed-rate loans.

The following chart shows the segment composition of our loan portfolio as of December 31, 2018:



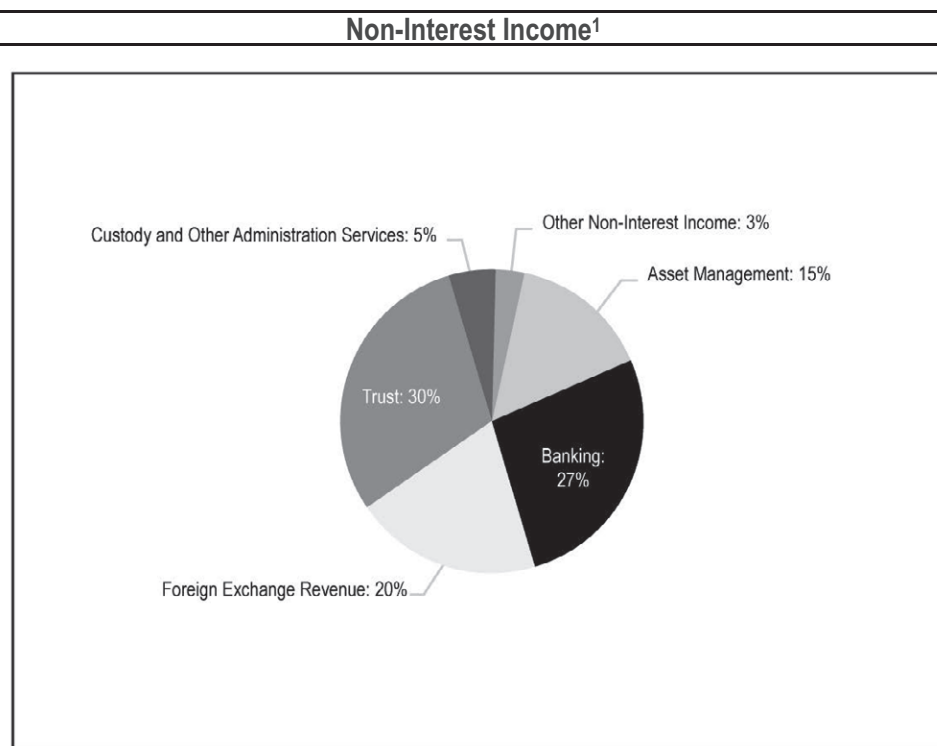
Our loan portfolio has exhibited stability over time. The following chart shows loan portfolio trends for 2014 to 2018:



The domestic lending markets in Bermuda and the Cayman Islands have a limited number of participants and significant barriers to entry. 65.4% of our loan balances were residential mortgages as of December 31, 2018. These loans are attractive for a number of reasons. Our mortgages have exhibited predictable cash flows, with historically negligible refinancing activity due to high costs to refinance in Bermuda and the Cayman Islands. Additionally, our mortgages have historically benefited from a manual underwriting process, low LTVs (73% of residential loans below 70% LTV as of December 31, 2017), and a full recourse system in Bermuda and the Cayman Islands.

We have also generated balanced sources of non-interest income from a well-diversified customer base. For the five-year period ended December 31, 2018, our non-interest income is evenly split between banking which consists of banking and foreign exchange revenue, and wealth management, which consists of trust, asset management, and custody and other administration services. The wealth management non-interest income stream is not directly correlated with the performance of our banking business. For example, the typical trust we manage generates a relatively constant fee stream on an annual basis throughout its life. In addition, because fee revenue in our wealth management business lines is driven primarily by the size and complexity of our clients' assets and holdings, which are generally diversified across multiple geographies, the performance of these businesses is not typically linked to the performance of the domestic economies of our local markets. Non-interest income represented 32.5% of our total Net Revenue in 2018, and contributed materially to the Company's high Core ROATCE and excess capital generation as limited capital is required for our fee income business.

The following chart show our various sources of non-interest income for the year ended December 31, 2018:

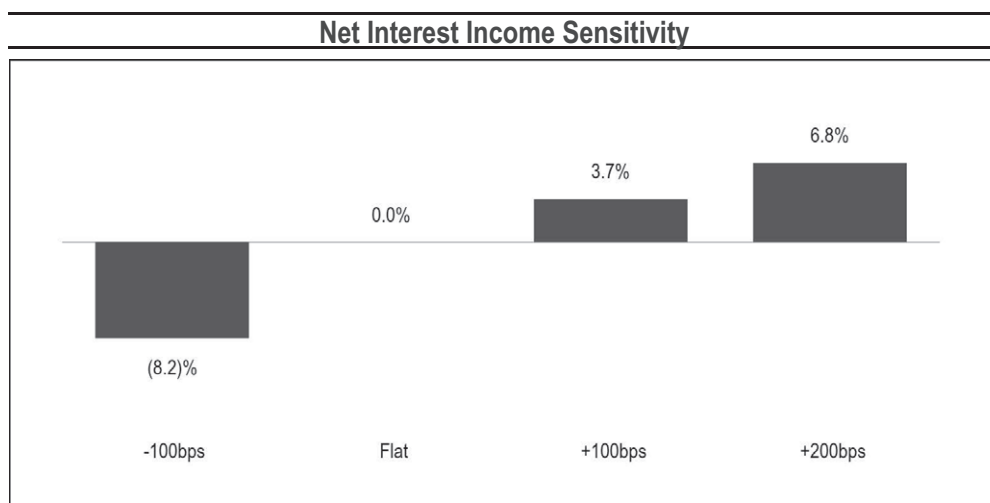


2018 Non-Interest Income: \$168.7 million / 32.5% of Net Revenue

⁽¹⁾ Foreign exchange revenue represents income generated from client-driven transactions in the normal course of business. We do not engage in proprietary trading.

Growth Opportunities

We expect that, all else being equal, a rising rate environment would increase our net interest income before provision for credit losses because an increase in our cost of deposits would lag an increase in yield of our securities and loans. In addition, a significant portion of our deposits are non-interest bearing (22% as of December 31, 2018), and as a result, a portion of our funding is only partially sensitive to rising rates. Our non-interest bearing deposit balances have historically exhibited low correlation with interest rates, a behavior that we attribute in part to a sizeable client base that utilizes our bank for custody and clearing services as well as cash management purposes. Potential changes to our net interest income in hypothetical rising and declining rate scenarios, measured over a 12-month period, are presented in the chart below (these projections assume parallel shifts of the yield curves occurring immediately and no changes in other potential variables):



A down 100 basis points interest rate shock shows a reduction in projected 12-month net interest income of 8.2% from the flat scenario. The loss of income is driven by lower loan and investment yields, which more than offset reduced rates paid on deposits. Mitigating against the loss of income is the potential to charge negative interest rates on deposits (which we currently do in limited instances) and certain loans that have rate floors.

In addition, we are well-positioned as an acquirer of certain businesses, in private trust and banking. Our acquisition strategy seeks to capitalize on opportunities created by international financial institutions that have faced operating issues requiring them to simplify their businesses. We consider a wide range of potential acquisition opportunities, and we have a well-defined, disciplined approach to identifying potential acquisition targets across numerous criteria including: geography, business alignment, size, timing, quality, buyer universe and financial hurdles. Our focus has been on the private trust business and banking where we have expertise, scale and a strong brand.

In 2014, we completed two acquisitions that allowed us to both expand and complement our existing businesses: In April 2014, we completed the acquisition of Legis Group's Guernsey-based trust and corporate services business. The transaction enhanced the scale of our international trust capabilities and fortified our position as a leading player in Guernsey. In November 2014, we acquired select deposits and loans in the Cayman Islands from HSBC. At close, the transaction added approximately \$0.5 billion of customer deposits with an average cost of 0.12%, and \$144 million of loans.

In April 2016, we acquired HSBC's Bermuda trust business and private banking investment management operations. HSBC also entered into an agreement to refer its existing private banking clients to Butterfield. This acquisition added over \$18.9 billion of trust AUA, \$1.3 billion of AUM, and \$1.6 billion of deposits.

In October 2017, we entered into an agreement to acquire Deutsche Bank's Global Trust Solutions ("GTS") business, excluding its US operations. This transaction added the ongoing management and administration of the GTS portfolio, comprising approximately 1,000 trust structures for approximately 900 private clients in Guernsey, Switzerland, the Cayman Islands and Singapore.

In February 2018, we entered into an agreement to acquire Deutsche Bank's banking and custody business in the Cayman Islands, Jersey and Guernsey, which provides services primarily to financial intermediaries and corporate clients. As part of the deal, we also purchased a service company in Mauritius to provide operations and support services to the Cayman and Channel Islands banking and custody businesses.

Our relationship-driven business model and international corporate clientele have allowed us to develop a sticky deposit base with historically low funding costs. We believe our customers' deposit activity has historically been relatively inelastic to deposit pricing given the nature of corporate activity and competition in retail deposit taking in our segments. From 2014 to 2018, customer deposits have grown at a compound annual growth rate ("CAGR") of approximately 3% in Bermuda and 5% in the Cayman Islands, taking into account the HSBC Cayman acquisition in November 2014 that added \$0.5 billion of new deposits, and the April 2016 acquisition of HSBC's Bermuda trust business and private banking investment management operations that added \$1.6 billion of new deposits. As of December 31, 2018, we had \$9.5 billion in deposits at a cost of 0.18%, of which 22% were non-interest bearing demand deposits, 57% were interest bearing demand deposits with a weighted-average cost of 0.02%, and 21% were term deposits with a weighted-average cost of 0.77% and an average maturity of 112 days. We believe the market conditions in Bermuda and the Cayman Islands will allow us to continue to benefit from favorable deposit pricing.

Consolidated Results of Operations and Discussion for Fiscal Years Ended December 31, 2018, 2017 and 2016

Net Revenue

2018 vs. 2017

Total net revenue before provision for credit losses and other gains and losses for 2018 was \$511.7 million, up \$64.1 million, or 14.3%, from 2017. Net interest income before provision for credit losses increased from \$289.7 million in 2017 to \$343.0 million in 2018, an improvement of \$53.2 million, or 18.4%. The increase in net interest income was driven primarily by an increase in both the average volume of loans outstanding and the yield on loans, which drove a \$31.5 million increase to \$218.5 million. The average volume of loans outstanding increased by \$330.0 million principally as a result of new residential mortgages underwritten in our UK jurisdiction. Yields on loans increased by 37 basis points yield due to base rate increases across all jurisdictions during the year. Further augmenting this was an increase in interest income on investments due to a 49 basis point increase in yield in reaction to increases in short-term US Treasury rates, which drove an increase in interest income on investments by \$22.8 million. The total cost of deposits increased by 7 basis points to 18 basis points. In addition, non-interest income was up \$10.9 million, or 6.9%, principally attributable to increased trust revenues as a result of the Deutsche Bank GTS acquisition, as well as increases in banking fees due to transaction volume on credit cards.

2017 vs. 2016

Total net revenue before provision for credit losses and other gains and losses for 2017 was \$447.6 million, up \$41.6 million, or 10.3%, from 2016. Net interest income before provision for credit losses increased from \$258.5 million in 2016 to \$289.7 million in 2017, an improvement of \$31.3 million, or 12.1%. The increase in net interest income was driven primarily by an increase in both the yield and average balances in the investment portfolio. The yield increased in reaction to an increase in short-term US Treasury rates, while volume increased due to attractive entry points and to take advantage of the increasing yield. Both of these combined to drive an increase in interest income on investments by \$24.3 million. Further augmenting this increase was rising base rate within the corporate and consumer loan portfolio, driving an overall increase in loan yield by 32 basis points. The total cost of deposits decreased by 1 basis point to 11 basis points. In addition, non-interest income was up \$10.4 million, or 7.0%, attributable to increased banking fees which resulted from increased banking fee revenue in certain jurisdictions and a rise in card transaction volumes. Further augmenting this was organic growth in trust revenues and increases in asset management revenue due to rate revisions on certain products and higher transaction volume in foreign exchange revenue.

Net Interest Income Before Provision For Credit Losses

Net interest income is the amount of interest earned on our interest-earning assets less interest paid on our interest bearing liabilities. There are several drivers of the change in net interest income, including changes in the volume and mix of interest-earning assets and interest bearing liabilities, their relative sensitivity to interest rate movements, and the proportion of non-interest bearing sources of funds, such as equity and non-interest bearing current accounts.

The following table presents the components of net interest income for the years ended December 31, 2018, 2017 and 2016:

(in millions of \$)	Year ended December 31,								
	2018			2017			2016		
	Average balance (\$)	Interest (\$)	Average rate (%)	Average balance (\$)	Interest (\$)	Average rate (%)	Average balance (\$)	Interest (\$)	Average rate (%)
Assets									
Cash due from banks and short-term investments	1,977.3	24.8	1.26 %	2,372.7	17.2	0.72 %	2,655.3	9.8	0.37 %
Investment in securities	4,578.9	124.3	2.71 %	4,573.9	101.4	2.22 %	3,940.6	77.2	1.95 %
Loans	3,995.8	218.5	5.47 %	3,665.8	187.0	5.10 %	3,921.1	188.0	4.78 %
Interest earning assets	10,552.0	367.6	3.48 %	10,612.4	305.6	2.88 %	10,517.0	275.0	2.61 %
Other assets	350.7	—	—	346.0	—	—	343.4	—	—
Total assets	10,902.7	367.6	3.37 %	10,958.4	305.6	2.79 %	10,860.4	275.0	2.53 %
Liabilities									
Deposits	7,375.8	(17.6)	(0.24)%	7,445.0	(10.9)	(0.15)%	7,733.8	(11.8)	(0.15)%
Securities sold under agreement to repurchase	1.6	—	(2.11)%	—	—	—%	16.0	(0.1)	(0.73)%
Long-term debt	133.4	(6.9)	(5.21)%	117.0	(5.0)	(4.24)%	117.0	(4.5)	(3.84)%
Interest bearing liabilities	7,510.8	(24.6)	(0.33)%	7,562.0	(15.9)	(0.21)%	7,866.8	(16.4)	(0.21)%
Non-interest bearing current accounts	2,231.8	—	—	2,393.1	—	—	2,042.5	—	—
Other liabilities	281.0	—	—	254.4	—	—	123.7	—	—
Total liabilities	10,023.7	(24.6)	(0.25)%	10,209.6	(15.9)	(0.16)%	10,033.0	(16.4)	(0.16)%
Shareholders' equity	879.0	—	—	748.9	—	—	827.4	—	—
Total liabilities and shareholders' equity	10,902.7	—	—	10,958.4	—	—	10,860.4	—	—
Non-interest bearing funds net of non-interest earning assets (free balance)	3,041.1	—	—	3,050.3	—	—	2,650.2	—	—
Net interest margin		343.0	3.25 %		289.7	2.73 %		258.6	2.45 %

2018 vs. 2017

Net interest income before provision for credit losses of \$343.0 million in 2018 represented an increase of \$53.2 million (or 18.4%) over our net interest income before provision for credit losses in 2017. Net interest income is generated largely by our Bermuda and Cayman segments, which accounted for 89.9% of total net interest income in 2018. Interest income increased by \$62.0 million in 2018, which was driven by increased loan portfolio balances and yields, increased yields on the investment portfolio partially offset by a slight increase in the cost of deposits, all of which were attributable to a rising rate environment.

Loan interest income was higher in 2018 by \$31.5 million due primarily to a \$330.0 million increase in average balances, as well as a 37 basis point increase in yield. The increase in average balances was largely due to an increase in residential mortgages underwritten in our UK jurisdiction, while the increase in yield was due to the Bermuda and the Cayman base rate increases during the year in reaction to the US Federal Reserve target rate increases, as well as the Channel Islands and the UK base rate increase in reaction to the Bank of England target rate increase. The majority of the loan portfolio is on a floating rate basis, and utilizes US Federal Reserve rates as a repricing reference point. Therefore, movements in the US Federal Reserve rates can impact loan interest income if management elects to change base rates. During 2018, there were four increases in the US Federal Reserve target rate.

Investment interest income increased by \$22.8 million, driven by an increase of \$5.0 million in average investment balances, which benefited from a 49 basis point rise in yield. The improved yield resulted from increases in our floating rate portfolio in reaction to the US Federal Reserve target rate increases during the year, as well as a additions to higher yielding investments in the held-to-maturity portfolio of \$684.2 million. The overall duration of the portfolio at year-end was 4.0 years, an increase of 0.9 from 2017.

Interest bearing liability costs increased to 33 basis points, which resulted in an increase in interest expense by \$8.7 million, attributable to an increase in the deposit rates paid, principally on term deposits.

Average free balances for 2018 were \$3.0 billion (2017: \$3.1 billion), including non-interest bearing current accounts of \$2.2 billion (2017: \$2.4 billion), shareholders' equity of \$879.0 million (2017: \$748.9 million), net of other assets and other liabilities totaling \$69.7 million (2017: \$91.6 million). See "Risk Management" for more information on how interest rate risk is managed.

2017 vs. 2016

Net interest income before provision for credit losses of \$289.7 million in 2017 represented an increase of \$31.3 million (or 12.1%) over our net interest income before provision for credit losses in 2016. Net interest income is generated largely by our Bermuda and Cayman segments, which accounted for 91.8% of total net interest income in 2017. Interest income increased by \$30.7 million in 2017, which was driven by increased investment portfolio balances and yields, increased income on deposits from higher balances and higher yields, partially offset by a slight increase in loan interest income due to lower average balances, despite higher yields.

Loan interest income was lower in 2017 by \$1.0 million due primarily to a \$255.3 million decrease in average balances, which was partially offset by a 32 basis point increase in yield. The decrease in average balances was largely due to several large prepayments in corporate lending and slower new loan generation than in the prior year,

while the increase in yield was due to the Bermuda and the Cayman base rate increases during the year in reaction to the US Federal Reserve target rate increases. The majority of the loan portfolio is on a floating rate basis, and utilizes US Federal Reserve rates as a repricing reference point. Therefore, movements in the US Federal Reserve rates can impact loan interest income if management elects to change base rates. During 2017, there were three increases in the Bermuda corporate lending base rate and two in the Bermuda consumer lending base rate, as well as two adjustments in Cayman to the KYD and USD Prime rates.

Investment interest income increased by \$24.3 million, driven by an increase of \$633.3 million in average investment balances, which benefited from a 27 basis point rise in yield. The improved yield resulted from increases in our floating rate portfolio in reaction to the US Federal Reserve target rate increases during the year, as well as a additions to higher yielding investments in the held-to-maturity portfolio of \$320.9 million. The overall duration of the portfolio at year-end was 3.3, a slight decrease of 0.1 from 2016.

Interest bearing liability costs were flat at 21 basis points, however a slight decrease in average interest bearing liability balances resulted in a decrease in interest expense by \$0.6 million, attributable to a decrease of \$183.1 million in average interest bearing deposits.

Average free balances for 2017 were \$3.1 billion (2016: \$2.7 billion), including non-interest bearing current accounts of \$2.4 billion (2016: \$2.0 billion), shareholders' equity of \$748.9 million (2016: \$827.4 million), net of other assets and other liabilities totaling \$91.6 million (2016: \$219.7 million). See "Risk Management" for more information on how interest rate risk is managed.

Provision for Credit Losses

2018 vs. 2017

Our net provision for credit losses in 2018 was a release of \$7.0 million compared to a release of \$5.8 million in 2017, an increase in the release by \$1.2 million. Provision releases were primarily a result of \$11.9 million of releases from general reserves, due principally to qualitative factor revisions for commercial and residential real estate lending as a result of evidence of improving credit markets in our key jurisdictions. Partially offsetting this was \$5.0 million of incremental specific provisions, relating principally to commercial loans and residential mortgages. In comparison, in 2017, we had a net release out of provisions of \$5.8 million due principally to qualitative factor revisions for commercial and residential real estate lending as a result of evidence of improving credit markets in our key jurisdictions, which was partially offset by certain incremental provisions relating to specific reserves, relating principally to commercial loans and residential mortgages. Recoveries on consumer and residential mortgages were 95% of 2018 recoveries and 92% of 2017 recoveries. The decrease in provision expenses relate primarily to a reduction in Bermuda residential credit losses, demonstrating the stability of our domestic credit markets. Group non-accrual loans increased \$4.8 million to \$48.7 million in 2018, principally as a result of a Barbados sovereign loan changing to non-accrual during the year.

2017 vs 2016

Our net provision for credit losses in 2017 was a release of \$5.8 million compared to an expense of \$4.4 million in 2016, a decrease of \$10.2 million. Provision releases were primarily a result of \$10.7 million of releases from general reserves, due principally to qualitative factor revisions for commercial and residential real estate lending as a result of evidence of improving credit markets in our key jurisdictions. Partially offsetting this was \$5.5 million of incremental provisions relating to specific reserves, relating principally to commercial loans and residential mortgages. In comparison, in 2016, we required incremental provisions of \$5.8 million principally for general reserves pertaining to commercial real estate, partially offset by recoveries of \$1.4 million. Recoveries on consumer and residential mortgages were 92% of 2017 recoveries and 93% of 2016 recoveries. The decrease in provision expenses relate primarily to a reduction in Bermuda residential credit losses, demonstrating the stability of our domestic credit markets. This is further evidenced by a reduction in group non-accrual loans, which decreased \$4.6 million to \$43.9 million in 2017.

Market Environment

Our business is affected by international, regional and local economic conditions, as well as, the perception of future economic prospects. The significant macro-economic factors that impact our business include the US and global economic landscapes, unemployment rates, the housing markets and interest rates. In 2018 the global expansion weakened, to an estimated 3.7%. Weaker performances in Europe and Asia, versus a strong US market, created uneven growth across geographic regions. In the US, the Federal Reserve increased its target rate range four times in 2018. Meanwhile, the European Central Bank ("ECB") ended its asset purchase program in December.

During 2018 in the US, there was continued resilience in the business cycle. Job creation was maintained with low unemployment rates and rising wages. Tax relief and the resurgence in energy exploration in tandem with consumer spending increased capital expenditures to drive the growth rate to the 3% mark for the year. The tax stimulus does not appear to have resulted in inflation. Equities had a turbulent end to the year with markets worried about an end to the long bull market and the impact of rising global tariffs. The yield curve has flattened again towards the end of the year, with the Federal Reserve pushing short-term rates closer to long-term Treasury yields. While the Bank does not have operations in the US, economic trends in the US, particularly as they pertain to the interest rate environment, do affect the Bank through our liquid asset portfolios and utilization of certain US base rates as reference rates in our lending portfolio.

In Bermuda, we continued to face mixed economic conditions during 2018, owing to a slowdown in private consumption. This despite a resurgence in tourist arrivals and tourism related activity mainly related to stronger growth in the US. The latest economic indicators from the first quarter show a 2017 to 2018 decrease in GDP growth to -0.4% in constant price terms, relative to an increase of 1.6% in the prior year. The contraction in private consumption demand is reflective of a slow recovery in the labor market and lower household incomes as a result of slower retail sales. Comparisons with 2017 must take into account the economic stimulus provided in 2017 by Bermuda's hosting of the America's Cup international sailing event. The 2017 America's Cup saw approximately 10,300 international air arrivals whose stated purpose of travel was for the America's Cup, which led to an approximately \$194.3 million in incremental on-island spending. Preparations for this event also helped to drive several new hotels under construction and related infrastructure projects. The Bermuda economy continues to face medium-term challenges from high unemployment, significant government debt and related debt service charges. See "Risk Factors - Risks Relating to Financial Conditions, Market Environment and General Economic Trends - Adverse economic and market conditions, in particular in Bermuda and the Cayman Islands, have in the past resulted in and could in the future result in lower revenue, lower asset quality, increased provisions and lower earnings". Overcoming these challenges, as well as continuing to attract foreign capital, is a key focus of the Bermuda Government. Sustainable growth for the Bermudian economy will be driven largely by successful management of these three issues.

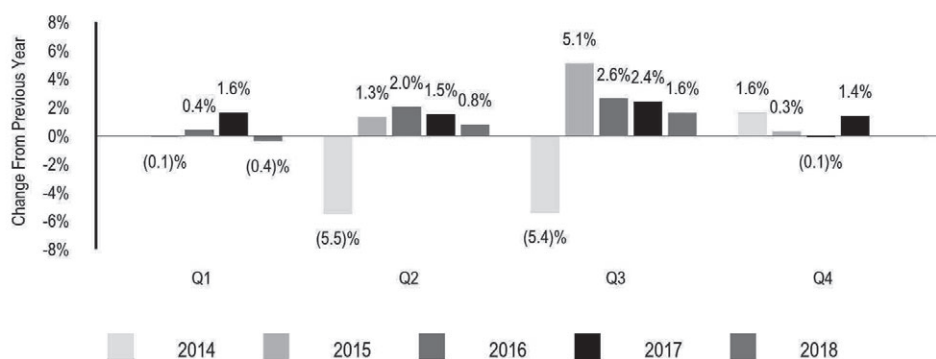
Following the 2008 financial crisis, the Bermuda economy experienced consecutive years of GDP declines. In addition, the impact of the crisis on employment, population levels and real estate values was negative for several years thereafter. Since 2015, GDP growth has been more robust, averaging greater than 3%. Real estate and rents have also recovered over this period. International business activity declined from 2009 to 2011, with modest annual growth from 2012 onwards. The real estate and international business components represent over 40% of Bermuda's GDP and therefore provide insight into both the overall health of the Bermuda economy and the longer-term recovery. The table below shows the extent to which the real estate market and overall economy has recovered, stabilized, and begun to show growth.

	2017	2016	2015	2014	2013
Bermuda GDP (in millions)	6,269	6,127	5,928	5,700	5,670
% change from prior year	2.9%	3.4%	4%	0.5%	1.5%
<i>Selected GDP Components:</i>					
Real estate and renting GDP (in millions)	1,006	1,002	983	963	948
% change from prior year	3.8%	1.9%	2.1%	1.6%	(0.6)%
International business GDP (in millions)	1,673	1,675	1,659	1,575	1,570
% change from prior year	—%	1.0%	5.3%	0.3%	7.9%

Source: Government of Bermuda, Department of Statistics, Annual Publication, Gross Domestic Product at current market prices, Table 4

The Government of Bermuda, Department of Statistics, Quarterly GDP at current prices for 2018 are shown below to provide further insight into current GDP trends. Note that the Q2, Q3 nor Q4 figures for 2018 are not available as of the date of this report.

2014 to 2018 GDP Change by Quarter



The Cayman Islands projected real GDP growth in 2018 of 3.0%, which is up from 2.9% in the previous year. Growth was driven by strong tourism numbers and construction services demand, with financial services, the largest contributor to GDP growing more modestly. The island saw significantly increased tourist arrivals in both air

and cruise passengers in 2018 as tourism offerings remained offline in parts of the eastern Caribbean following two devastating hurricanes in 2017. A portion of this growth is expected to abate in the future as eastern Caribbean tourist destinations come back on line. The Owen Roberts International Airport redevelopment and expansion project is substantially complete, with estimated full completion by mid-2019. This will provide a better overall travel experience for tourists, business visitors and residents alike. While several significant infrastructure projects have been deferred, the Cayman Islands Government continues to record growing surpluses and overall external debt reduction. The most recent consumer price index data estimates inflation increased by 2.7% for 2018 driven by rising crude oil prices in the international market and increased demand in the US, a major source market of the Cayman Islands. An increasing local population has also led to a higher demand for goods and services causing additional inflationary pressure. Commercial credit reported increased activity led by financial corporations, primary production and trade and commerce, while credits to households reported increases in domestic property, vehicle, education and technology loans, which plays to our strength in the Cayman Islands and is reflected in the growth of our domestic residential mortgage book.

Meanwhile, the United Kingdom's ("UK") quarterly economic growth was confirmed at 0.6% in the three months to September 2018, the strongest expansion since the last quarter of 2016 and following a 0.4% advance in the previous period. Household spending and exports were the main drivers of growth while business investment has fallen for three consecutive quarters. This has not occurred since the global financial crisis, in part due to Brexit-related economic and political uncertainty. There continues to be political uncertainty around the UK's planned exit from the European Union due to take place on March 29 2019. Our operations in the Channel Islands and the UK use the Pound Sterling as their functional currency, and are closely linked to economic trends in both the UK and the Eurozone due to the close relationships between the UK and Europe. See "Risk Factors - Regulatory and Tax-Related Risks - The uncertainty resulting from Brexit as well as changes in US regulation and government policy as a result of the current US administration, could adversely impact our business, financial condition and results of operation".

Against this backdrop, our banking businesses in the Channel Islands and the UK benefited from strong loan demand. Our loan offering has proven competitive in the UK market as our competitors have reduced their commitment in the Prime Central London property market.

We continue to maintain a cautious stance with a liquid balance sheet, a conservative investment portfolio, and no reliance on wholesale funding. Total liquid cash and investments, excluding held-to-maturity investments, made up 59.3% of our balance sheet at December 31, 2018, which is down slightly from 61.9% at December 31, 2017.

Other Gains (Losses)

The following table represents the components of other gains (losses) for the years ended December 31, 2018, 2017 and 2016:

(in thousands of \$)	For the year ended December 31,			Dollar Change		Percent Change	
	2018	2017	2016	2017 to 2018	2016 to 2017	2017 to 2018	2016 to 2017
Net trading gains (losses)	(329)	511	715	(840)	(204)	(164.4)%	(28.5)%
Net realized gains (losses) on available-for-sale investments	1,100	4,186	1,546	(3,086)	2,640	(73.7)%	170.8 %
Net realized / unrealized gains (losses) on other real estate owned	(322)	(2,383)	(440)	2,061	(1,943)	(86.5)%	441.6 %
Net other gains (losses)	(1,304)	(1,045)	(807)	(259)	(238)	24.8 %	29.5 %
Other gains (losses)	(855)	1,269	1,014	(2,124)	255	(167.4)%	25.1 %

Net Trading Gains

A \$0.3 million loss was recorded with respect to trading securities in 2018 compared to net trading gains of \$0.5 million in 2017 and net trading losses of \$0.7 million in 2016. The trading losses in 2018 reflected trading losses on certain mutual funds. The trading gains in 2017 reflected pricing movements on certain mutual funds. The gains in 2016 were as a result of a determination made in 2015 that certain securities classified as AFS for our operations in Guernsey and the UK should be classified as trading securities. These securities were sold by the second quarter of 2016 in both jurisdictions. The net change in unrealized gains (losses) on these securities was \$0.1 million of net gains in 2016, which are classified as non-core. The increase was due primarily to movements in long-term US treasury rates prior to the liquidation date.

Net Realized Gains (Losses) on Available-For-Sale Investments

Net realized gains of \$1.1 million were recorded in 2018 and \$4.2 million in 2017 as a result of the sale of certain investments from our US government and federal agency portfolio where the proceeds were used to either re-acquire US government and federal agency available-for-sale securities or acquire long-term held-to-maturity investments, or liquidation proceeds from a former investment as detailed below.

Included in this amount in 2016 was a \$0.6 million net realized gain on the receipt of liquidation proceeds from our former investment in the Avenir Pass-through Note, which was formerly a structured investment vehicle. In 2017 and 2018, we received a further \$2.6 million and \$1.2 million, respectively, in liquidation proceeds from this same investment. Management considers these gains in 2016, 2017 and 2018 to be non-core.

Net Realized/Unrealized Gains (Losses) on Other Real Estate Owned

Valuation adjustments and realized gains and losses related to real estate held for sale were losses of \$0.3 million in 2018 compared to gains of \$2.4 million in 2017 and \$0.4 million in 2016, attributable largely to the revaluation of several properties in Bermuda in 2018. In 2017, these gains were attributable largely to the revaluation of two properties in Bermuda. In 2016, these gains were attributable to the sale of certain properties in Bermuda and Cayman in triggering a small loss.

Impairment of Fixed Assets

We conduct annual property impairment assessments on our properties held for sale and rent, as well as other fixed assets, which resulted in no write downs in 2018 or 2017.

Net Other Gains (Losses)

Net other losses were \$1.3 million in 2018 compared to net other gains of \$1.0 million in 2017 and \$0.8 million in 2016. The losses in 2018 are principally the result of a non-core defined pension plan settlement loss incurred in the UK. Included in the 2017 results is a write-off of a fees receivable balance partially offset by repricing gains on certain private equity investments. Included in the 2017 and 2016 results is the non-core realized losses relating to a revision to the contingent consideration in the Legis acquisition from 2014 due to positive results during the pre-determined earn-out period which revised the estimated payments, offset by non-core realized gains relating to the contingent consideration in the HSBC Bermuda acquisition due to slightly lower referred business than the initial estimate.

Non-Interest Income

Non-interest income is a function of a number of factors including the composition, complexity and value of client assets under management and administration, the volume and nature of clients' transaction activities, and the types of products and services our clients' use. Our fee structure provides for varied pricing that depends primarily on the size of the relationship and the nature of services provided. As a result, it is not always possible to draw a direct relationship between the value of client assets and the level of non-interest income, though the trend of non-interest income generally follows the trend in client asset levels.

Total non-interest income increased from \$157.8 million in 2017 to \$168.7 million in 2018. Non-interest income as a percentage of total net revenue decreased slightly from 34.8% in 2017 to 32.5% in 2018 due to a higher relative increase in net interest income.

Total non-interest income increased from \$147.5 million in 2016 to \$157.8 million in 2017. Non-interest income as a percentage of total net revenue decreased slightly from 36.7% in 2016 to 34.8% in 2017.

The following table presents the components of non-interest income for the years ended December 31, 2018, 2017 and 2016:

(in thousands of \$)	For the year ended December 31,			Dollar change		Percent change	
	2018	2017	2016	2017 to 2018	2016 to 2017	2017 to 2018	2016 to 2017
Asset management	25,603	24,711	21,106	892	3,605	3.6%	17.1 %
Banking	45,010	43,772	39,342	1,238	4,430	2.8%	11.3 %
Foreign exchange revenue	32,895	32,222	30,606	673	1,616	2.1%	5.3 %
Trust	51,004	44,936	44,060	6,068	876	13.5%	2.0 %
Custody and other administration services	9,262	8,149	8,883	1,113	(734)	13.7%	(8.3)%
Other non-interest income	4,912	4,035	3,476	877	559	21.7%	16.1 %
Total non-interest income	168,686	157,825	147,473	10,861	10,352	6.9%	7.0 %

Asset Management

Asset management revenues are generally based on the market value of assets managed and the volume of transactions and fees for other services rendered. We provide asset management services from our offices in Bermuda, the Cayman Islands, Guernsey and, in the UK prior to the completion of the orderly wind-down of the asset management practice the first quarter of 2016. Revenues from asset management were \$25.6 million in 2018, compared to \$24.7 million in 2017, and \$21.1 million in 2016.

The table that follows shows the changes in the year-end values of clients' assets under management, sub-divided between those managed for clients on a discretionary basis and client funds invested in mutual funds that Butterfield manages ("Butterfield Funds"):

(in millions of \$)	Year ended December 31,			Dollar Change	
	2018	2017	2016	2017 to 2018	2016 to 2017
Butterfield Funds	2,058	2,099	1,808	(41)	291
Other assets under management	2,786	2,947	2,885	(161)	62
Total assets under management	4,844	5,046	4,693	(202)	353

2018 vs. 2017

Assets under management were \$4.8 billion as of December 31, 2018, compared to \$5.0 billion as of December 31, 2017. The decrease in AUM was largely a result of a decrease in valuation of the investments within the Butterfield Funds due to market performance. In spite of this, asset management fees earned on Butterfield Funds increased by \$1.7 million due to increased management fee rates applied to certain of the Butterfield Funds as well as several corporate clients transferring their mandates to the Butterfield Funds from discretionary portfolios.

The remaining asset management fees are generated primarily from management fees on discretionary portfolios other Butterfield Funds, as well as custody and brokerage fees. Management fees on the other mutual funds decreased by \$1.1 million as a result of decreased AUM in those funds due to the aforementioned transfer to the Butterfield Funds as well several lost customers. Custody and brokerage fees increased by \$0.3 million to \$2.1 million, predominantly as a result of a slight increase in brokerage commission from transaction volume.

2017 vs. 2016

Assets under management were \$5.0 billion as of December 31, 2017, compared to \$4.7 billion as of December 31, 2016. The increase in AUM was largely a result of certain term deposits which expired during the year being retained in Butterfield Money Market Funds. This increase in AUM, along with higher fees earned off discretionary clients due to a full year's worth of income from the acquired HSBC asset management business in Bermuda and higher fees earned off Butterfield Money Market Funds from rate adjustments, resulted in \$1.9 million of the increase in asset management fees compared 2016.

The remaining asset management fees are generated primarily from management fees on discretionary portfolios other Butterfield mutual funds, as well as custody and brokerage fees. Management fees on the other mutual funds increased by \$2.0 million as a result of additional AUM in those funds as well as pricing adjustments. Custody and brokerage fees decreased by \$0.3 million to \$1.9 million, predominantly as a result of a decrease in brokerage commission as a result of the orderly wind-down in the UK.

Banking

We provide a full range of community, commercial, and private banking services in select jurisdictions. Banking services are offered to individuals and small to medium-sized businesses through branch locations, internet banking, automated teller machines, debit and credit cards, and mobile banking in Bermuda and the Cayman Islands, while private banking services are offered in Bermuda, the Cayman Islands and Guernsey. Banking revenues reflect loan, transaction processing, and other fees earned in these jurisdictions. During 2016, we announced the orderly wind-down of our private banking and asset management businesses in the UK, which was completed by year end 2016.

Banking fee revenues increased by 2.8% in 2018 to \$45.0 million, compared to \$43.8 million in 2017, due primarily to further increases in credit card activity, and revised fee schedules in several jurisdictions in 2018.

Banking fee revenues increased by 11.3% in 2017 to \$43.8 million, compared to \$39.3 million in 2016, due primarily to higher credit card activity, and revised fee schedules in several jurisdictions in 2017.

Foreign Exchange

We provide foreign exchange services in the normal course of business in all jurisdictions. The major contributors to foreign exchange revenues are Bermuda and the Cayman Islands, accounting for 93% of our foreign exchange revenue (2017: 92%; 2016: 90%). We do not maintain a proprietary trading book. Foreign exchange income is generated from client-driven transactions and totaled \$32.9 million in 2018, compared to \$32.2 million in 2017 and \$30.6 million in 2016. The \$0.7 million increase from 2017 to 2018 reflects further increased client activity and related volumes in both retail and institutional foreign exchange flows. The \$1.6 million increase from 2016 to 2017 reflects increased client activity and related volumes in both retail and institutional foreign exchange flows.

Trust

We provide both personal and institutional fiduciary services from our operations in Bermuda, The Bahamas, the Cayman Islands, Guernsey and Switzerland. Revenues are derived from a combination of fixed fees, fees based on the size and complexity of the trust relationship and fees based on time spent in relation to the range of personal trust and company administration services and pension and employee benefit trust services we provide.

In 2018, trust revenues represented 30.2% of our non-interest income, up from 28.5% in 2017. In 2018, trust revenues totaled \$51.0 million, an increase of \$6.1 million or 13.5% over 2017, attributable largely to a additional revenue as a result of the acquisition of Deutsche Bank's GTS businesses, which closed on March 29, 2018, as well as structured, proactive business development activities. Improved new business results were seen in all of our businesses in both personal and institutional fiduciary services.

In 2017, trust revenues represented 28.5% of our non-interest income, down from 29.9% in 2016. In 2017, trust revenues totaled \$44.9 million, an increase of \$0.9 million or 2.0% over 2016, attributable largely to a full year's income from the acquisition of the Bermuda Trust Company Limited, which was acquired from HSBC Bank Bermuda Limited on April 1, 2016, as well as business development activities. Improved new business results were seen in all of our businesses in both personal and institutional fiduciary services.

Trust assets under administration were \$96.1 billion at the end of 2018 compared to \$95.4 billion at the end of 2017, an increase of \$0.7 billion or 0.7%, which is attributable largely to the restructure of client asset holdings, the addition of assets under administration as a result of the recent acquisition, as well as revisions to the value of the assets under administration. Trust assets under administration increased by \$2.5 billion or 2.6% from 2016 to 2017, which was attributable largely to the restructure of client asset holdings, as well as revisions to the value of the assets under administration, partially offset by favorable foreign exchange movements.

Custody and Other Administration Services

Custody fees are generally based on market values of assets in custody, the volume of transactions and flat fees for other services rendered. We provide custody services from our offices in Bermuda, the Cayman Islands and Guernsey. In 2018, revenues were \$9.3 million, an increase of \$1.1 million from 2017 as a result of the aforementioned acquisition of Deutsche Bank's GTS businesses. From 2016 to 2017, revenues decreased slightly by \$0.7 million due to lower transaction volumes and expired mandates.

Total assets under administration for the custody and other administration services business were \$24.5 billion on December 31, 2018, down from \$27.5 billion on December 31, 2017, compared to \$24.7 billion on December 31, 2016.

Other Non-Interest Income

The components of our other non-interest income for the years ended December 31, 2018, 2017 and 2016 are set forth in the following table:

(in thousands of \$)	Year ended December 31,			Dollar Change		Percent Change	
	2018	2017	2016	2017 to 2018	2016 to 2017	2017 to 2018	2016 to 2017
Net share of earnings from equity method investments	1,122	1,091	1,175	31	(84)	2.8 %	(7.1)%
Rental income	1,087	1,714	1,104	(627)	610	(36.6)%	55.3 %
Other	2,703	1,230	1,197	1,473	33	119.8 %	2.8 %
Total other non-interest income	4,912	4,035	3,476	877	559	21.7 %	16.1 %

In 2018, we recorded equity pickup income of \$1.1 million, flat from the prior year. From 2016 to 2017, equity pickup increased by \$0.1 million due to higher earnings by equity method investments. Rental income decreased by \$0.6 million to \$1.1 million in 2018 due to the sale of a rented property in early 2018, and increased by \$0.6 million from 2016 to 2017 due to an increase in rented properties. Included in the "Other" category are maintenance fees from leased premises and other miscellaneous income.

Non-Interest Expenses

Expense management continued to be a key focus in 2018, however we continued to incur costs associated with our US listing, primarily Sarbanes-Oxley related consultancy costs, as well as an increase in salaries and benefit costs. Total non-interest expenses in 2018 were \$321.4 million compared to \$300.4 million in 2017 and \$286.0 million in 2016. These figures include non-core expenses in 2018, 2017 and 2016 of \$1.5 million, \$8.1 million and \$22.4 million, respectively. After adjusting for these non-core items, 2018 core expenses were up \$27.6 million (9.4%) with an improvement in core efficiency ratio to 61.5% from 64.3% in 2017. From 2016 to 2017, core expenses increased by \$28.7 million (10.9%) with a corresponding regression in core efficiency ratio to 64.3% to 63.8% in 2016.

In 2018, salaries and other employee benefits accounted for 49.7% of non-interest expenses, with technology and communications and property making up 25.6% combined.

The following table presents the components of non-interest expenses for the years ended December 31, 2018, 2017 and 2016:

(in millions of \$)	Year ended December 31,			Dollar Change		Percent Change	
	2018	2017	2016	2017 to 2018	2016 to 2017	2017 to 2018	2016 to 2017
Salaries and other employee benefits	159.8	145.1	140.2	14.7	4.9	10.1 %	3.5 %
Technology and communications	60.3	54.0	57.4	6.3	(3.4)	11.7 %	(5.9)%
Property	21.8	19.9	21.0	1.9	(1.1)	9.5 %	(5.2)%
Professional and outside services	26.0	27.2	18.9	(1.2)	8.3	(4.4)%	43.9 %
Indirect taxes	19.5	18.1	16.4	1.4	1.7	7.7 %	10.4 %
Amortization of intangible assets	5.1	4.2	4.5	0.9	(0.3)	21.4 %	(6.7)%
Marketing	6.1	5.7	4.5	0.4	1.2	7.0 %	26.7 %
Restructuring costs	—	1.8	6.3	(1.8)	(4.5)	(100.0)%	(71.4)%
Non-service employee benefits expense	5.6	8.1	(0.3)	(2.5)	8.4	(30.9)%	(2,800.0)%
Other non-interest expenses	17.2	16.3	17.0	0.9	(0.7)	5.5 %	(4.1)%
Total non-interest expenses	321.4	300.4	286.0	21.0	14.4	7.0 %	5.0 %
Non-core items (Non-GAAP)	(1.5)	(8.1)	(22.4)	6.6	14.3	(81.5)%	(63.8)%
Core non-interest expenses (Non-GAAP)	319.9	292.3	263.6	27.6	28.7	9.4 %	10.9 %

For a full reconciliation of GAAP net income to core net income, please see "Selected Consolidated Financial Data — Reconciliation of Non-GAAP Financial Measures".

Salaries and Other Employee Benefits

Total salaries and other employee benefits costs were \$159.8 million in 2018, up \$14.7 million compared to 2017. Included in 2018 expenses were no non-core salary and other employee benefit costs, compared to \$0.8 million of severance, early retirement and project-related non-core costs in 2017. The remaining amounts in 2018 and prior period amounts are composed of (i) nil million in 2018, \$0.2 million in 2017, and \$1.8 million in 2016 in severance and early retirement; (ii) nil million in 2018, \$0.6 million in 2017, and nil in 2016 relating to the extensive review and account remediation exercise to determine the US tax compliance status of US person account holders; and (iii) nil million in 2018, nil in 2017, and \$1.0 million in 2016 attributable to business acquisition costs relating to the HSBC Bermuda acquisition completed in 2016.

Core salaries, which exclude these amounts, and other employee benefits costs were \$159.8 million in 2018, up \$15.5 million compared to 2017 due to an increase in discretionary compensation expense, and an increase due to headcount increases resulting from the two acquisitions completed during 2018. From 2016 to 2017, core salaries increased \$15.3 million due to increased post-retirement medical costs, costs associated with the implementation of new compliance systems and processes, an increase in discretionary compensation expense, a slight increase due to headcount increases during the first three quarters as a result of the build-out of our Halifax service center.

Headcount on a full-time equivalency basis at the end of 2018 was 1,373, compared to 1,190 in 2017 and 1,240 in 2016. The increase from 2017 to 2018 was a result of the two acquisitions completed during 2018. The decrease from 2016 to 2017 was a result of staff decreases resulting from the wind-down of accelerated compliance projects which were completed during the third quarter of 2017.

Technology and Communications

Technology and communication costs reflect expenses relating to the support for our IT infrastructure and increased from \$54.0 million in 2017 to \$60.3 million in 2018 due to a increased support services provided during the year. From 2016 to 2017, technology and communications costs decreased slightly by \$3.4 million to \$54.0 million due to a re-negotiated service contract which took effect during the year.

Property

Property costs, which reflect occupancy expenses, building maintenance, and depreciation of property, plant and equipment, were \$21.8 million in 2018, up \$1.9 million from \$19.9 million recorded in 2017 due primarily to the costs associated with the build out for new operations in Jersey, Singapore and Mauritius.

From 2016 to 2017, property costs decreased by \$1.1 million due primarily to lower depreciation and renovation related costs.

Professional and Outside Services

Professional and outside services primarily include consulting, legal, audit and other professional services. The 2018 expense of \$26.0 million included \$0.9 million of non-core project-related costs. In 2017 and 2016, the total expenses of \$27.2 million and \$18.9 million included non-core project expenses of \$4.8 million and \$1.7 million, respectively. Excluding the non-core project-related costs, professional fees for our core business increased by \$2.8 million from 2017 to 2018 due to a slight increase in costs associated with our external audit associated with the expanded geographic footprint and the integrated audit approach, and an increase in external legal costs and increased by \$5.2 million from 2016 to 2017 due to the costs associated with Sarbanes-Oxley compliance, and increased financial crime and tax reporting compliance costs. The non-core professional fee project-related costs in 2018 and prior periods included:

- Costs relating to the extensive review and account remediation exercise to determine the US tax compliance status of US person account holders resulting from the so-called John Doe Summonses issued by the USAO to six US financial institutions with which we had correspondent bank relationships. Total costs associated with this remediation exercise during the year ended December 31, 2018 amounted to nil (2017: \$1.6 million; 2016: \$2.2 million);
- Legal and professional fees relating to the agreement to acquire Deutsche Bank's GTS business, excluding its US operations, which amounted to \$0.9 million in 2018 and \$2.1 million in 2017. In 2016, we recorded \$0.7 million of legal and professional fees relating to the acquisition of the Bermuda Trust Company Limited and the private banking and investment management operations of HSBC Bank Bermuda Limited; and
- Legal and professional fees relating to the secondary bank share offering completed during 2017, which amounted to \$1.9 million in 2017.

Indirect Taxes

These taxes reflect taxes levied in the jurisdictions in which we operate, including employee-related payroll taxes, customs duties, and business licenses. In 2018, the expense was \$19.5 million, up \$1.4 million due mainly to increased payroll taxes and increased payments on the asset tax introduced in the prior year, as well as payments for the Bermuda Deposit Insurance Scheme, all in Bermuda. Of the \$19.5 million in indirect taxes, \$16.3 million was paid to the Bermuda government agencies for payroll tax, business licenses and land taxes and \$3.2 million was paid to other governments for business licenses, insurance tax and work permit fees. We incurred new indirect taxes in Bermuda beginning in 2016 as payment for the Bermuda Deposit Insurance Scheme. These amounts are calculated at 0.25% per annum of the average total amount of our Bermuda Dollar deposits, and are payable quarterly. The Bermuda Government has increased payroll tax in each of the past three years, and subsequent increases could further increase indirect taxes. We also incurred a new financial services tax in Bermuda in 2017 which amounted to \$1.6 million. From 2016 to 2017, indirect taxes increased by \$1.7 million due mainly to increased payroll taxes and the new asset tax, as well as payments for the Bermuda Deposit Insurance Scheme, all in Bermuda.

Amortization of Intangible Assets

Intangible assets relate to client relationships acquired from business acquisitions and are amortized on a straight-line basis over their estimated useful lives, not exceeding 15 years. The estimated lives of these acquired intangible assets are re-evaluated annually and tested for impairment. The amortization expense associated with intangible assets was \$5.1 million in 2018 compared to \$4.2 million in 2017 and \$4.5 million in 2016. Amortization increased from 2017 to 2018 by \$0.9 million as a result of additional identifiable intangible assets resulting from the two acquisitions completed during 2018, and was flat from 2016 to 2017.

Marketing

Marketing expenses reflect costs incurred in advertising and promoting our products and services. Marketing expenses totaled \$6.1 million in 2018, up \$0.4 million compared to 2017, primarily as a result of several smaller marketing initiatives and costs associated with new business initiatives. Marketing expenses decreased slightly as a percentage of total net revenue before provision for credit losses and other gains and losses to 1.2% from 1.3%. From 2016 to 2017 marketing expenses increased by \$1.2 million primarily as a result of marketing initiatives during the America's Cup in Bermuda, and correspondingly increased slightly as a percentage of total net revenue before provision for credit losses and other gains and losses to 1.3% from 1.1%.

Other Non-Interest Expenses

(in millions of \$)	For the year ended December 31,			Dollar Change		Percent Change	
	2018	2017	2016	2017 to 2018	2016 to 2017	2017 to 2018	2016 to 2017
	Stationery & supplies	1.4	1.3	1.6	0.1	(0.3)	7.7 %
Custodian & handling	2.2	2.1	2.0	0.1	0.1	4.8 %	5.0 %
Charitable donations	1.3	1.0	0.9	0.3	0.1	30.0 %	11.1 %
Insurance	3.1	3.3	2.7	(0.2)	0.6	(6.1)%	22.2 %
Other expenses	9.2	8.6	9.8	0.6	(1.2)	7.0 %	(12.2)%
Total other non-interest expenses	17.2	16.3	17.0	0.9	(0.7)	5.5 %	(4.1)%

Other non-interest expenses were \$17.2 million in 2018, an increase of \$0.9 million compared to 2017. This was principally driven by an increase in charitable donations during 2018.

From 2016 to 2017, other non-interest expenses decreased \$0.7 million, principally driven by a \$0.7 million provision for a potential settlement arising from the USAO tax compliance review in 2016, in addition to the initial provision of \$4.8 million raised for this review in 2015. As the investigation regarding this tax compliance review remains ongoing at this time, the timing and terms of the final resolution, including any fines or penalties, remain uncertain and the financial impact to us could exceed the amount of the provision. In this regard, we note that the US authorities have not approved or commented on the adequacy or reasonableness of the provision. Management views this provision as non-core. See "Information on the Company — Legal Proceedings".

Income Taxes

Each jurisdiction in which we operate is subject to different corporate income tax laws. See "Risk Factors - Regulatory and Tax-Related Risks". We are incorporated in Bermuda as a local company and, pursuant to Bermuda law, not obligated to pay any direct taxes in Bermuda on either income or capital gains there. Our subsidiaries in the Cayman Islands and The Bahamas are not subject to any taxes on either income or capital gains under current laws applicable in the respective jurisdictions. In general, entities in Bermuda and the Cayman Islands are not subject to corporate income taxes but are required to pay higher rates of indirect taxes (included above) such as license fees and, in Bermuda, payroll taxes.

Our subsidiaries in the UK, Guernsey and Switzerland are subject to the tax laws of those jurisdictions. The corporate tax rate in the UK is 20%, while in Guernsey, banking profits are subject to a 10% flat corporate tax rate. See Note 25 "Income taxes" in the Audited Consolidated Financial Statements for a reconciliation between the effective income tax rate and the statutory income tax rate.

In 2018, income tax expense netted to \$1.3 million compared to \$1.1 million in 2017. The change in income tax expense of \$0.2 million was due primarily to increased profitability in our Guernsey subsidiary.

From 2016 to 2017, the change in income tax amounted of \$0.4 million was due primarily to increased profitability in our Guernsey subsidiary.

Net Income

We reported net income of \$195.2 million for the year ended December 31, 2018, compared to \$153.3 million in 2017 and \$115.9 million in 2016. The increase from 2017 to 2018 of \$41.9 million was driven by higher net interest and non-interest income, offset by higher non-interest expenses. The increases in net interest and non-interest income were driven principally by an increasing interest rate environment, which drove higher interest income on loans and investments, and revised fee schedules, which led to higher banking fees and asset management fees. The increase from 2016 to 2017 of \$37.3 million was also driven by higher net interest and non-interest income, partially offset by higher non-interest expenses. The increases in net interest and non-interest income were driven principally by an increasing interest rate environment and additional loan volume, which drove higher interest income on loans and investments, and revised fee schedules and the impact of integration of acquisitions, which led to higher banking fees, asset management fees and trust fees, respectively.

As all preference shares were redeemed and canceled in December 2016, there were no preference share dividends, guarantee fees or premiums on buy-backs in 2017, making net income available to common shareholders the full \$153.3 million or \$2.76 per share, for the year ended December 31, 2017. However after deduction of preference dividends and guarantee fees in the prior years (2016: \$15.7 million) and the premium paid on the preference share buy-backs and redemption (2016: \$41.9 million), net income available to common shareholders was \$58.4 million (\$1.18 per share) in 2016. The increased premium in 2016 was due to the redemption and cancellation of all of the outstanding preference shares in December 2016. These per share figures reflect the reverse share split that the Bank effected on September 6, 2016.

Consolidated Balance Sheet and Discussion

The following table shows the balance sheet as reported as of December 31, 2018 and 2017:

(in millions of \$)	As of December 31,		Dollar Change	Percent Change
	2018	2017		
Assets				
Cash due from banks	2,054	1,535	519	33.8 %
Securities purchased under agreement to resell	27	179	(152)	(84.9)%
Short-term investments	52	250	(198)	(79.2)%
Investment in securities	4,255	4,706	(451)	(9.6)%
Loans, net of allowance for credit losses	4,044	3,777	267	7.1 %
Premises, equipment and computer software	158	165	(7)	(4.2)%
Goodwill and intangibles	75	61	14	23.0 %
Other assets	108	107	1	0.9 %
Total assets	10,773	10,779	(6)	(0.1)%
Liabilities				
Total deposits	9,452	9,536	(84)	(0.9)%
Total other liabilities	295	303	(8)	(2.6)%
Long-term debt	143	117	26	22.2 %
Total liabilities	9,891	9,956	(65)	(0.7)%
Common and contingent value convertible preference shareholders' equity	882	823	59	7.2 %
Total shareholders' equity	882	823	59	7.2 %
Total liabilities and shareholders' equity	10,773	10,779	(6)	(0.1)%

	As of December 31,	
	2018	2017
Capital Ratios		
Risk-weighted assets	4,321	4,254
Tangible common equity (TCE)	808	762
Tangible assets (TA)	10,698	10,719
TCE/TA	7.5%	7.1%
Common Equity Tier 1	19.6%	18.2%
Total Tier 1	19.6%	18.2%
Total Capital	22.4%	19.9%
Leverage ratio	7.6%	6.9%

We maintain a liquid balance sheet and are well capitalized. As of December 31, 2018, total cash due from banks, short-term investments and investment in securities represented \$6.4 billion, or 59.3% of total assets, down slightly from 61.9% at the end of 2017 due to a decrease in available-for-sale securities as a result of a decrease in customer deposits and an increase in the loan portfolio of \$0.3 million. Shareholders' equity at December 31, 2018 was \$882.3 million, up from \$822.9 million at the end of 2017 due primarily to net income on the year net of dividends paid.

Total assets decreased by \$6.0 million to \$10.8 billion from 2017 to 2018, primarily reflecting a \$0.1 billion decrease in customer deposit levels despite a slight increase in the loan portfolio, which grew by \$0.3 billion.

As of December 31, 2018, our capital ratios were strong, and were significantly in excess of regulatory requirements. Effective January 1, 2016, the Bank's regulatory capital is determined in accordance with current Basel III guidelines as issued by the BMA. Basel III adopts CET1 as the predominant form of regulatory capital with the CET1 ratio as a new metric. Basel III also adopts the new Leverage Ratio regime, which is calculated by dividing Tier 1 capital by an exposure measure. The exposure measure consists of total assets (excluding items deducted from Tier 1 capital) and certain off-balance sheet items converted into credit exposure equivalents as well as adjustments for derivatives to reflect credit risk and other risks. Prior to January 1, 2016, the Bank's regulatory capital was determined in accordance with Basel II guidelines issued by the BMA.

The TCE/TA ratio at the end of 2018 was 7.5% (2017: 7.1%), while the CET1 and total Tier 1 capital ratios at the end of 2018 were 19.6% (2017: 18.2%) and 19.6% (2017: 18.2%), respectively. These ratios continue to remain in excess of regulatory minimums at December 31, 2018.

Cash Due from Banks, Securities Purchased Under Agreement to Resell and Short-Term Investments

We only place deposits with highly-rated institutions and ensure that there is appropriate geographic and sector diversification in our exposures. Limits are set for aggregate geographic exposures and for every counterparty for which we place deposits. Those limits are monitored and reviewed by our Credit Risk Management division and approved by the Financial Institutions Committee. We define cash due from banks to include cash on hand, cash items in the process of collection, amounts due from correspondent banks and liquid investments that are readily convertible to known amounts of cash and which are subject to an insignificant risk of change in fair value. Such investments are those with less than three months maturity from the date of acquisition and include unrestricted term deposits, certificates of deposit and treasury bills. Investments of a similar nature that are either restricted or have a maturity of more than three months but less than one year are classified as short-term investments. Securities purchased under agreement to resell are treated as collateralized lending transactions, and are referred to as repurchase agreements. We utilize repurchase agreements to manage liquidity. The risks of these transactions include changes in the fair value in the securities posted or received as collateral and other credit-related events. The Bank manages these risks by ensuring that the collateral involved is appropriate and by monitoring the value of the securities posted or received as collateral on a daily basis.

As of December 31, 2018, cash due from banks, securities purchased under agreements to resell and short-term investments were \$2.1 billion, compared to \$2.0 billion as of December 31, 2017. The decrease from 2017 to 2018 was due to the proceeds upon maturity of certain investments being placed in held-to-maturity investments in 2018.

See "Note 3: Cash due from banks", "Note 4: Short-term investments" and "Note 12: Credit related arrangements and commitments" to our audited consolidated financial statements as of and for the year ended December 31, 2018 for additional tables and information.

Investment in Securities

Our investment policy requires management to maintain a portfolio of securities that provide the liquidity necessary to cover our obligations as they come due, and mitigate our overall exposure to credit and interest rate risk, while achieving a satisfactory return on the funds invested. The securities in which we invest are limited to securities that are considered investment grade. Securities in our investment portfolio are accounted for as either trading, available-for-sale or held-to-maturity. Investment policies are approved by the Board, governed by the Group Asset and Liability Committee and monitored by Group Market Risk, a department of the Group Risk Management division.

Consistent with industry and rating agency designations, we define investment grade as "BBB" or higher. As of December 31, 2018, 99.9% (2017: 99.9%) of our total investments were investment grade. Of these securities, 99.9% (2017: 98.7%) are rated "A" or higher.

The following table presents the carrying value of investment securities by balance sheet category as of December 31, 2018 and 2017:

(in millions of \$)	As of December 31,		Dollar Change	Percent Change
	2018	2017		
Trading	6	7	(1)	(14.3)%
Available-for-sale	2,183	3,317	(1,134)	(34.2)%
Held-to-maturity	2,066	1,382	684	49.5 %
Total Investment in Securities	4,255	4,706	(451)	(9.6)%

The investment portfolio was \$4.3 billion as of December 31, 2018, compared to \$4.7 billion as of December 31, 2017. The decreased portfolio size was predominantly due to the maturity and paydown, as well as the sale of certain US government and federal agency securities during the year held within the available-for-sale portfolio, some of which were re-invested into longer duration US government and federal agency securities classified as held-to-maturity. The total investments were placed primarily in US government and federal agency securities were \$3.8 billion, based upon carrying value, or 90.4% of the total investment portfolio, as of December 31, 2018. Total net unrealized losses of the investment portfolio were \$72.8 million, compared to net unrealized losses of \$19.2 million at the end of 2017. The movement in unrealized gains for the year was primarily driven by an increase in longer-term US treasury interest rates. The 10-year treasury rate was 2.68% as of December 31, 2018 compared to 2.40% the year before.

Trading securities totaled \$6.5 million at the end of 2018, compared to \$6.8 million at the end of 2017. As of December 31, 2018 and 2017, trading securities consisted entirely of real estate mutual funds and seed capital invested in mutual funds managed by the Bank.

AFS securities totaled \$2.2 billion at the end of 2018, compared to \$3.3 billion at the end of 2017. As of December 31, 2018, 81.8% or \$1,786.5 million (2017: 81.7%, or \$2.7 billion) of AFS securities consisted of holdings of securities issued by the US government and federal agencies. The US government guarantees 45.8% or \$1,938.6 million (2017: 48.0% or \$1,594.7 million) of these securities. Corporate debt securities represented 3.6%, or \$78.7 million (2017: 7.3% or \$243.4 million) of the AFS portfolio. As of December 31, 2018, the remaining 14.6%, or \$317.5 million of AFS securities (2017: 11.1% or \$365.0 million) was comprised primarily of commercial mortgage-backed securities of 5.6%, or \$123.2 million (2017: 4.3%, or \$141.5 million), guaranteed student loan-backed securities of 0.6%, or \$12.6 million (2017: 0.4%, or \$12.5 million), debt securities issued by non-US governments of 1.2%, or \$25.4 million (2017: 0.8%, or \$26.2 million) and residential mortgage-backed securities of 7.2%, or \$156.3 million (2017: 5.6%, or \$184.7 million). The overall increase in US government and federal agency securities was funded by the a reallocation from short-term investments.

HTM investments were \$2.1 billion as of December 31, 2018 (2017: \$1.4 billion) and consisted entirely of mortgage-backed securities issued by US federal agencies that management does not intend to sell before maturity which are fully guaranteed by the the US government. The increase in the HTM portfolio was also related to a repositioning of the investment portfolio intended to increase investment yield and reduce volatility in other comprehensive income.

Investment Valuation — OTTI Considerations

Securities in unrealized loss positions are analyzed as part of management's ongoing assessment of OTTI. When management intends to sell securities, it recognizes an impairment loss equal to the full difference between the amortized cost basis and the fair value of those securities. When management does not intend and is not required to sell equity or debt securities in an unrealized loss position, potential OTTI is considered using a variety of factors, including: the length of time and extent to which the market value has been less than amortized cost; adverse conditions specifically related to the industry, geographic area or financial condition of the issuer or underlying collateral of a security; payment structure of the security; changes to the rating of the security by a rating agency; the volatility of the fair value changes; and changes in fair value of the security after the balance sheet date.

While management sold AFS securities in 2018 and 2017, these securities were sold for gains of \$0.1 million and \$1.6 million, respectively. Management does not have the intention or does not foresee a more likely than not scenario where the Bank will be required to sell any further securities which are in an unrealized loss position, and accordingly, management has concluded that these sales do not result in an OTTI indicator for any remaining securities in a loss position as of December 31, 2018.

See "Note 5: Investments in securities" to our audited consolidated financial statements as of December 31, 2018 for additional tables and information.

Loans

The loan portfolio increased from \$3.8 billion at the end of 2017 to \$4.0 billion as of December 31, 2018, due primarily to improved loan originations in residential mortgage lending in the UK and government lending in Bermuda, partially offset by paydowns on the commercial and residential mortgage portfolios in the other jurisdictions. Lending in the UK grew to \$0.8 billion as of December 31, 2018, an increase of \$0.2 billion from December 31, 2017.

The loan portfolio represented 37.5% of total assets as of December 31, 2018 (2017: 35.0%), while loans as a percentage of customer deposits increased from 39.7% at the end of 2017 to 42.9% at the end of 2018.

Allowance for credit losses as of December 31, 2018 totaled \$25.1 million, a decrease of \$10.4 million from the prior year. The movement in the allowance was mainly the result of recoveries and provision releases of \$6.1 million (including recoveries of \$0.9 million), augmented by charge-offs of \$4.3 million recorded during the year. Of the total allowance, the general allowance was \$10.2 million (2017: \$32.5 million) and the specific allowance was \$14.9 million (2017: \$11.7 million), reflecting a specific coverage ratio of 30.6%, compared to 31.1% as of December 31, 2017. The slight decrease in the specific coverage ratio reflects a proportionately higher decrease in specific provisions relative to the decrease in gross non-accrual loans.

Gross non-accrual loans totaled \$48.7 million as of December 31, 2018, a relatively flat from \$43.9 million as of December 31, 2017, and represented 1.2% of the total loan portfolio as of December 31, 2018, compared to 1.3% as of December 31, 2017. During 2018, we held OREO amounting to \$5.3 million (2017: \$9.1 million), consisting of commercial real estate of \$3.3 million (2017: \$8.9 million) and foreclosed residential properties of \$2.1 million (2017: \$0.2 million).

Government

Loans to governments were \$105.7 million, which was a \$47.7 million decrease from 2017, due primarily to a decrease in sovereign lending in Bermuda in the current year, which grew in the prior year.

Commercial

The commercial and industrial loan portfolio includes loans and overdraft facilities advanced primarily to corporations and small and medium-sized entities, which are generally not collateralized by real estate and where loan repayments are expected to flow from the operation of the underlying businesses.

Commercial real estate loans are offered to real estate investors, developers and builders domiciled primarily in Bermuda and the Cayman Islands. To manage our credit exposure on such loans, the principal collateral is real estate held for commercial purposes and is supported by a registered mortgage. Cash flows from the properties, primarily from rental income, are generally supported by long-term leases to high quality international businesses. These cash flows are generally principally sufficient to service the loan. The portfolio decreased by \$8.5 million to \$575.0 million at December 31, 2018 due to paydowns in commercial real estate mortgages in Bermuda.

Commercial loans outstanding as of December 31, 2018 were \$542.5 million, which represented an increase of \$152.9 million from the previous year, driven by new issuances of commercial lending facilities principally in the Cayman Islands and Bermuda.

Residential

The residential mortgage portfolio comprises mortgages to clients with whom we are seeking to establish (or already have) a comprehensive financial services relationship. It includes mortgages to individuals and corporate loans secured by residential property.

All mortgages were underwritten utilizing our stringent credit standards. See "Risk Management — Credit Risk". Residential loans consist of conventional home mortgages and equity credit lines.

As of December 31, 2018, residential mortgages totaled \$2.7 billion (or 65.4% of total gross loans), a \$0.2 billion increase from December 31, 2017. This increase was attributed mainly to increases in the UK residential mortgage portfolio, partially offset by repayments in our Bermuda residential mortgage portfolio. Residential lending in Bermuda was relatively stable year-on-year.

OREO and Non-Accrual Loans

Non-accrual loans decreased during the year by \$4.8 million, and OREO decreased by \$3.8 million. The decrease in OREO was principally driven by the sale of commercial property which was added to OREO in Bermuda in the fourth quarter of 2016. Augmenting this was a further reduction due to sales in the residential mortgage OREO portfolio in Bermuda. The decrease in both non-accrual loans and OREO reflects the Bank's continued focus on improving the quality of our loan portfolio. Non-accrual loans decreased as a result of the Bank continuing to work with holders of non-performing loans, which resulted in several loans returning to a performing status during the year, primarily within residential mortgages.

Other Loan Portfolios

We provide loans, as part of our normal banking business, in respect of automobile financing, consumer financing, credit cards, commercial financing, loans to financial institutions and overdraft facilities to retail, corporate and private banking clients in the jurisdictions in which we operate. As of December 31, 2018, other consumer loans totaled \$180.4 million (or 4.4% of total gross loans), a \$7.0 million decrease from December 31, 2017. The decrease was due to the expiry of consumer overdraft facilities.

See "Note 6: Loans" and "Note 7: Credit risk concentrations" to our audited consolidated financial statements as of December 31, 2018 for more information on our loan portfolio and contractual obligations and arrangements.

Deposits

Deposits are our principal funding source for use in lending, investments and liquidity. We are a deposit-led bank and do not require the use of wholesale or institutional markets to fund our loan business. See "Risk Management — Liquidity Risk" and "Risk Management — Credit Risk". Deposit balances at the end of reporting periods, particularly in our Bermuda and Cayman Islands operations, can fluctuate due to significant balances that flow in and out from private trust, fund and insurance clients to meet quarter-end operational requirements.

The table below shows the year-end and average customer deposit balances by jurisdiction for the year ended and as of December 31, 2018 and 2017:

(in millions of \$)	As of December 31		Dollar change	Average balance		Dollar change
	2018	2017		2018	2017	
Bermuda	4,503	5,252	(749)	5,281	5,498	(217)
Cayman	3,345	2,934	411	2,979	2,985	(6)
Channel Island and the UK	1,604	1,336	268	1,348	983	365
Other	—	—	—	58	58	—
Total customer deposits	9,452	9,522	(70)	9,666	9,524	142

Average customer deposits decreased slightly by \$0.1 billion to \$9.7 billion in 2018. On a year-end basis, customer deposits were down \$0.1 billion to \$9.5 billion from \$9.5 billion at the end of 2017. The decrease was largely a result of certain trust and corporate deposits which were withdrawn during the year, partially offset by deposit growth from the acquisition of Deutsche Bank's banking business in the Cayman Islands, Jersey and Guernsey.

Customer demand deposits, which include checking accounts (both interest bearing and non-interest bearing), savings and call accounts, totaled \$7.4 billion, or 79.1% of total customer deposits at the end of 2018, compared to \$7.8 billion, or 82.0%, at the end of 2017. Customer term deposits increased by \$0.3 billion to \$2.0 billion compared to the prior year. The cost of funds on deposits increased from 11 basis points in the full year ended 2017 to 18 basis points in 2018 as a result of a small increase in term-deposit rates paid across all jurisdictions. Average non-interest bearing deposits decreased slightly to \$2.2 billion.

See "Note 10: Customer deposits and deposits from banks" to our audited consolidated financial statements as of December 31, 2018 for additional tables and information.

Borrowings

We have no issuances of certificates of deposit ("CD"), commercial paper ("CP") or senior notes outstanding and have no CD or CP issuance programs. We use funding from the inter-bank market as part of interest rate and liquidity management. As of December 31, 2018, deposits from banks totaled \$33.8 million, an increase of \$21.4 million from the prior year. This increase was due to an increase in Nostro accounts placed across our jurisdictions.

Employee Future Benefits

We maintain trustee pension plans including non-contributory defined benefit plans and a number of defined contribution plans, and provide post-retirement healthcare benefits to our qualifying retirees. The defined benefit provisions under the pension plans are generally based upon years of service and average salary during the final years of employment. The defined benefit pension and post-retirement healthcare plans are not open to new participants and are non-contributory and the funding required is provided by us, based upon the advice of an independent actuary.

Effective December 31, 2011, the Bermuda defined benefit pension benefits were amended to freeze credited service and final average earnings for remaining active members. Effective January 2012, all the participants of the Bermuda defined benefit pension plan are inactive and in accordance with GAAP, the net actuarial loss of the Bermuda defined benefit pension plan is amortized over the estimated average remaining life expectancy of the inactive participants of 22.8 years. Prior to all Bermuda participants being inactive, the net actuarial loss of the Bermuda defined benefit pension plan was amortized to net income over the estimated average remaining service period for active members of 4.5 years.

Effective September 30, 2014, the defined benefit pension benefits of our Guernsey operations were amended to freeze credited service and final average earnings for remaining active members. The benefits amendment resulted in a further reduction in the Guernsey defined benefit pension liability of \$4.6 million as of September 30, 2014.

Effective October 2014, all of the participants of the Guernsey defined benefit pension plan are inactive and in accordance with GAAP, the net actuarial loss of the Guernsey defined benefit pension plan will be amortized over the estimated average remaining life expectancy of the inactive participants of 39 years. Prior to all Guernsey participants being inactive, the net actuarial loss of the Guernsey defined benefit pension plan was amortized to net income over the estimated average remaining service period for active members of 15 years.

For the year ended December 31, 2014, numerous changes in the plan provisions were made to align the plan provisions with our administrative practices resulting in a further increase in the Bermuda defined benefit post-retirement healthcare plan liability of \$7.9 million. We amortize prior service credit resulting from plan amendments that occurred when plan members were active employees, on a linear basis over the expected average remaining service period (to full eligibility) of active members expected to receive benefits under the plan. Such remaining service periods are as follow: 3.1 years for the 2010 plan amendments and 4.6 years for the 2011 plan amendments. Plan amendments occurring in 2014 resulted in the recognition of new prior service cost on December 31, 2014 on a plan for which substantially all members are now inactive and, in

accordance with GAAP, we have elected to amortize this new prior service cost on a linear basis over 21 years, which is the average remaining life expectancy of members eligible for benefits under the plan at the time of the amendments.

As of December 31, 2018, we had a net obligation for employee future benefits in the amount of \$117.2 million, down \$11.6 million (9.0%) from \$128.8 million at the end of 2017. The decrease was driven by funding to the Bermuda defined benefit pension and improvements in the valuation of fund assets, partially offset by valuation changes caused by increased healthcare costs.

See "Note 11: Employee benefits plans" to our audited consolidated financial statements as of December 31, 2018 for additional tables and information.

Long-Term Debt, Interest Payments and Maturities

We had outstanding issuances of long-term debt with a carrying value of \$143.3 million as of December 31, 2018 and \$117.0 million 2017, all issued in US Dollars. As of December 31, 2018, \$114.8 million of our outstanding long-term debt was eligible for inclusion in our Tier 2 regulatory capital base and was limited to 50% of Tier 1 capital, down from \$52.2 million at the end of 2017. On May 24, 2018, the Bank issued US \$75 million of Subordinated Lower Tier II capital notes. The notes were issued at par and are due on June 1, 2028. The notes were offered in the US pursuant to the Bank's automatic shelf registration statement of Form F-3 filed with the SEC on April 18, 2018. The notes are listed on the Bermuda Stock Exchange (BSX) in the specialist debt securities category. The proceeds from the sale of the notes were used, among other, to repay the entire amount of the US \$47 million outstanding subordinated notes series 2003-B. The notes issued pay a fixed coupon of 5.25% until June 1, 2023 when they become redeemable in whole at the option of the Bank. The notes were priced at a spread of 2.27% over the 10-year US Treasury yield. There were no other significant movements in long-term debt during the period from December 31, 2017 to December 31, 2018.

The following table presents the contractual maturity, interest rates and principal outstanding as of December 31, 2018:

Long-term debt (in millions of \$)	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 (in millions of \$)
2005 issuance - Series B	July 2, 2015	July 2, 2020	5.11%	3 months US\$ LIBOR + 1.695%	45.0
2008 issuance - Series B	May 27, 2018	May 27, 2023	8.44%	3 months US\$ LIBOR + 4.929%	25.0
2018 issuance	June 1, 2023	June 1, 2028	5.25%	3 months US\$ LIBOR + 2.255%	75.0
Unamortized issuance costs					(1.7)
Total					143.3

See "Note 19: Long-term debt" to our audited consolidated financial statements as of December 31, 2018 for additional information.

Other Liabilities

Other liabilities include derivative liabilities, current employee salaries and benefits payable and related payroll tax, as well as sundry liabilities. Other liabilities increased by \$53.2 million to \$173.0 million as of December 31, 2018. This increase was a result of new servicing deposits from one of our jurisdictions, partially offset by payable for a pending trade which was unsettled over the year-end date in the prior year. These derivatives were client service foreign exchange derivatives which are economically hedged and result in no foreign exchange gains or losses.

Contractual Obligations

Credit-Related Arrangements

We enter into standby letters of credit, letters of guarantee and contractual commitments to extend credit in the normal course of business, which are not required to be recorded on the balance sheet. Since many commitments expire unused or only partially used, these totals do not necessarily reflect future cash requirements. 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 following table sets forth the outstanding financial guarantees with contractual amounts representing credit risk as of the dates indicated:

(in millions of \$)	December 31, 2018			December 31, 2017		
	Gross	Collateral	Net	Gross	Collateral	Net
Standby letters of credit	245.2	237.1	8.1	186.4	178.2	8.3
Letters of guarantee	2.7	2.6	0.1	5.3	5.3	0.1
Total	247.8	239.7	8.2	191.7	183.4	8.3

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

(in millions of \$)	December 31, 2018	December 31, 2017
Commitments to extend credit	445.2	602.7
Documentary and commercial letters of credit	0.6	1.3
Total unfunded commitments to extend credit	445.8	604.0

The Bank has a facility by one of its custodians, whereby the Bank may offer up to \$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 December 31, 2018, \$137.4 million (December 31, 2017: \$77.0 million) of standby letters of credit were issued under this facility.

Contractual Obligations

The following table presents our outstanding contractual obligations as of December 31, 2018:

(in millions of \$)	Total	Less than 1 year	1 to 3 years	3 to 5 years	After 5 years
Long term debt ⁽¹⁾	143.3	47.0	45.0	—	25.0
Operating lease obligations	27.2	5.4	10.2	7.9	3.6
Sourcing arrangements ⁽²⁾	39.2	14.7	24.5	—	—
Term deposits	1,975.0	1,905.0	70.0	—	—
Other obligations	14.0	8.0	3.8	1.4	0.7
Total outstanding contractual obligations	2,198.7	1,980.2	153.5	9.4	29.3

(1) Long-term debt excludes interest.

(2) We have an outstanding contractual obligation relating to a five-year agreement entered into in November 2016 with DXC (previously HP) to supply technology infrastructure and application development management, information security and technical support for our locations in Bermuda and the Cayman Islands. Under our agreement with DXC, server management and maintenance, technology field support, application support and development and help desk functions are managed by DXC. Our obligations to DXC under this agreement amounted to \$39.2 million as of December 31, 2018 (December 31, 2017: \$56.9 million).

See "Note 12: Credit-related arrangements, repurchase agreements and commitments" to our audited consolidated financial statements as of December 31, 2018 for additional information.

Interest expense on our contractual obligations relates primarily to term deposits and our long-term debt. Interest expense on term deposits was \$15.3 million for the year-ended December 31, 2018, compared to \$8.6 million and \$7.7 million for the years ended December 31, 2017 and 2016, respectively. Movements in interest expense on term deposits are due primarily to volume or rate movements, with yearly average term deposits of \$2.0 billion, \$2.1 billion and \$2.2 billion for 2018, 2017 and 2016, respectively. The increase in the expense is related primarily to term deposit rates in Bermuda and Cayman, which increased by 28 basis points in 2018 due to US dollar market rate increases offered during the year.

During the year-ended December 31, 2018, none of the rates on any tranches of our long-term debt reset. However, we did issue \$78 million in new long-term debt at a fixed rate of 5.25%, which is fixed at this rate until June 1, 2023. The proceeds of this new issuance were partially used to repay the entire amount of the \$47 million outstanding subordinated 2003 issuance - Series B. Until its repurchase, the 2003 issuance - Series B, as well as the 2005 issuance - Series B were on floating rates fixed to LIBOR, which increased during the year. Both of these drove an increase of interest expense on commitments by \$8.9 million due to both the increase in rates paid on term deposits and the increased floating rate paid on LIBOR based long-term debt, as well as the higher volume of long-term debt outstanding. For the year ended December 31, 2017, interest expense on commitments increased by \$1.3 million compared to 2016 due to both the increase in rates paid on term deposits and the increased floating rate paid on LIBOR based long-term debt.

Repurchase Agreements

We also obtain funds from time to time from the sale of securities to institutional investors under repurchase agreements. In a repurchase agreement transaction, we will generally pledge investment securities as collateral in a borrowing transaction, agreeing to repurchase the identical security on a specified later date, generally not more than 90 days, at a price greater than the original sales price. The difference between the sale price and repurchase price is the cost of the use of the proceeds, or interest expense. The investment securities underlying these agreements may be delivered to securities dealers who arrange such transactions as collateral for the repurchase obligation. Repurchase agreements represent a cost competitive funding source and also provide liquidity on agency paper for us. However, we are subject to the risk that the borrower of the securities may default at maturity and not return the collateral. In order to minimize this potential risk when entering into such transactions, we generally deal with large, established investment brokerage firms with whom we have master repurchase agreements. Repurchase transactions are accounted for as collateralized financing arrangements rather than as sales of such securities, and the obligation to repurchase such securities is reflected as a liability in our consolidated financial statements. As of December 31, 2018 and 2017, there were no repurchase agreements outstanding.

Shareholders' Equity

Shareholders' equity increased during the year ended December 31, 2018 by \$59.5 million to \$882.3 million.

Increases totaling \$221.8 million included:

- \$195.2 million of net income for the year;
- \$11.7 million for share-based settlements;
- \$10.7 million from adjustments to employee benefit plans;
- \$3.3 million of share-based settlement for stock options exercised; and
- \$0.9 million of other smaller adjustments.

These increases were offset by the following decrease of \$162.3 million:

- \$27.9 million from net change in unrealized gains (losses) on AFS investments;
- \$83.7 million of common share dividends;
- \$48.4 million from net increases in treasury shares; and
- \$2.3 million of translation adjustments on foreign operations.

Liquidity

We define liquidity as our ability to maintain cash flow that is adequate to fund operations and meet present and future financial obligations through either the sale or maturity of existing assets or by obtaining additional funding through liability management.

Sources and Uses of Cash

Our primary sources of cash are (i) cash obtained from deposits, (ii) long-term debt, and (iii) cash from operations. Our primary uses are (i) the payment of our operating expenses, (ii) payment of dividends on our preference and common shares and guarantee fees, (iii) as repayment of certain maturing liabilities and (iv) extraordinary requirements for cash, such as acquisitions. We had \$2.1 billion of cash and cash equivalents as of December 31, 2018 and \$1.5 billion as of December 31, 2017, as well as \$2.3 billion and \$3.8 billion, respectively, of liquid securities, the balance of which could be sold to meet liquidity requirements. In our opinion, the Bank's working capital is sufficient for the Bank's present requirements.

Liquidity Risk

Our liquidity risk is managed through a comprehensive framework of policies and limits overseen by our Group Asset and Liability Committee. We consider the effective and prudent management of liquidity to be fundamental to our health and strength. Our objective is to manage our cash flow and liquidity reserves so that they are adequate to fund our obligations and other commitments on a timely basis and at a reasonable cost.

We continuously monitor and make adjustments to our liquidity position by adjusting the balance between sources and uses of funds as we deem appropriate. Our primary measures of liquidity include monthly cash flow analysis under ordinary business activities and conditions and under situations simulating a severe run on the Bank. The Bank strives to use a cautious liquidity risk appetite with internal quantitative liquidity risk tolerances more stringent than regulatory requirements. Specifically the Bank manages liquidity against internal limits established by the market risk management policy and its related liquidity risk standard and quarterly stress testing methodology. The results of these measures and analysis are incorporated into our liquidity contingency plan, which provides the basis for the identification of our liquidity needs. For more information, see "Risk Management — Liquidity Risk".

Capital Resources

We have financed our operations, growth and cash needs primarily through income from operations and issuances of debt and equity securities. We believe that our cash on hand and cash flows from operations will be sufficient to repay our outstanding debt as it matures. In the future, we may need to incur additional debt or issue additional equity securities, which we may be unable to do or which may be on less favorable terms.

We manage our capital both on a consolidated basis and, where appropriate, on a legal entity basis. The group finance team has the responsibility for measuring, monitoring and reporting capital levels within guidelines and limits established by the Risk Policy & Compliance Committee of the Board. The management of capital will also involve jurisdictional management to ensure compliance with local regulation. In establishing the guidelines and limits for capital, a variety of factors are taken into consideration, including the overall risk of the business in stressed scenarios, regulatory requirements, capital levels relative to our peers, and the impact on our credit ratings.

Effective January 1, 2015, the BMA implemented the capital reforms proposed by the BCBS and referred to as the Basel III regulatory framework. Basel III aims to raise the quality, consistency and transparency of the capital base, limit the build-up of excess leverage and increase capital requirements for the banking sector. Basel III adopts CET1 capital as the predominant form of regulatory capital with the CET1 ratio as a new metric. Basel III also adopts the new Leverage Ratio, Liquidity Coverage Ratio ("LCR") and Net Stable Funding Ratio ("NSFR") regimes.

The Bank was required to report under both Basel II and Basel III guidance during 2015. However only the Basel II results were required to be published under guidance from the BMA. From January 1, 2016 onwards, all published ratios are calculated under Basel III. The Basel III regulatory framework adopts a phased implementation approach for Bermuda banks with full implementation on January 1, 2019, consistent with BCBS recommendations. When fully phased-in, we will be subject to the following requirements:

- CET1 ratio of at least 7.0% of RWA, inclusive of a minimum CET1 ratio of 4.5% and the new capital conservation buffer of 2.5%, but excluding the Domestic Systemically Important Bank ("D-SIB") surcharge described below;
- Tier 1 capital of at least 8.5% of RWA, inclusive of a minimum Tier 1 ratio of 6% and the new capital conservation buffer of 2.5% but excluding the D-SIB surcharge described below;
- Total capital of at least 10.5% of RWA, inclusive of a minimum total capital ratio of 8% and the new capital conservation buffer of 2.5% but excluding the D-SIB surcharge described below;
- We are considered to be a D-SIB and are subject to a 3% surcharge composed of CET1-eligible capital implemented by the BMA effective September 30, 2015. This is based upon our assessment of the extent to which we (individually and collectively with the other Bermuda banks) pose a degree of material systemic risk to the economy of Bermuda due to our role in deposit taking, corporate lending, payment systems and other core economic functions;
- Counter-cyclical buffer of up to 2.5% composed of CET1-eligible capital may be implemented by the BMA when macroeconomic indicators provide an assessment of excessive credit or other pressures building in the banking sector, potentially increasing the CET1, Tier 1 and total capital ratios by up to 2.5%. No counter-cyclical buffer has been implemented to date;
- Leverage ratio must be at 5.0% or higher;

- LCR with a minimum requirement of 100%, subject to the phase-in rules; and
- NSFR with a minimum requirement of 100%, with implementation effective for Bermuda banks from January 1, 2018.

The minimum capital ratio requirements set forth above do not reflect additional Pillar II add-on requirements that the BMA may impose upon us as a prudential measure from time to time. As of January 1, 2018, our minimum total capital ratio required by the BMA is 15.5% and our minimum CET1 ratio requirement is 8.8%. As of the date hereof, we expect that our minimum total capital ratio requirement at January 1, 2019 may be 16.3% (inclusive of the minimum required total capital ratio of 10.5% as described above). However, as our capital requirements remain under continuous review by the BMA pursuant to its prudential supervision, we cannot guarantee that the BMA will not seek higher total capital ratio requirements at any time.

In December 2017, the BCBS published standards that it described as the finalization of the Basel III post-crisis regulatory reforms (the standards are commonly referred to as "Basel IV"). Among other things, these standards revise the BCBS's standardized approach for credit risk (including by recalibrating risk weights and introducing new segmentations for exposures) and provides a new standardized approach for operational risk capital. Under the BCBS framework, these standards will generally be effective on January 1, 2022, with an aggregate output floor phasing in through January 1, 2027. The impact of these standards on us will depend on the manner in which they are implemented by the BMA.

The following table sets forth our capital adequacy as of December 31, 2018 and 2017 in accordance with the Basel III framework:

(in millions of \$)	As of December 31,	
	2018	2017
Capital		
Tier 1 capital	846.0	772.3
Common Equity Tier 1	846.0	772.3 (2)
Tier 2 capital	121.5	74.0
Total capital	967.6	846.3
Risk Weighted Assets		
Cash due from banks and investments	918.1	1,010.4
Loans	2,244.8	2,075.6
Other assets	236.7	253.8
Off-balance sheet items	227.6	259.5
Operational risk charge	694.2	654.9
Total risk-weighted assets	4,321.4	4,254.2
Capital Ratios (%)		
Common Equity Tier 1	19.6%	18.2% (2)
Tier 1 total	19.6%	18.2% (2)
Total capital	22.4%	19.9% (2)
Leverage ratio	7.6%	6.9% (2)

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

(2) Prior to January 1, 2016, the Bank's regulatory capital was determined in accordance with Basel II guidelines issued by the BMA.

CET 1 capital increased primarily due to the earnings on the year, offset by cash dividends declared as well the repurchase of treasury common shares under the buy-back program. Tier 2 capital increased due to the successful issuance of \$75m Tier 2-eligible subordinated notes in May 2018, replacing maturities and partially offset by a release from the general provision due to lower provisioning rates. RWA increased as a result of a higher operational risk charge driven by increased average income over the prior three years as well an increase in our loan book. As of December 31, 2018, we were in compliance with the transitional minimum LCR of 90% as well as the minimum LCR of 100% which will be applicable to us when the Basel III regulatory framework has been fully phased-in in 2019. As of December 31, 2018, we were also in compliance with the minimum NSFR of 100%.

Preference Shares

In June 2009, we offered 200,000 shares of 8.00% non-cumulative perpetual limited voting preference shares of par value \$ 0.01 with a liquidation preference of \$1,000 per share for \$200,000,000 in the aggregate. The preference shares were fully and unconditionally guaranteed, with the full faith and credit of the Government of Bermuda (the "Guarantor"), as to payment of dividends for up to ten years and as to payment of the liquidation preference on, or in certain circumstances prior to, the ten-year anniversary of the date of issuance (the "Guarantee"). On December 16, 2016, we redeemed and canceled all of the issued and outstanding preference shares for a total of \$212.1 million, which comprised the sum of the most recent dividend payment, the net present value of future dividend payments that would have been paid through June 22, 2019 and the \$1,000 liquidation preference on each preference share, discounted for present value.

Dividends on the preference shares were payable quarterly on a non-cumulative basis, only when, as and if declared by the Board, on March 15, June 15, September 15 and December 15 of each year at a fixed rate equal to 8.00% per annum on the liquidation preference, commencing on September 15, 2009.

Share Buy-Back Program

The Bank repurchases its common shares through share buy-back programs from time to time as a means to improve shareholder liquidity and facilitate growth in share value. In accordance with applicable laws, regulations and listing standards, each program was approved by the Board and repurchases of shares pursuant to each program is subject to the approval of the BMA. In addition, the BSX is advised monthly of shares purchased pursuant to each program.

Common Share Buy-Back Program

Effective April 1, 2014, the Board approved the 2014 common share buy-back program authorizing the purchase for treasury of up to 1.5 million common shares.

On February 26, 2015, the Board approved, with effect from April 1, 2015, the 2015 common share buy-back program, authorizing the purchase for treasury of up to 0.8 million common shares.

On February 19, 2016, the Board approved, with effect from April 1, 2016, the 2016 common share buy-back program, authorizing the purchase for treasury of up to 0.8 million common shares. The repurchase of shares pursuant to the buy-back program is subject to the approval of the BMA. However, this program expired on March 31, 2017.

On February 15, 2018, the Board approved, with effect on April 1, 2018, the 2018 common share buy-back program, authorizing the purchase for treasury of up to 1.0 million common shares. On December 6, 2018, following the completion of the initial 2018 share buy-back program, the Board approved the 2019 share buy-back program, authorizing for purchase for treasury of up to 2.5 million common shares through February 29, 2020. The timing and amount of repurchase transactions will be based on market conditions, share price, legal requirements and other factors. No assurances can be given as to the amount of common shares that may actually be repurchased.

Total common share buy-backs for the years ending December 31, 2018, 2017, 2016, 2015 and 2014, are as follows:

	For the year ending December 31,					
	2018	2017	2016	2015	2014	Total
Acquired number of shares (to the nearest share)	1,254,212	—	97,053	250,371	856,734	2,458,370
Average cost per common share (in \$)	38.62	—	16.36	19.42	19.86	29.25
Total cost (in \$)	48,442,768	—	1,588,189	4,862,248	17,018,412	71,911,617

The foregoing reflects the reverse share split that the Bank effected on September 6, 2016.

Preference Share Buy-Back Program

On April 28, 2014, the Board approved the 2014 preference share buy-back program, authorizing the purchase and cancellation of up to 26,600 preference shares.

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

Total preference share buy-backs for the years ending December 31, 2018, 2017, 2016, and 2015 are as follows:

	For the year ending December 31,					
	2018	2017	2016	2015	2014	Total
Acquired number of shares (to the nearest share)	—	—	—	183	560	743
Average cost per common share (in \$)	—	—	—	1,151.55	1,172.26	1,167.16
Total cost (in \$)	—	—	—	210,734	656,465	867,199

All of the preference shares were redeemed and canceled in December 2016.

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

Warrants

Following the capital raise on March 2, 2010, the terms of the 427,960 warrants with an exercise price of \$70.10 previously issued to the Government of Bermuda in conjunction with the issuance of the preference shares in 2009 were adjusted in accordance with the terms of the Guarantee. Subsequently, the Government of Bermuda held 0.43 million (2016: 0.43 million) warrants with an exercise price of \$34.72 (2016: \$34.72) with an expiration date of June 22, 2019. On December 16, 2016, the Bank repurchased for cancellation all of the outstanding warrants for \$0.1 million.

Dividends

During the year ended December 31, 2018, we paid cash dividends totaling \$83.7 million or \$1.52 for each common share on record as of the related record dates (2017: \$69.7 million or \$1.28 for each common share on record). The Board declared these dividends as a quarterly dividend of \$0.38 per common share for each quarter of 2018 and \$0.32 per common share for each quarter of 2017.

The Board also declared dividends of \$0.10 per common share for each of the first three quarters of 2016, and \$0.32 per share for the fourth quarter of 2016. These per share amounts reflect the reverse share split that the Bank effected on September 6, 2016. For more information, see "Risk Factors – Risks Relating to the Common Shares – Holders of our common shares may not receive dividends".

During the year ended December 31, 2016, we declared the full 8.00% cash dividends on preference shares in the first three quarters and then redeemed the preference shares in December 2016. Preference share dividends declared and paid were \$14.6 million during 2016. Guarantee fees paid to the Government of Bermuda were \$1.7 million during 2017.

Cash Flows

2018 vs. 2017

Cash due from banks was \$2.1 billion as of December 31, 2018, compared to \$1.5 billion as of December 31, 2017. The increase is described below by category of operating, investing and financing activities.

For the year ended December 31, 2018, net cash provided by operating activities totaled \$296.3 million (2017: \$242.1 million). Cash flows from operating activities are generally the cash effects of transactions and other events that enter into the determination of net income. Cash provided by operating activities increased by \$65.7 million from 2017 to 2018, due primarily to an increase in net income and movements in employee future benefits. This was partially offset by movements in other assets.

Net cash provided by investing activities for the year ending December 31, 2018 totaled \$338.6 million, compared to cash used in investing activities of \$164.3 million in 2017. The \$502.9 million increase in cash provided by investing activities in 2017 was mainly attributable to proceeds from the sale of AFS securities and lower purchases of AFS securities. This was partially offset by increased purchases of HTM securities and a net increase in loan balances.

Net cash used in financing activities totaled \$125.2 million in 2018, compared to net cash provided by financing activities of \$686.3 million in 2017. The \$549.7 million decrease is mainly due to a net decrease of demand and term deposits.

2017 vs. 2016

Cash due from banks was \$1.5 billion as of December 31, 2017, compared to \$2.1 billion as of December 31, 2016. The increase is described below by category of operating, investing and financing activities.

For the year ended December 31, 2017, net cash provided by operating activities totaled \$241.7 million (2016: \$178.2 million). Cash flows from operating activities are generally the cash effects of transactions and other events that enter into the determination of net income. Cash provided by operating activities increased by \$63.5 million from 2016 to 2017, due primarily to an increase in net income and movements in other assets and employee future benefits. This was partially offset by movements in provision for credit losses.

Net cash used in investing activities for the year ending December 31, 2017 totaled \$168.6 million, compared to cash used in investing activities of \$1,199.8 million in 2016. The \$1,031.2 million decrease in cash used in investing activities in 2017 was mainly attributable to lower purchases of AFS securities and movements in short-term investment balances. This was partially offset by movements in loan balances and trading investments.

Net cash used in financing activities totaled \$686.3 million in 2017, compared to net cash provided by financing activities of \$939.6 million in 2016. The \$1,625.9 million decrease is mainly due to a decrease in demand and term deposits and the proceeds from the issuance of common shares, net of underwriting discounts and commissions realized in the prior year. This was partially offset by cash disbursed to redeem and cancel all of the outstanding preference shares in the prior year.

Off Balance Sheet Arrangements

Assets Under Administration and Assets Under Management

In the normal course of business, we hold assets under administration and assets under management in a fiduciary or agency capacity for our clients. In accordance with GAAP, these assets are not our assets and are not included in our consolidated balance sheets.

Credit-Related Arrangements

We enter into standby letters of credit, letters of guarantee and contractual commitments to extend credit in the normal course of business, which are not required to be recorded on the balance sheet. Since many commitments expire unused or only partially used, these arrangements do not necessarily reflect future cash requirements. Management believes there are no material commitments to extend credit that represent risks of an unusual nature.

Standby letters of credit and letters of guarantee are issued at the request of our clients in order to secure a client's payment or performance obligations to a third party. These guarantees represent our irrevocable obligation 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 client. 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.

Credit risk is the principal risk associated with these instruments. The contractual amounts of these instruments represent the credit risk should the instrument be fully drawn upon and the client defaults. To control the credit risk associated with issuing letters of credit and letters of guarantee, we subject such activities to the same credit quality and monitoring controls as our lending activities. The types and amounts of collateral security we hold for these standby letters of credit and letters of guarantee are generally represented by our deposits or a charge over assets held in mutual funds. We are obligated to meet the entire financial obligation of these agreements and in certain cases are able to recover the amounts paid through recourse against the collateral security.

Segment Overview

The Bank is managed by the CEO on a geographic basis. In 2017, the Bank presented six segments which included Bermuda, Cayman, Guernsey, Switzerland, The Bahamas and the United Kingdom. In 2018, the Bank reassessed the segment reporting as a result of acquisitions which were announced in 2017 or early 2018 and concluded on the following three geographic segments: Bermuda, Cayman, and Channel Islands and the UK. The Other segment is composed of several non-reportable operating segments that have been aggregated in accordance with US GAAP. Each region has a managing director who reports to the CEO. The CEO and the regional managing director have final authority over resource allocation decisions and performance assessment. The 2017 and 2016 classification below was revised to conform the presentation for all periods to the current period's presentation.

Transactions between segments are accounted for on an accrual basis and are all eliminated upon consolidation. The Bank generally does not allocate assets, revenues and expenses among its business segments, with the exception of certain corporate overhead expenses and loan participation revenue and expense. Loan participation revenue and expenses are allocated pro-rata based on the percentage of the total loan funded by each jurisdiction participating in the loan.

Bermuda (Including Head Office)

For more than 150 years, Bermuda has served as home to our headquarters and remains our largest jurisdiction in terms of number of employees, Banking Center locations and business volume. The following table provides certain financial information for our Bermuda segment for the years ended December 31, 2018, 2017 and 2016.

Summary Income Statement (in millions of \$)	For the year ended December 31,			Dollar change		Percent change	
	2018	2017	2016	2017 to 2018	2016 to 2017	2017 to 2018	2016 to 2017
Net interest income	205.3	179.9	162.1	25.4	17.8	14.1 %	11.0 %
Provision for credit losses	6.8	4.6	(7.3)	2.2	11.9	47.8 %	(163.0)%
Non-interest income	87.4	81.4	71.8	6.0	9.6	7.4 %	13.4 %
Net revenue before other gains (losses)	299.5	265.9	226.6	33.6	39.3	12.6 %	17.3 %
Operating expenses	(202.4)	(192.0)	(164.5)	(10.4)	(27.5)	5.4 %	16.7 %
Net income before other gains (losses)	97.1	73.9	62.1	23.2	11.8	31.4 %	19.0 %
Total other gains (losses)	—	2.8	1.4	(2.8)	1.4	(100.0)%	100.0 %
Net income	97.1	76.7	63.5	20.4	13.2	26.6 %	20.8 %

Summary Balance Sheet (in millions of \$)	As of December 31,			
	2018	2017	Dollar change	Percent change
Customer deposits	4,496	5,253	(757)	(14.4)%
Loans, net of allowance for credit losses	1,998	2,010	(12)	(0.6)%
Total assets	5,264	5,930	(666)	(11.2)%
Assets under administration				
Custody and other administration services	16,539	19,612	(3,073)	(15.7)%
Trust	46,906	47,774	(868)	(1.8)%
Assets under management				
Butterfield Funds	1,774	1,842	(68)	(3.7)%
Other assets under management	1,860	1,903	(43)	(2.3)%
Total assets under management	3,634	3,745	(111)	(3.0)%
Number of employees	572	590	(18)	(3.1)%

2018 vs. 2017

Net income before other gains and losses was \$97.1 million for the year ended December 31, 2018, up by \$23.2 million from \$73.9 million in the prior year. This increase is due principally to the following movements in net interest income, provision for credit losses, non-interest income and operating expenses.

Net interest income before provision for credit losses increased by \$25.4 million to \$205.3 million in 2018, driven primarily by increased investment income due to a higher yield, increased loan interest income resulting from the increases in the Bermuda base rate, increased deposit income from higher average balances, and lower deposit expense due to a lower average volume of interest bearing deposits.

Provision for credit losses was a release of \$6.8 million which was up \$2.2 million from a recovery in the prior year. This resulted primarily from larger releases from the general provision compared to the prior year.

Non-interest income increased by \$6.0 million to \$87.4 million in 2018. This was primarily driven by custody and other administrative services fees, which increased by \$1.6 million due to several new customers, and asset management fees which increased by \$1.3 million due to revised fee schedules and higher AUM in certain Butterfield mutual funds.

Operating expenses increased by \$10.4 million to \$202.4 million in 2018 due primarily to increased salary and other employee benefit costs, resulting from increased post-retirement medical costs and higher performance related compensation, increased professional and other outside services costs, resulting from costs associated with our external audit and the costs associated with compliance programs and increased IT and communications costs associated with higher depreciation and increased sourcing costs. This increase was further augmented by an increase in indirect taxation, resulting from increased asset-based taxes, higher payroll tax and the costs of the Bermuda Deposit Insurance program.

Other gains decreased by \$2.8 million to nil. Other gains in 2017 were due primarily to a \$2.6 million receipt from a liquidation distribution on a pass-through note which was previously fully impaired in 2010 and \$1.7 million of realized gains upon the sale of AFS investments.

Total assets as of December 31, 2018 were \$5.3 billion, down \$0.7 billion from December 31, 2017. Customer deposits ended 2018 at \$4.5 billion, down \$0.8 billion from the end of 2017 from deposits where certain large corporate customers withdrew deposits during the year, and loan balances ended 2018 at \$2.0 billion, down \$12.0 million from the end of 2017.

Client assets under administration for the trust and custody businesses as of December 31, 2018 were \$46.9 billion and \$16.5 billion, respectively, while assets under management were \$3.6 billion. This compares with \$47.8 billion, \$19.6 billion and \$3.7 billion, respectively, as of December 31, 2017.

2017 vs. 2016

Net income before other gains and losses was \$73.9 million for the year ended December 31, 2017, up by \$11.8 million from \$62.1 million in the prior year. This increase was due principally to the following movements in net interest income, provision for credit losses, non-interest income and operating expenses.

Net interest income before provision for credit losses increased by \$17.8 million to \$179.9 million in 2017, driven primarily by increased investment income due to a higher average balance of investments along with a higher yield, increased loan interest income resulting from the increases in the Bermuda base rate, increased deposit income from higher average balances, and lower deposit expense due to a lower average volume of interest bearing deposits.

Provision for credit losses was a release of \$4.6 million which was up \$11.9 million from an expense in the prior year. This resulted primarily from releases from the general provision, compared to provisions for commercial loans and residential mortgages that were taken in the prior year.

Non-interest income increased by \$9.6 million to \$81.4 million in 2017. This was primarily driven by increased asset management fees, which grew \$4.7 million from the prior year primarily driven by higher fees earned on the Butterfield Money Market Funds.

Operating expenses increased by \$27.5 million to \$192.0 million in 2017 due primarily to increased salary and other employee benefit costs, resulting from increased post-retirement medical costs and higher performance related compensation, increased professional and other outside services costs, resulting from costs associated with the first year of Sarbanes-Oxley compliance implementation and the costs associated with the implementation of a new compliance system. This increase was further augmented by an increase in indirect taxation, resulting from a new asset-based tax, higher payroll tax and the costs of the Bermuda Deposit Insurance program, and increased marketing expenses resulting from marketing initiatives during the America's Cup in Bermuda.

Other gains of \$2.8 million during the year were favorable by \$1.4 million compared to net gains of \$1.4 million. Other gains in 2017 were due primarily to a \$2.6 million receipt from a liquidation distribution on a pass-through note which was previously fully impaired in 2010 and \$1.7 million of realized gains upon the sale of certain AFS investments.

Total assets as of December 31, 2017 were \$5.9 billion, down \$0.8 billion from December 31, 2016. Customer deposits ended 2017 at \$5.3 billion, down \$0.7 billion from the end of 2016 from deposits where certain term deposits, which expired during the year, were placed into Butterfield Money Market Funds, and loan balances ended 2017 at \$2.0 billion, relatively flat from the end of 2016.

Client assets under administration for the trust and custody businesses as of December 31, 2017 were \$47.8 billion and \$19.6 billion, respectively, while assets under management were \$3.7 billion. This compares with \$50.1 billion, \$17.9 billion and \$3.4 billion, respectively, as of December 31, 2016.

Cayman Islands

We are a leading financial services provider in the Cayman Islands, offering a comprehensive range of personal and corporate financial services. In addition to our strong retail presence, we are focused on the provision of wealth management services including private banking, asset management and trust services.

We have continued to enhance our client delivery channels including online and mobile banking, and introduced Chip & PIN enabled credit card products in the market. With three Banking Centers in desirable locations and 13 ATMs strategically located in Grand Cayman, we continue to be a leading provider of financial services locally. The following table provides certain financial information for our Cayman Islands segment for the years ended December 31, 2018, 2017 and 2016.

Summary Income Statement (in millions of \$)	For the year ended December 31,			Dollar change		Percent change	
	2018	2017	2016	2017 to 2018	2016 to 2017	2017 to 2018	2016 to 2017
Net interest income	103.2	86.1	80.0	17.1	6.1	19.9%	7.6 %
Provision for credit losses	1.3	1.0	2.1	0.3	(1.1)	30.0%	(52.4)%
Non-interest income	47.8	46.0	41.4	1.8	4.6	3.9%	11.1 %
Net revenue before other gains (losses)	152.3	133.1	123.5	19.2	9.6	14.4%	7.8 %
Operating expenses	(60.7)	(59.4)	(60.6)	(1.3)	1.2	2.2%	(2.0)%
Net income before other gains (losses)	91.6	73.7	62.9	17.9	10.8	24.3%	17.2 %
Total other gains (losses)	0.4	—	(0.5)	0.4	0.5	—%	(100.0)%
Net income	92.0	73.7	62.4	18.3	11.3	24.8%	18.1 %

Summary Balance Sheet (in millions of \$)	As of December 31,			
	2018	2017	Dollar change	Percent change
Customer deposits	3,320	2,935	385	13.1 %
Loans, net of allowance for credit losses	1,012	953	59	6.2 %
Total assets	3,706	3,242	464	14.3 %
Assets under administration				
Custody and other administration services	2,244	2,168	76	3.5 %
Trust	7,700	5,083	2,617	51.5 %
Assets under management				
Butterfield Funds	229	129	100	77.5 %
Other assets under management	606	727	(121)	(16.6)%
Total assets under management	835	856	(21)	(2.5)%
Number of employees	277	270	7	2.6 %

2018 vs. 2017

Net income before other gains and losses for the year ended December 31, 2018 was \$91.6 million, up by \$17.9 million from \$73.7 million in 2017. This increase is due principally to the following movements in net interest income, provision for credit losses, non-interest income and operating expenses.

Net interest income before provision for credit losses was \$103.2 million in 2018, an improvement of \$17.1 million compared to 2017. The increase from 2017 to 2018 was driven primarily by an improvement in investment income which was up by \$8.1 million from 2017 to 2018 as a result of an increase in average AFS and HTM investment balances, along with a 52 basis point increase in yield. Interest income on loans also increased by \$6.3 million as a result of an increase in the Cayman base rate and higher loan volumes. Deposit liability costs increased from \$2.9 million in 2017 to \$3.8 million in 2018 as a result of slightly higher deposit rates.

Provision for credit losses was a recovery of \$1.3 million in 2018, representing a decrease of \$0.3 million compared to a smaller credit recovery in 2017. This decrease was primarily a result of a larger releases from the general provision in 2018.

Non-interest income was \$47.8 million, up \$1.8 million from 2017 due primarily to volume driven increases in banking fees led by account service charges, wire transfer and card volumes, foreign exchange income which increased due to higher volumes and increased trust revenue from the recent acquisition.

Operating expenses increased by \$1.3 million from 2017 to 2018, to \$60.7 million, driven primarily by increased performance related compensation costs, property costs, costs in technology and communication, as well as increased inter-company charges.

Other gains and losses for the year ended December 31, 2018 were gains of \$0.4 million, an increase of \$0.4 million from small losses in the prior year, which resulted primarily from investment sales as a part of the strategic repositioning of the investment portfolio.

Total assets as of December 31, 2018 were \$3.7 billion, up \$0.5 billion from the end of 2017, reflecting higher total deposit levels. Net loans increased \$0.1 billion from year-end 2017 to year-end 2018 at \$1.0 billion due to an increase in both corporate and consumer lending.

Client assets under administration for the trust and custody businesses were \$7.7 billion and \$2.2 billion, respectively, while assets under management were \$0.8 billion at the end of 2018. This compares with \$5.1 billion, \$2.2 billion and \$0.9 billion, respectively, on December 31, 2017.

2017 vs. 2016

Net income before other gains and losses for the year ended December 31, 2017 was \$73.7 million, up by \$10.8 million from \$62.9 million in 2016. This increase is due principally to the following movements in net interest income, provision for credit losses, non-interest income and operating expenses.

Net interest income before provision for credit losses was \$86.1 million in 2017, an improvement of \$6.1 million compared to 2016. The increase from 2016 to 2017 was driven primarily by an improvement in investment income which was up by \$7.1 million from 2016 to 2017 as a result of an increase in average AFS and HTM investment balances, along with a 22 basis point increase in yield. Deposit liability costs increased from \$2.0 million in 2016 to \$2.9 million in 2017 as a result of slightly higher term deposit rates.

Provision for credit losses was a recovery of \$1.0 million in 2017, representing a decrease of \$1.1 million compared to credit losses in 2016. This decrease was primarily a result of a revision to the country risk factor applied in 2017.

Non-interest income was \$46.0 million, up \$4.6 million from 2016 due primarily to volume driven increases in banking fees led by account service charges, wire transfer and card volumes, and foreign exchange income which increased due to higher volumes.

Operating expenses decreased by \$1.2 million from 2016 to 2017, to \$59.4 million, driven primarily by decreased costs in technology and communication, professional services and loan servicing fees as well as increased inter-company charges.

Other gains and losses for the year ended December 31, 2017 were nil, an increase of \$0.5 million from losses in the prior year, which resulted primarily from investment sales as a part of the strategic repositioning of the investment portfolio and a write-down on other real estate owned in the prior year.

Total assets as of December 31, 2017 were \$3.2 billion, down \$0.2 billion from the end of 2016, reflecting lower total deposit levels. Net loans decreased \$0.2 billion from year-end 2016 to year-end 2017 at \$1.0 billion due to a decrease in intercompany loan subparticipation.

Client assets under administration for the trust and custody businesses were \$5.1 billion and \$2.2 billion, respectively, while assets under management were \$0.9 billion at the end of 2017. This compares with \$4.0 billion, \$2.3 billion and \$0.8 billion, respectively, on December 31, 2016.

Channel Islands and the UK

The Channel Islands and the UK segment includes the jurisdictions of Guernsey, Jersey (both in the Channel Islands), and the UK. In the Channel Islands, a broad range of services are provided to private clients and financial institutions including private banking and treasury services, internet banking, wealth management and fiduciary services. The UK jurisdiction provides mortgage services for high-value residential properties. The following table provides certain financial information for our Channel Islands and the UK segment for the years ended December 31, 2018, 2017 and 2016.

Summary Income Statement	For the year ended December 31,			Dollar change		Percent change	
	2018	2017	2016	2017 to 2018	2016 to 2017	2017 to 2018	2016 to 2017
(in millions of \$)							
Net interest income	34.5	23.6	16.2	10.9	7.4	46.2 %	45.7 %
Provision for credit losses	(1.1)	0.2	0.7	(1.3)	(0.5)	(650.0)%	(71.4)%
Non-interest income	26.8	24.4	28.2	2.4	(3.8)	9.8 %	(13.5)%
Net revenue before other gains (losses)	60.2	48.2	45.1	12.0	3.1	24.9 %	6.9 %
Operating expenses	(50.4)	(43.8)	(55.4)	(6.6)	11.6	15.1 %	(20.9)%
Net income before other gains (losses)	9.8	4.4	(10.3)	5.4	14.7	122.7 %	(142.7)%
Total other gains (losses)	(1.2)	(1.5)	0.2	0.3	(1.7)	(20.0)%	(850.0)%
Net income	8.6	2.9	(10.1)	5.7	13.0	196.6 %	(128.7)%

Summary Balance Sheet	As of December 31,			
	2018	2017	Dollar change	Percent change
(in millions of \$)				
Customer deposits	1,603	1,336	267	20.0 %
Loans, net of allowance for credit losses	1,081	856	225	26.3 %
Total assets	1,967	1,564	403	25.8 %
Assets under administration				
Custody and other administration services	6,282	5,754	528	9.2 %
Trust	21,490	26,530	(5,040)	(19.0)%
Assets under management				
Butterfield Funds	55	91	(36)	(39.6)%
Other assets under management	321	318	3	0.9 %
Total assets under management	376	409	(33)	(8.1)%
Number of employees	331	246	85	34.6 %

2018 vs. 2017

Our Channel Islands and the UK segment posted net income before gains and losses of \$9.8 million in 2018, an increase of \$5.4 million when compared to 2017. This movement is due principally to the following movements in net interest income, provision for credit losses, non-interest income and operating expenses.

Net interest income before provision for credit losses increased by \$10.9 million to \$34.5 million in 2018, compared to \$23.6 million in 2017, primarily due a \$10.4 million increase in loan interest income, due to increased loans underwritten in the United Kingdom jurisdiction which were funded by the Guernsey jurisdiction. Partially offsetting this was a \$4.7 million increase in interest expense, principally from a 22 basis point increase in the cost of deposits from increased rates on term deposits.

Provision for credit losses was an expense of \$1.1 million, compared to an expense of \$0.2 million in 2017 due to increased general provisioning rates on United Kingdom exposures compared to the prior year together with a specific provision raised in Guernsey of \$0.8 million.

Non-interest income decreased by \$2.4 million to \$26.8 million in 2018, attributable to an increase in trust revenue predominantly as a result of new revenues generated from clients acquired from the recent acquisition.

Operating expenses of \$50.4 million in 2018 were \$6.6 million higher than 2017, principally due to increased salaries and other staff benefits from a higher headcount as a result of the recent acquisitions and increased discretionary incentive costs. Augmenting this was higher technology expenses from increased infrastructure investment to set up the Jersey jurisdiction and to accommodate the other elements of the recent acquisition.

Other losses for 2018 were \$1.2 million, an improvement by \$0.3 million compared to net losses of \$1.5 million in 2017. Losses in 2018 reflected non-core settlement loss on a defined benefit pension plan, while losses in 2017 reflected purchase price adjustments during the earn-out period of the Legis transaction recorded in 2017. Net income after gains and losses was \$8.6 million in 2017, an increase of \$5.7 million from \$2.9 million in 2017.

Total assets of \$2.0 billion as of December 31, 2018, an increase from \$1.6 billion as of December 31, 2017 primarily from an increase in customer deposits, principally in the Jersey jurisdiction and loan origination growth from the UK jurisdiction, which was funded by Guernsey.

At the end of 2018, client assets under administration for the trust and custody businesses were \$21.5 billion and \$6.3 billion, respectively, while assets under management were \$0.4 billion. This compares with \$26.5 billion, \$5.8 billion and \$0.4 billion, respectively, as of December 31, 2017.

2017 vs. 2016

Our Channel Islands and the UK segment posted net income before gains and losses of \$2.9 million in 2017, an increase of \$13.0 million when compared to 2016. This movement is due principally to the following movements in net interest income, provision for credit losses, non-interest income and operating expenses.

Net interest income before provision for credit losses increased by \$7.4 million to \$23.6 million in 2017, compared to \$16.2 million in 2016, primarily due a \$5.2 million increase in loan interest income, due to an increase in United Kingdom loans. Augmenting this was a \$0.5 million increase in interest expense, principally from a 1 basis point decrease in the cost of deposits and lower deposit volumes.

Provision for credit losses was a release of \$0.2 million, compared to a release of \$0.7 million in 2016 due to decreased general provisioning rates on United Kingdom exposures compared to the prior year.

Non-interest income decreased by \$3.8 million to \$24.4 million in 2017, attributable to a decrease in custody fees due to expired mandates and decreases in trust revenue due to lower billable time spent servicing clients, as well as the exit of the asset management business in the United Kingdom during 2017.

Operating expenses of \$43.8 million in 2017 were \$11.6 million lower than 2016, principally due to decreased restructuring costs incurred in the United Kingdom jurisdiction, decreased salaries and other employee benefits

Other losses for 2017 were \$1.5 million, a decrease by \$1.7 million compared to net gains of \$0.2 million in 2016, due a further revision to the purchase price allocation of the Legis transaction in 2017, relative to a lower revision in 2016 due to positive results during a previously established earn-out period and higher gains on trading investments recorded in 2016. Net income after gains and losses was \$2.9 million in 2017, an increase of \$13.0 million from a net loss of \$10.1 million in 2016.

Total assets of \$1.6 billion as of December 31, 2017, an increase from \$1.3 billion as of December 31, 2016 primarily from an increase in customer deposits and loan origination growth from the UK jurisdiction.

At the end of 2017, client assets under administration for the trust and custody businesses were \$26.5 billion and \$5.8 billion, respectively, while assets under management were \$0.4 billion. This compares with \$28.3 billion, \$4.4 billion and \$0.4 billion, respectively, as of December 31, 2016.

Critical Accounting Policies and Estimates

The Bank's significant accounting policies conform to US GAAP and are described in Note 2 of our audited consolidated financial statements. Various elements of our accounting policies, by their nature, are inherently subject to estimation techniques, valuation assumptions and other subjective assessments. Given the sensitivity of our consolidated financial statements to these critical accounting policies, the use of other judgments, estimates and assumptions could result in material differences in our results of operations or financial condition. Details of certain critical policies and estimates that affect our business results are summarized below:

Allowance for Credit Losses

We maintain an allowance for credit losses, which in management's opinion is adequate to absorb all estimated credit-related losses in our lending and off-balance sheet credit-related arrangements at the balance sheet date.

The allowance for credit losses could be affected by a variety of internal and external factors. Internal factors include portfolio performance such as delinquency levels, assigned risk ratings, the mix and level of loan balances, differing economic risks associated with each loan category and the financial condition of specific borrowers. External factors include fluctuations in the general economy, unemployment rates, bankruptcy filings, developments within a particular industry, changes in collateral values and factors particular to a specific commercial credit such as competition, business and management performance. The allowance for credit losses may be adjusted to reflect our current assessment of various qualitative risks, factors and events that may not be measured in our statistical procedures. There is no certainty that the allowance for credit losses will be appropriate over time to cover losses because of unanticipated adverse changes in any of these internal, external or qualitative factors.

For non-accrual loans and loans modified in a TDR, we conduct specific analysis on a loan level basis to determine the probable amount of credit loss. If appropriate, a specific allowance is established for the loan through a charge to the provision for credit losses. For all classes of impaired loans, if the expected realizable value of the impaired loan is less than the recorded investment in the loan, impairment is recognized through an allowance estimate. If we determine that part of the allowance is uncollectible, in such cases, the provision for credit losses is not affected when a specific reserve for at least that amount already exists. Techniques utilized include comparing the loan's carrying amount to the estimated present value of its future cash flows or the fair value of its underlying collateral, or the loan's observable market price.

Even minor changes in the level of estimated losses can significantly affect management's determination of the appropriate allowance because those changes must be applied across a large portfolio. To illustrate, an increase in estimated losses equal to one percent of our residential mortgage loan portfolio would result in a \$26.6 million increase in the allowance, and a corresponding decrease to net income, or a \$0.48 decrease in basic earnings per common share. The same increase in estimated losses for the commercial loan and commercial mortgage portfolio would result in a \$12.3 million increase in the allowance and a corresponding decrease to net income, or a \$0.22 decrease in basic earnings per common share. Such adjustments to the allowance for credit losses can materially affect financial results.

Determination of the allowance for credit losses is inherently subjective. It requires significant estimates including the amounts and timing of expected future cash flows on impaired loans, appraisal values of underlying collateral for collateralized loans, and the amount of estimated losses on pools of homogeneous loans which is based on historical loss experience and consideration of current economic trends, all of which may be susceptible to significant change.

Recognition of Other-Than-Temporary Impairments on Investments

For debt securities, we consider a decline in fair value to be other-than-temporary when it does not expect to recover the entire amortized cost basis of the security. Investments in debt securities in unrealized loss positions are analyzed as part of our ongoing assessment of OTTI. When we intend to sell such securities or it is more likely than not that we will be required to sell the securities before recovering the amortized cost, we recognize an impairment loss equal to the full difference between the amortized cost basis and the fair value of those securities. When we do not intend to sell or it is more likely than not that we will hold such securities until recovering the amortized cost, we determine whether any credit losses exist to identify any OTTI.

In situations where there is a credit loss, only the amount of impairment relating to credit losses on AFS and HTM investments is recognized in net income. The degree of judgment involved in determining the recoverable value of an investment security is dependent upon the availability of observable market prices or observable market parameters. When observable market prices and parameters do not exist, judgment is necessary to estimate recoverable value which gives rise to added uncertainty in the assessment. The assessment takes into consideration factors such as interest rate changes, movements in credit spreads. We believe that the amount that has been recognized in net income has been a historically accurate estimate of the amount of impairment relating to credit losses on these investments.

Our valuations may include inputs and assumptions that are less observable or require greater estimation, thereby resulting in values which may be greater or lower than the actual value at which the investments may be ultimately sold or the ultimate cash flows that may be recovered. If the assumptions on which we base our valuations change, we may experience additional OTTI or realized losses or gains, and the period-to-period changes in value could vary significantly.

Fair Values

We define fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. We determine the fair values of assets and liabilities based on the fair value hierarchy which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The relevant accounting standard describes three levels of inputs that may be used to measure fair value. Investments classified as trading and AFS, and derivative assets and liabilities are recognized in the consolidated balance sheet at fair value.

Fair value inputs are considered Level 1 when based on unadjusted quoted prices in active markets for identical assets.

We determine fair value based on quoted market prices, where available. If quoted prices are not available, fair value is estimated based upon other observable inputs, and may include valuation techniques such as present value cash flow models or other conventional valuation methods. In addition, when estimating the fair value of assets, we may use the quoted price of similar assets, if available.

We use unobservable inputs when observable inputs are not available. These inputs are based upon our judgments and assumptions, which represent our assessment of the assumptions market participants would use in pricing the asset or liability, which may include assumptions about risk, counterparty credit quality and liquidity and are developed based on the best information available. The use of different assumptions could produce significantly different results, which could have material positive or negative effects on the Bank's results of operations.

Significant assets measured at fair value on a recurring basis include our US government and federal agencies investments, corporate debt securities, and commercial mortgage-backed securities. The fair values of these instruments are generally sourced from an external pricing service and are classified as Level 2 within the fair value hierarchy. The service's pricing models use predominantly observable valuation inputs to measure the fair value of these securities under both the market and income approaches.

Fair value is also used on a nonrecurring basis to evaluate certain assets for impairment or for disclosure purposes. Examples of nonrecurring uses of fair value include other real estate owned, loan impairments for certain loans and goodwill.

We review and update the fair value hierarchy classifications on a quarterly basis. We also verify the accuracy of the pricing provided by our primary external pricing service on a quarterly basis.

There were no transfers between Level 1 and Level 2 during the years ended December 31, 2018 and 2017.

Refer to Note 17 "Fair value measurement" of the audited consolidated financial statements for further detail on the judgments made in classifying instruments in the fair value hierarchy.

Goodwill

We account for acquisitions using the acquisition method of accounting, under which the acquired company's net assets are recorded at fair value at the date of the acquisition and the difference between the fair value of consideration and fair value of the net assets acquired is recorded as goodwill, if positive, and as bargain purchase gain, if negative.

Goodwill is tested annually in the third quarter for impairment at the reporting unit level, or more frequently if events or circumstances indicate there may be impairment. The goodwill impairment analysis is a two-step test. The first step, used to identify potential impairment, involves comparing each reporting unit's fair value to its carrying value including goodwill. If the fair value of a reporting unit exceeds its carrying value, applicable goodwill is deemed to be not impaired. If the carrying value exceeds fair value, there is an indication of impairment and the second step is performed to measure the amount of impairment.

The second step involves calculating an implied fair value of goodwill for each reporting unit for which the first step indicated impairment. The implied fair value of goodwill is determined in the same manner as the amount of goodwill recognized in a business combination, which is the excess of the fair value of the reporting unit, as determined in the first step, over the aggregate fair values of the individual assets, liabilities and identifiable intangible assets as if the reporting unit were being acquired in a business combination. If the implied fair value of goodwill exceeds the carrying value of goodwill assigned to the reporting unit, there is no impairment. If the carrying value of goodwill assigned to a reporting unit exceeds the implied fair value of the goodwill, an impairment charge is recorded for the excess. An impairment loss recognized cannot exceed the amount of goodwill assigned to a reporting unit, and the loss establishes a new basis in the goodwill. Subsequent reversal of goodwill impairment losses is not permitted.

We rely on several assumptions when estimating the fair value of our reporting units using the discounted cash flow method. These assumptions include the estimated future cash flows from operations, current discount rate, as well as projected loan losses, an estimate of terminal value and other inputs. Our estimated future cash flows are largely based on our historical actual cash flows and industry and economic trends, among other considerations. Although management has used the estimates and assumptions it believes to be most appropriate in the circumstances, it should be noted that even relatively minor changes in certain valuation assumptions used in management's calculation would result in significant differences in the results of the impairment test.

The valuation of goodwill is dependent on forward-looking expectations related to nationwide and local economic conditions and our associated financial performance. In the future, if our acquisitions do not yield expected returns or there are changes in discount rates, we may be required to take additional charges to our earnings based on the impairment assessment process, which could harm our business, financial condition, results of operations and prospects. We had \$24.0 million as of December 31, 2018 and \$21.5 million as of December 31, 2017 of goodwill, and the results of the impairment analysis for both annual periods resulted in no impairment being required.

Employee Future Benefits

We maintain trustee pension plans for substantially all employees as either non-contributory defined benefit plans or defined contribution plans. Benefits under the defined benefit plans are primarily based on the employee's years of credited service and average annual salary during the final years of employment as defined in the plans. We also provide post-retirement medical benefits for certain qualifying active and retired Bermuda-based employees.

The calculations of the amounts recorded require the use of various actuarial assumptions, such as discount rates, assumed rates of return on plan assets, compensation increases, and turnover rates. We review our actuarial assumptions on an annual basis and make modifications to the assumptions based on current rates and trends when appropriate. We believe that the assumptions used in recording our defined benefit plan obligations are reasonable based on our experience and advice from our actuaries.

The post-retirement medical benefits obligation is determined using our assumptions regarding health care cost trend rates. The health care trend rates are developed based on historical cost data, the near-term outlook on health care trends and the likely long-term trends.

In accordance with US GAAP, actual results that differ from the assumptions are accumulated and amortized over future periods and, therefore, generally affect recognized expense and the recorded obligation of future periods. While management believes that the assumptions used are appropriate, differences in actual experience or changes in assumptions may affect the defined benefit obligations and future expense.

See Note 11 "Employee benefit plans" to our audited consolidated financial statements as of December 31, 2018 for more information on our pension plans and post-retirement medical benefit plan, along with the key actuarial assumptions.

SELECTED STATISTICAL DATA

Distribution of Assets, Liabilities and Shareholders' Equity; Interest Rates and Interest Differential

Average Balance Sheet and Interest Rates

The following table presents average consolidated balance sheets and net interest income for the years indicated:

(in millions of \$)	For the year ended December 31,								
	2018			2017			2016		
	Average balance	Interest income/expense	Average yield/rate	Average balance	Interest income/expense	Average yield/rate	Average balance	Interest income/expense	Average yield/rate
Bermuda									
Assets									
Cash due from banks — Interest bearing	738.9	9.9	1.34 %	915.6	8.3	0.90 %	933.3	4.3	0.46 %
Securities purchased under agreement to resell	72.0	1.9	2.59 %	70.2	1.3	1.85 %	26.7	0.4	1.56
Short-term investments	47.1	0.5	1.10 %	210.6	0.8	0.40 %	405.9	1.4	0.34 %
Held-for-trading	1.1	—	—	0.9	—	—	0.7	—	—
Available-for-sale	1,874.2	46.2	2.47 %	2,171.6	42.5	1.96 %	1,808.0	32.5	1.80 %
Held-to-maturity	898.4	27.5	3.06 %	665.3	19.4	2.91 %	430.0	12.2	2.85 %
Investment in securities ⁽¹⁾	2,773.6	73.7	2.66 %	2,837.8	61.9	2.18 %	2,238.7	44.7	2.00 %
Commercial	860.5	50.7	5.89 %	681.0	37.5	5.49 %	815.1	40.9	5.00 %
Consumer	1,169.0	79.7	6.81 %	1,218.4	78.0	6.39 %	1,343.9	79.2	5.88 %
Total loans, net of allowance for credit losses ⁽²⁾	2,029.5	130.3	6.42 %	1,899.4	115.4	6.07 %	2,159.0	120.0	5.55 %
Interest-earning assets	5,661.2	216.3	3.82 %	5,933.7	187.8	3.16 %	5,736.9	170.9	2.98 %
Other assets	206.0	—	—	206.0	—	—	199.8	—	—
Total assets	5,867.2	216.3	3.69 %	6,139.6	187.8	3.06 %	5,936.7	170.9	2.88 %
Liabilities									
Customer deposits	3,679.9	(5.8)	(0.16)%	3,738.9	(3.9)	(0.10)%	3,784.9	(5.6)	(0.15)%
Bank deposits	9.5	(0.6)	(6.54)%	4.7	(0.3)	(6.99)%	22.8	(0.2)	(1.01)%
Interest bearing deposits	3,689.4	(6.4)	(0.17)%	3,743.6	(4.2)	(0.11)%	3,807.6	(5.8)	(0.15)%
Securities sold under agreement to repurchase	1.6	—	(2.11)%	—	—	—	16.0	(0.1)	(0.72)%
Long-term debt	133.4	(6.9)	(5.21)%	117.0	(5.0)	(4.23)%	117.0	(4.5)	(3.84)%
Interest bearing liabilities	3,824.4	(13.4)	(0.35)%	3,860.6	9.2	(0.24)%	3,940.7	(10.4)	(0.26)%
Non-interest bearing current accounts	1,591.9	—	—	1,759.1	—	—	1,486.1	—	—
Other liabilities	193.5	—	—	177.6	—	—	175.7	—	—
Total liabilities	5,609.9	13.4	(0.24)%	5,797.3	(9.2)	(0.16)%	5,602.5	(10.4)	(0.19)%
Shareholders' equity	257.3	—	—	342.3	—	—	334.2	—	—
Total liabilities and shareholders' equity	5,867.2			6,139.6			5,936.7		
Non-interest bearing funds net of non-interest-earning assets (free balance)	1,385.9	—	—	1,553.2	—	—	1,796.2	—	—
Net interest margin		229.6	3.58 %		178.6	3.01 %		160.5	2.78 %
Net interest spread			3.45 %			2.90 %			2.69 %
Ratio of average interest earning asset/ interest bearing liabilities	148.0%			153.7%			145.6%		
Non-Bermuda									
Assets									
Cash due from banks — Interest bearing	1,031.5	11.9	1.15 %	1,074.5	6.2	0.58 %	1,146.6	3.0	0.26 %
Short-term investments	87.7	0.7	0.77 %	101.8	0.6	0.55 %	142.8	0.7	0.47 %
Held for trading	—	—	—	—	—	—	132.7	1.7	1.30 %
Available-for-sale	900.1	22.7	2.52 %	1,143.8	22.8	1.98 %	1,326.8	20.7	1.55 %
Held-to-maturity	905.2	27.9	3.08 %	592.2	16.8	2.83 %	242.4	10.0	4.11 %
Investment in securities ⁽¹⁾	1,805.3	50.6	2.80 %	1,736.0	39.5	2.28 %	1,701.9	32.4	1.90 %
Commercial	462.8	25.7	5.55 %	549.9	23.3	4.24 %	615.5	24.9	4.05 %
Consumer	1,503.5	62.5	4.16 %	1,216.5	48.3	3.97 %	1,146.6	43.0	3.75 %
Total loans, net of allowance for credit losses ⁽²⁾	1,966.3	88.2	4.48 %	1,766.4	71.6	4.05 %	1,762.1	68.0	3.86 %
Interest-earning assets	4,890.8	151.3	3.09 %	4,678.7	117.9	2.52 %	4,753.4	104.0	2.18 %
Other assets	146.4	—	—	140.0	—	—	143.6	—	—
Total assets	5,037.2	151.3	3.00 %	4,818.7	117.9	2.45 %	4,897.0	104.0	2.12 %
Liabilities									
Customer deposits	3,672.9	(10.9)	(0.30)%	3,680.6	(6.3)	(0.17)%	3,890.7	(6.0)	(0.15)%
Bank deposits	13.5	(0.3)	(2.50)%	20.8	(0.5)	(2.17)%	35.5	—	(0.08)%
Interest bearing deposits	3,686.4	(11.2)	(0.30)%	3,701.5	(6.7)	(0.18)%	3,926.2	(6.0)	(0.15)%
Interest bearing liabilities	3,686.4	11.2	0.30 %	3,701.5	6.7	0.18 %	3,926.2	(6.0)	(0.15)%
Non-interest bearing current accounts	639.9	—	—	634.0	—	—	556.5	—	—
Other liabilities	87.5	—	—	76.8	—	—	(52.0)	—	—
Total liabilities	4,413.9	(11.2)	(0.25)%	4,412.3	(6.7)	(0.15)%	4,430.6	(6.0)	(0.14)%
Shareholders' equity	623.4	—	—	406.5	—	—	466.4	—	—
Total liabilities and shareholders' equity	5,037.2			4,818.7			4,897.0		
Non-interest bearing funds net of non-interest-earning assets (free balance)	476.9	—	—	977.3	—	—	827.3	—	—
Net interest margin		140.1	2.86 %		111.1	2.06 %		98.0	2.06 %
Net interest spread			2.75 %			2.29 %			1.99 %
Ratio of average interest earning asset/ interest bearing liabilities	132.7%			126.4%			121.1%		

(1) Yields are based on average historical costs and yields on securities held in income tax exempt jurisdictions are not computed on a tax-equivalent yield basis.

(2) Interest income and rates on loans include loan fees. Additionally, average non-accrual loans were included in the average loan balances used to determine the average yield on loans in all of the periods presented.

Analysis of Changes in Volume and Rate on Interest Income and Interest Expense

The following table presents the amount of changes in interest income and interest expense from December 31, 2017 to December 31, 2018 and from December 31, 2016 to December 31, 2017, due to changes in both average volume and average rate. Changes not solely due to volume or rate have been allocated to volume.

(in millions of \$)	2018 compared to 2017			2017 compared to 2016		
	Increase/ (Decrease) due to Changes in		Net Increase/ (Decrease)	Increase/ (Decrease) due to Changes in		Net Increase/ (Decrease)
	Volume	Rate		Volume	Rate	
Interest income related to:						
Bermuda						
Cash due from banks — Interest bearing	(2.36)	3.96	1.60	(0.17)	4.14	3.97
Securities purchased under agreement to resell	0.05	0.52	0.57	0.80	0.08	0.88
Short-term investments	(1.80)	1.49	(0.31)	(0.78)	0.24	(0.54)
Held-for-trading	—	—	—	—	—	—
Available-for-sale	(7.34)	11.02	3.68	7.04	3.00	10.04
Held-to-maturity	7.12	0.96	8.09	6.82	0.32	7.14
Total investment in securities⁽¹⁾	(0.21)	11.98	11.77	13.86	3.33	17.18
Commercial	10.56	2.64	13.20	(7.49)	4.08	(3.41)
Consumer	(3.36)	5.06	1.70	(8.25)	7.02	(1.23)
Total loans, net of allowance for credit losses⁽²⁾	7.20	7.70	14.90	(15.73)	11.10	(4.64)
Total interest-earning assets	2.87	25.65	28.52	(2.02)	18.88	16.86
Interest expenses related to:						
Customer deposits	0.09	(1.97)	(1.88)	0.06	1.62	1.69
Bank deposits	(0.32)	0.02	(0.29)	1.27	(1.36)	(0.10)
Securities sold under agreement to repurchase	—	(0.03)	(0.03)	—	0.12	0.12
Long-term debt	(0.86)	(1.14)	(1.99)	—	(0.46)	(0.46)
Total interest bearing liabilities	(1.08)	(3.12)	(4.20)	1.33	(0.08)	1.25
Change in net interest income	1.79	22.53	24.33	(0.69)	18.80	18.11
Non-Bermuda						
Cash due from banks — Interest bearing	(0.50)	6.18	5.68	(0.43)	3.64	3.20
Short-term investments	(0.11)	0.23	0.12	(0.23)	0.12	(0.11)
Held-for-trading	—	—	—	(1.73)	—	(1.73)
Available-for-sale	(6.15)	6.10	(0.05)	(3.70)	5.79	2.08
Held-to-maturity	9.63	1.47	11.11	9.88	(3.15)	6.73
Total investment in securities⁽¹⁾	3.49	7.58	11.06	4.45	2.64	7.09
Commercial	(4.83)	7.21	2.38	(2.78)	1.16	(1.63)
Consumer	11.93	2.27	14.20	2.78	2.51	5.28
Total loans, net of allowance for credit losses⁽²⁾	7.10	9.48	16.57	(0.01)	3.66	3.66
Interest rate swaps	—	—	—	—	—	—
Total interest earning assets	9.97	23.46	33.44	3.78	10.06	13.84
Interest expenses related to:						
Customer deposits	0.02	(4.63)	(4.60)	0.38	(0.66)	(0.29)
Bank deposits	0.18	(0.07)	0.11	0.32	(0.74)	(0.42)
Total interest bearing liabilities	0.20	(4.70)	(4.49)	0.69	(1.40)	(0.71)
Change in net interest income	10.18	18.77	28.94	4.48	8.65	13.13

(1) Yields are based on average historical costs and yields on securities held in income tax exempt jurisdictions are not computed on a tax-equivalent yield basis.

(2) Interest income and rates on loans include loan fees. Additionally, average non-accrual loans were included in the average loan balances used to determine the average yield on loans in all of the periods presented.

Investment Portfolio

The following table sets forth the composition of our debt and equity securities as of the dates indicated measured at amortized cost of fair value. See Note 5 "Investment in securities" to our audited consolidated financial statements as of and for the year ended December 31, 2018 and 2017, included elsewhere in this report for further discussion.

(in millions of \$)	As of December 31,	
	2018	2017
Trading		
Mutual funds	6.5	6.8
Total trading	6.5	6.8
Available-for-sale		
US government and federal agencies	1,786.5	2,709.1
Non-US governments debt securities	25.4	26.2
Corporate debt securities	78.7	243.4
Asset-backed securities — Student loans	12.6	12.5
Commercial mortgage-backed securities	123.2	141.5
Residential mortgage-backed securities	156.3	184.7
Total available-for-sale	2,182.7	3,317.4
Held-to-maturity		
US government and federal agencies	2,066.1	1,382.0
Total held-to-maturity	2,066.1	1,382.0
Total investment in securities	4,255.4	4,706.2

The following table presents an analysis of remaining contractual maturities and weighted average yields for interest bearing securities as of December 31, 2018. Yields on tax-exempt obligations have been computed on a tax-equivalent basis.

(in millions of \$)	Remaining term to maturity					Total
	Within 1 year	1 to 5 years	5 to 10 years	Over 10 years	No specific maturity	
Trading						
Mutual funds	—	—	—	—	6.5	6.5
Total trading	—	—	—	—	6.5	6.5
Available-for-sale						
US government and federal agencies	—	34.4	—	—	1,752.1	1,786.5
Non-US governments debt securities	3.1	22.4	—	—	—	25.5
Corporate debt securities	14.9	63.8	—	—	—	78.7
Asset-backed securities — Student loans	—	—	—	—	12.6	12.6
Commercial mortgage-backed securities	—	—	—	—	123.2	123.2
Residential mortgage-backed securities	—	—	—	—	156.3	156.3
Total available-for-sale	18.0	120.6	—	—	2,044.2	2,182.8
Held-to-maturity						
US government and federal agencies	—	—	—	—	2,066.1	2,066.1
Total held-to-maturity	—	—	—	—	2,066.1	2,066.1
Total investment in securities	18.0	120.6	—	—	4,116.8	4,255.4
Weighted average yield ⁽¹⁾	2.17%	2.61%	—%	—%	3.09%	

⁽¹⁾ Yields are based on average historical costs and yields on securities held in income tax exempt jurisdictions are not computed on a tax-equivalent yield basis.

As of December 31, 2018, no investment other than securities of the US Government and US Government agencies exceeded 10% of shareholders' equity.

Loan Portfolio

Composition of the Loan Portfolio

The following table shows the composition of the Group's loan portfolio by type of loan and geographic location as of the dates indicated. See Note 6 "Loans" to our audited consolidated financial statements included elsewhere in this report for further discussion of our loan portfolio inclusive of the Bank's policies for placing loans on a non-accrual status.

(in millions of \$)	As of December 31,									
	2018		2017		2016		2015		2014	
	Non-Bermuda	Bermuda	Non-Bermuda	Bermuda	Non-Bermuda	Bermuda	Non-Bermuda	Bermuda	Non-Bermuda	Bermuda
Government	93.0	12.7	140.0	13.4	94.5	17.9	202.8	22.4	66.7	46.8
Commercial and industrial	291.5	222.4	197.3	173.7	130.2	201.7	121.5	221.2	137.1	251.4
Commercial overdrafts	16.3	16.8	18.6	2.9	22.6	2.8	35.0	5.7	48.1	11.2
Total commercial loans	400.8	251.8	355.9	190.0	247.3	222.3	359.2	249.4	251.9	309.4
Specific allowance for credit losses on commercial loans	(2.8)	(1.7)	(2.9)	—	(0.6)	—	(0.6)	—	(0.4)	(0.1)
Total commercial loans after specific allowance for credit loss	398.0	250.1	353.0	190.0	246.7	222.3	358.6	249.4	251.5	309.3
Commercial mortgage	304.5	192.5	346.1	189.7	364.0	217.6	415.7	249.6	415.3	281.7
Construction	29.8	48.9	24.5	23.7	24.5	4.4	5.4	8.2	—	20.6
Total commercial real estate loans	334.3	241.4	370.6	213.5	388.5	222.0	421.1	257.8	415.3	302.3
Specific allowance for credit losses on commercial real estate loans	(0.6)	—	(0.6)	—	(0.8)	—	(0.7)	(2.2)	(0.8)	(1.1)
Total commercial real estate loans after specific allowance for credit losses	333.7	241.4	370.0	213.5	387.7	222.0	420.4	255.6	414.5	301.2
Automobile financing	13.2	7.0	13.1	6.2	13.1	6.9	12.3	7.6	12.6	7.7
Credit card	60.5	23.6	57.8	21.2	57.7	20.8	59.1	19.8	58.5	20.7
Overdrafts	10.5	2.4	5.5	2.9	2.4	3.2	4.8	8.2	12.9	8.2
Other consumer	28.4	35.1	29.8	51.2	30.8	63.2	32.0	84.1	43.7	113.9
Total consumer loans	112.6	68.0	106.2	81.5	104.0	94.1	108.2	119.7	127.8	150.5
Specific allowance for credit losses on consumer loans	(0.3)	—	(0.3)	—	(0.3)	—	(0.3)	—	(0.4)	—
Total consumer loans after specific allowance for credit losses	112.4	68.0	105.9	81.5	103.7	94.1	107.9	119.6	127.4	150.5
Residential mortgage loans	1,121.3	1,538.7	1,156.1	1,338.6	1,205.5	1,131.1	1,243.2	1,290.8	1,270.9	1,238.6
Specific allowance for credit losses on residential mortgage loans	(8.6)	(1.0)	(8.7)	(1.2)	(9.6)	(0.6)	(13.4)	(1.9)	(14.8)	(1.4)
Total residential mortgage loans after specific allowance for credit losses	1,112.7	1,537.7	1,147.5	1,337.3	1,195.9	1,130.5	1,229.8	1,288.9	1,256.1	1,237.2
Total gross loans	1,969.0	2,100.0	1,988.8	1,823.5	1,945.2	1,669.5	2,131.8	1,917.7	2,065.8	2,000.8
Specific allowance for credit losses	(12.2)	(2.7)	(12.4)	(1.3)	(11.2)	(0.6)	(15.0)	(4.1)	(16.2)	(2.6)
General allowance for credit losses	(7.1)	(3.1)	(16.3)	(5.5)	(25.0)	(7.6)	(20.2)	(10.0)	(19.0)	(9.7)
Net loans	1,949.7	2,094.2	1,960.1	1,816.8	1,909.1	1,661.4	2,096.6	1,903.5	2,030.6	1,988.6

Maturity Profile of the Loan Portfolio

The following table presents certain items in our loan portfolio by contractual maturity as of December 31, 2018.

(in millions of \$) (audited)	As at December 31, 2018 Remaining term to average contractual maturity			Total
	Within 1 year	1 to 5 years	Over 5 years	
Bermuda				
Commercial loans	81.5	228.6	90.8	400.9
Commercial real estate	16.4	100.0	217.8	334.2
Consumer loans	75.3	30.6	6.8	112.7
Residential mortgages	10.4	48.6	1,062.3	1,121.3
Total Bermuda	183.6	407.8	1,377.7	1,969.1
Non-Bermuda				
Commercial loans	53.3	181.9	16.6	251.8
Commercial real estate	49.2	72.9	119.2	241.3
Consumer loans	37.3	16.5	14.2	68.0
Residential mortgages	152.1	833.6	553.0	1,538.7
Total Non-Bermuda	291.9	1,104.9	703.0	2,099.8
Total	475.5	1,512.7	2,080.7	4,068.9

The following table presents our loan portfolio by maturity and type of interest as of December 31, 2018.

(in millions of \$) (audited)	As at December 31, 2018 Remaining term to average contractual maturity			Total
	Within 1 year	1 to 5 years	Over 5 years	
Loans with fixed interest rates	24.1	101.5	429.4	555.0
Loans with floating or adjustable interest rates	451.3	1,411.3	1,651.3	3,513.9
Total	475.4	1,512.8	2,080.7	4,068.8

Loan and Lease Concentrations

As of December 31, 2018, we did not identify any concentration of loans and leases that exceeded 10% of total loans and leases. See Note 7 "Credit risk concentrations" to our audited consolidated financial statements as of and for the year ended December 31, 2018 included elsewhere in this report for further discussion of how we manage concentration exposures.

Risk Elements

For details on our policy for placing loans on non-accrual status, see Note 2 "Significant accounting policies" to our audited consolidated financial statements as of and for the year ended December 31, 2018 included elsewhere in this report.

The following table shows a five-year history of non-accrual loans, loans past due 90 days or more and other potential problem loans. See "Management's Discussion and Analysis of Financial Condition and Results of Operations — Critical Accounting Policies and Estimates" for our policies for determining non-performing and potential problem loans.

(in millions of \$)	As of December 31,									
	2018		2017		2016		2015		2014	
	Bermuda	Non - Bermuda	Bermuda	Non - Bermuda	Bermuda	Non - Bermuda	Bermuda	Non - Bermuda	Bermuda	Non - Bermuda
Non-accrual loans										
Commercial loans										
Commercial and industrial	7.4	3.8	7.5	—	0.6	—	0.6	—	0.6	0.1
Commercial overdrafts	—	—	—	—	—	—	—	—	0.1	0.1
Total commercial loans	7.4	3.8	7.5	—	0.6	—	0.6	—	0.7	0.2
Commercial real estate loans	4.1	—	4.3	0.4	5.5	0.5	5.4	4.9	8.3	4.0
Consumer loans										
Automobile financing	0.2	—	0.2	—	0.3	—	0.1	—	0.1	—
Credit card	—	—	—	—	—	—	—	—	—	—
Overdrafts	—	—	—	—	—	—	—	—	—	—
Other consumer	0.8	—	0.5	—	0.6	0.1	0.9	0.4	1.6	0.2
Total consumer loans	1.0	—	0.7	—	0.9	0.1	1.0	0.4	1.7	0.2
Residential mortgages	28.4	3.8	26.4	4.5	34.0	6.9	40.4	12.6	45.0	11.7
Total non-accrual loans	40.9	7.6	38.9	4.9	40.9	7.5	47.4	17.9	55.7	16.1
Accruing loans past due 90 days and more										
Commercial loans										
Commercial and industrial	—	—	—	—	—	—	—	—	—	1.1
Commercial overdrafts	—	—	—	—	—	—	—	—	—	—
Total commercial loans	—	—	—	—	—	—	—	—	—	1.1
Commercial real estate loans	—	—	—	—	—	—	—	0.7	—	0.8
Consumer loans										
Automobile financing	—	—	—	—	—	—	—	—	—	—
Credit card	0.1	—	0.2	—	0.4	—	0.1	—	0.2	—
Overdrafts	—	—	—	—	—	—	—	0.5	—	—
Other consumer	—	—	—	—	—	0.3	0.1	—	—	0.3
Total consumer loans	0.1	—	0.2	—	0.4	0.3	0.2	0.5	0.2	0.3
Residential mortgages	6.1	0.4	2.7	1.5	6.2	2.3	4.5	8.2	8.5	14.9
Total accruing loans past 90 days and more	6.2	0.4	2.9	1.5	6.6	2.6	4.7	9.4	8.7	17.1
Loans modified in a troubled debt restructuring ("TDR")⁽¹⁾										
Commercial loans	—	1.0	—	1.0	—	1.0	—	1.1	—	—
Commercial real estate loans	4.0	0.5	4.1	0.4	2.8	0.5	14.2	0.4	17.9	8.0
Consumer loans	—	—	—	—	—	—	—	0.1	—	0.1
Residential mortgages	71.3	3.4	66.6	3.9	43.5	3.0	34.0	1.6	22.2	1.2
Total loans modified in a TDR	75.3	4.9	70.7	5.3	46.2	4.5	48.2	3.2	40.1	9.3

(1) Total recorded investment.

Impact of Impaired Loans on Interest Income

The following table presents the gross interest income for both non-accrual and TDRs that would have been recognized if such loans had been current in accordance with their original contractual terms, and had been outstanding throughout the period or since origination if held for only part of the period. The table also presents the interest income related to these loans that was actually recognized for the year.

(in millions of \$)	Year-ended December 31, 2018 Total
Gross amount of interest income that would have been recorded in accordance with original contractual terms, and had been outstanding throughout the year or since origination, if held for only part of the year ⁽¹⁾	8.4
Interest income actually recognized	(4.9)
Total interest income forgone	3.5

⁽¹⁾ Based on the contractual rate that was being charged at the time the loan was restructured or placed on non-accrual status.

Potential Problem Loans

This disclosure presents outstanding amounts as well as specific reserves for certain loans and leases where information about possible credit problems of borrowers causes management to have serious doubts as to the ability of such borrowers to comply with the present repayment terms. At December 31, 2018, we did not identify any potential problem loans or leases within the portfolio that were not already included in "Risk Elements" above.

Cross-Border Outstandings

The following table presents the aggregate amount of cross-border outstandings from borrowers or counterparties for each foreign country that exceeds 0.75% of consolidated assets for any of the periods reported below. Cross-border outstandings include loans, receivables, interest bearing deposits with other banks, other interest bearing investments and monetary assets that are denominated in either dollars or other non-local currency.

The table separately presents the amounts of cross-border outstandings by type of borrower including governments, banks and financial institutions and other, along with an analysis of local country assets net of local country liabilities.

Country of counterparty	United Kingdom	United States	Canada	St. Lucia	Australia
	For the year ended December 31, 2018				
(in millions of \$)					
Governments and official institutions	51.0	99.3	146.6	—	—
Banks and other financial institutions	657.2	405.5	314.3	—	145.7
Commercial and industrial	317.0	174.6	—	90.5	—
Residential	469.4	3,973.9	—	—	—
Total cross border outstandings	1,494.6	4,653.3	460.9	90.5	145.7
Net local country claims	18.8	—	—	—	—
Cross-border commitments	36.9	—	—	—	—
Total exposure	1,550.3	4,653.3	460.9	90.5	145.7

Country of counterparty	United Kingdom	United States	Canada	St. Lucia	Australia
	For the year ended December 31, 2017				
(in millions of \$)					
Governments and official institutions	159.7	249.1	115.5	—	—
Banks and other financial institutions	602.6	444.7	272.7	—	113.9
Commercial and industrial	208.3	349.9	—	120.1	—
Residential	355.7	4,183.5	—	—	—
Total cross border outstandings	1,326.3	5,227.2	388.2	120.1	113.9
Net local country claims	16.2	—	—	—	—
Cross-border commitments	52.7	—	—	—	—
Total exposure	1,395.2	5,227.2	388.2	120.1	113.9

Country of counterparty (in millions of \$)	United Kingdom	United States	Canada	Guernsey ⁽¹⁾
	For the year ended December 31, 2016			
Governments and official institutions	580.1	398.1	271.5	—
Banks and other financial institutions	566.4	846.4	246.9	—
Commercial and industrial	46.5	334.5	—	—
Residential	312.0	3,674.1	—	—
Total cross-border outstandings	1,505.0	5,253.0	518.4	—
Net local country claims	102.0	—	—	—
Cross-border commitments	—	—	—	—
Total exposure	1,607.0	5,253.0	518.4	—

There were no countries listed above which were experiencing liquidity problems as of any of the period-end dates listed.

⁽¹⁾ For the year ended December 31, 2016, there were no cross border outstanding exposures to Guernsey in excess of 1% of total assets.

Loan Concentration

As of December 31, 2018, there were no individual loans for which their net carrying value was greater than 10% of the total loans outstanding.

Summary of Loan Loss Experience

The following table presents our loan loss experience for the years indicated.

(in millions of \$)	For the year ended December 31,				
	2018	2017	2016	2015	2014
Balance at the beginning of the year	35.4	44.2	49.3	47.5	52.8
Bermuda					
Charge-offs					
Commercial loans	(0.2)	—	(0.1)	(0.2)	—
Commercial real estate	—	—	(2.8)	(0.2)	(6.6)
Consumer loans	(0.6)	(1.3)	(1.7)	(3.3)	(2.0)
Residential mortgages	(2.2)	(2.3)	(2.9)	(1.6)	(3.7)
Recoveries					
Commercial loans	—	0.1	0.1	—	—
Commercial real estate	—	—	—	0.2	—
Consumer loans	0.4	0.5	1.1	0.3	1.9
Residential mortgages	0.1	0.3	—	1.1	—
Non-Bermuda					
Charge-offs					
Commercial loans	—	(0.2)	—	(0.3)	(0.8)
Commercial real estate	—	(0.8)	(1.7)	(0.1)	—
Consumer loans	(0.3)	0.3	(0.2)	(0.4)	0.1
Residential mortgages	(0.7)	(0.1)	(1.0)	(0.4)	(2.5)
Recoveries					
Commercial loans	—	—	—	0.2	0.1
Commercial real estate	—	—	—	0.6	—
Consumer loans	0.3	0.2	0.2	0.1	—
Residential mortgages	0.1	0.2	0.1	0.3	0.3
Charge-offs, net of recoveries	(3.2)	(3.1)	(9.0)	(3.7)	(13.2)
Additional charge to operations	(7.1)	(5.7)	3.9	5.5	7.9
Balance at the end of the year	25.1	35.4	44.2	49.3	47.5
Average loans	3,995.8	3,665.8	3,921.1	4,026.7	4,075.0
Ratio of net charge-offs during the period to average loans outstanding during the year	(0.08) %	(0.08) %	(0.23) %	(0.09) %	(0.32) %

See "Management's Discussion and Analysis of Financial Condition and Results of Operations" located elsewhere in this report for further details on additional charges to operations.

The following table presents allocation of allowances for credit losses for the periods indicated.

(in millions of \$)	For the year ended December 31,									
	2018		2017		2016		2015		2014	
	\$	% ⁽¹⁾	\$	% ⁽¹⁾	\$	% ⁽¹⁾	\$	% ⁽¹⁾	\$	% ⁽¹⁾
Balance at the end of the year										
Bermuda										
Commercial loans	4.5	1.1	1.8	0.5	1.7	0.7	4.3	1.2	3.1	1.2
Commercial real estate	3.4	1.0	8.4	2.3	13.2	3.4	3.7	0.9	4.2	1.0
Consumer loans	0.7	0.6	0.7	0.6	0.7	0.7	1.3	1.2	1.4	1.1
Residential mortgages	10.7	1.0	17.9	1.5	20.5	1.7	25.9	2.1	26.5	2.1
Non-Bermuda										
Commercial loans	2.4	0.9	1.5	0.8	1.7	0.8	4.4	1.8	4.7	1.5
Commercial real estate	0.7	0.3	2.2	1.0	3.0	1.3	2.8	1.1	1.7	0.6
Consumer loans	0.1	0.2	0.2	0.3	0.3	0.3	1.5	1.2	1.4	0.9
Residential mortgages	2.6	0.2	2.8	0.2	3.2	0.3	5.4	0.4	4.5	0.4
Total	25.1	0.6	35.5	0.9	44.2	1.2	49.3	1.6	47.5	1.6

⁽¹⁾ Percent of loans in each category to total loans.

Deposits

The following table presents our interest bearing deposits for the years indicated.

(in millions of \$, unless otherwise indicated)	For the year ended December 31,					
	2018		2017		2016	
	Average balance	Average rate	Average balance	Average rate	Average balance	Average rate
Interest bearing deposits						
Bermuda						
Demand	2,816.3	—%	2,873.3	0.01%	2,881.0	0.05%
Term	863.6	0.73%	865.6	0.41%	903.9	0.45%
Total Bermuda⁽¹⁾	3,679.9		3,738.9		3,784.9	
Non-Bermuda						
Demand	2,771.1	0.07%	2,823.6	0.05%	3,205.6	0.08%
Term	901.8	0.99%	857.0	0.57%	685.1	0.50%
Total Non-Bermuda	3,672.9		3,680.6		3,890.7	
Total interest bearing deposits	7,352.8		7,419.6		7,675.6	
Non-interest bearing demand deposits						
Bermuda ⁽¹⁾	1,591.9		1,759.1		1,486.1	
Non-Bermuda	639.9		634.0		556.5	
Total non-interest bearing deposits	2,231.8		2,393.1		2,042.6	

⁽¹⁾ The aggregate amount of deposits by foreign depositors in Bermuda was approximately \$1,506.8 million, \$813.4 million, and \$1,028.2 million as of December 31, 2018, 2017 and 2016, respectively.

Term Deposits of \$100,000 or More

The following table presents the amount of term deposits of \$100,000 or more by time remaining until maturity as of December 31, 2018:

(in millions of \$)	Remaining term to maturity				Total
	3 months or less	3 to 6 months	6 to 12 months	Over 12 months	
Bermuda					
Customer	598.5	92.4	184.3	43.4	918.7
Bank	—	—	—	—	—
Total Bermuda	598.5	92.4	184.3	43.4	918.7
Non - Bermuda					
Customer	608.4	126.0	235.3	11.5	981.2
Bank	6.7	—	0.1	—	6.8
Total Non - Bermuda	615.1	126.0	235.4	11.5	988.0
Total Term Deposits of \$100,000 or More	1,213.6	218.4	419.7	54.9	1,906.7

Return on Equity and Assets

The following table presents our return on equity and assets for the years indicated.

	For the year ended December 31,		
	2018	2017	2016
Return on assets ⁽¹⁾	1.8%	1.4%	1.1%
Return on equity ⁽²⁾	23.1%	19.9%	8.9%
Dividend payout ratio ⁽³⁾	42.8%	46.4%	33.9%
Equity to assets ratio ⁽⁴⁾	8.1%	6.8%	7.6%

(1) Net income divided by average total assets.

(2) Net income divided by average equity.

(3) Dividends declared per share divided by net income per share. Figures reflect a ten-for-one reverse share split of common shares that the Bank effected on September 6, 2016.

(4) Average equity divided by average total assets.

Short-Term Borrowings

There were no short-term borrowings in excess of 30% of shareholders' equity as of December 31, 2018 and 2017.

RISK MANAGEMENT

Risk Oversight and Management

General

The principal types of risk inherent in our business are market, liquidity, credit and operational risks.

Organizational structure

The Board has overall responsibility for determining the strategy for risk management, setting the Bank's risk appetite and ensuring that risk is monitored and controlled effectively. It accomplishes its mandate through the activities of two dedicated committees:

The Risk Policy and Compliance Committee ("RPC"): This committee of the Board assists the Board in fulfilling its responsibilities by overseeing the Group's risk profile and its performance against approved risk appetites and tolerance thresholds. Specifically, the committee considers the sufficiency of the Group's policies, procedures and limits related to the identification, measurement, monitoring and control of activities that give rise to credit, market, liquidity, interest rate, operational, regulatory, compliance and reputational risks, as well as overseeing its compliance with laws, regulations and codes of conduct.

The Audit Committee: This committee reviews the overall adequacy and effectiveness of the Group's system of internal controls and the control environment, including in respect of the risk management process. It reviews recommendations arising from internal and independent audit review activities and management's response to any findings raised.

Both the RPC and Audit Committees are supported in the execution of their respective mandates by the dedicated Audit, Compliance and Risk Policy Committees for our UK, Guernsey, Jersey, Cayman Islands and the Bahamas operations, which oversee the sufficiency of local risk management policies and procedures and the effectiveness of the system of internal controls that are in place. These committees are chaired by non-executive directors drawn from the boards of directors for each segment.

The Group executive management team is led by the Chairman and Chief Executive Officer ("CEO") and includes the members of executive management reporting directly to the CEO. The executive management team is responsible for setting business strategy and for monitoring, evaluating and managing risks across the Group. It is supported by the following management committees:

The Group Risk Committee ("GRC"): This committee comprises executive and senior management team members and is chaired by the Chief Risk Officer. It provides a forum for the strategic assessment of risks assumed across the Group as a whole based on an integrated view of credit, market, liquidity, legal and regulatory compliance, operational, cyber, insurance, pension, investment, capital and reputational risks, ensuring that these exposures are consistent with the risk appetites and tolerance thresholds promulgated by the Board. It is responsible for reviewing, evaluating and recommending the Group's Risk Appetite Framework, the results of the Capital Assessment and Risk Profile ("CARP"), the recovery and resolution planning process (including all associated stress testing performed) and the Group's key risk policies to the Board for approval, for reviewing and evaluating current and proposed business strategies in the context of our risk appetites and for identifying, reviewing and advising on current and emerging risk issues and associated mitigation plans.

The Group Asset and Liability Committee ("GALCO"): This committee comprises executive and senior management team members and is chaired by the Chief Financial Officer. The committee is responsible for liquidity, interest rate and exchange rate risk management and other balance sheet issues. It also oversees key policies and the execution of the Group's investment and capital management strategies and monitors the associated risks assumed. It is supported in the execution of its mandate by the work undertaken by the dedicated Asset & Liability Committees in each of the Bank's jurisdictional business units.

The Group Credit Committee ("GCC"): This committee comprises executive and senior management and is chaired by the Chief Risk Officer. The committee is responsible for a broad range of activities relating to the monitoring, evaluation and management of credit risks assumed across the Group at both transaction and portfolio levels. It is supported in the execution of its mandate by the Financial Institutions Committee ("FIC"), a dedicated sub-committee that is responsible for the evaluation and approval of recommended inter-bank and counterparty exposures assumed in the Group's treasury and investment portfolios, and by the activities of the segment Credit Committee, which reviews and approves transactions within delegated authorities and recommends specific transactions outside of these limits to the GCC for approval.

The Provisions and Impairments Committee: This committee comprises executive and senior management team members and is chaired by the Chief Risk Officer. The committee is responsible for approving significant provisions and other impairment charges. It also oversees the overall credit risk profile of the Group in regards to non-accrual loans and assets. It is supported in the execution of its mandate by local credit committees and the GCC, which make recommendations to this committee.

Risk Management

We manage our exposure to risk through a three "lines of defense" model.

The first "line of defense" is provided by our jurisdictional business units, which retain ultimate responsibility for the risks they assume and for bearing the cost of risk associated with these exposures.

The second "line of defense" is provided by our Risk Management group, which works in collaboration with our business units to identify, assess, mitigate and monitor the risks associated with our business activities and strategies. It does this by:

- Making recommendations to the GRC regarding the constitution of the Risk Appetite Framework;
- setting risk strategies that are designed to manage risk exposures assumed in the course of pursuing our business strategies and aligning them with agreed appetites;
- establishing and communicating policies, procedures and limits to control risks in alignment with these risk strategies;
- measuring, monitoring and reporting on risk levels;
- opining on specific transactions that fall outside delegated risk limits; and
- identifying and assessing emerging risks.

The four functions within the Risk Management group that support our risk management activities are outlined below.

Group Market Risk — This unit provides independent oversight of the measurement, monitoring and control of liquidity and funding risks, interest rate and foreign exchange risks as well as the market risks associated with our investment portfolios. It also monitors compliance with both regulatory requirements and our internal policies and procedures relating to the management of these risks.

Group Credit Risk Management — This unit is responsible for the adjudication and oversight of credit risks associated with our retail and commercial lending activities and the management of risks associated with our investment portfolios and counterparty exposures. It also establishes the parameters and delegated limits within which credit risks may be assumed and promulgates guidelines on how exposures should be managed and monitored.

Group Compliance — This unit provides independent analysis and assurance of our compliance with applicable laws, regulations, codes of conduct and recommended best practices, including those associated with the prevention of financial crime, including money laundering and terrorist financing. It is also responsible for assessing our potential exposure to upstream risks and for providing guidance on the preparations that should be made in advance of these changes coming into effect. The Group Head of Compliance reports directly to the CEO.

Group Operational Risk — This unit assesses the effectiveness of our procedures and internal controls in managing our exposure to various forms of operational risk, including those associated with new business activities and processes and the deployment of new technologies. It also oversees our incident management processes and reviews the effectiveness of our loss data collection activities.

The third "line of defense" is provided by our Group Internal Audit function, which performs oversight and ongoing review, and challenges the effectiveness of the internal controls that are executed by both the business and Risk Management. The Group Head of Internal Audit reports to the Chair of the Audit Committee.

Regulatory Review Process

Our banking, trust and investment business activities are monitored by the BMA. One of the principal objectives of the BMA is to supervise, regulate and inspect Bermuda-based financial institutions to ensure their financial stability and soundness.

In addition to conducting on-site reviews, the BMA utilizes a comprehensive quarterly statistical return system that enables off-site monitoring. The statistical system is consistent with Basel Committee Standards, which provides the BMA with a detailed breakdown of a bank's balance sheet and profit-and-loss accounts on both a consolidated and unconsolidated basis. This information enables the BMA to monitor the soundness of a bank's financial position and ensure that it meets certain capital requirements. For more information, see "Supervision and Regulation — Bermuda — Supervision and Monitoring by the BMA".

Each of our regulated entities is separately monitored by the local regulatory authority in that jurisdiction to ensure their financial stability and soundness.

The Risk Appetite Framework

The Risk Appetite Framework is the cornerstone of our approach to risk management. Developed by executive management and approved formally by the Board, it communicates a willingness to take on certain risks in the pursuit of our strategic objectives and defines those that should be avoided. It also provides management with a clear mandate regarding the amount and type of risk that it may accept and establishes minimum expectations regarding the practices and behaviors that should be brought to bear in managing the exposures assumed. It is aligned with the interests of our stakeholders, feeds into our business planning processes, and shapes our discussions on risk matters generally.

Our framework comprises the following elements:

- (1) Nine broad categories of risk: credit; market; liquidity; legal and regulatory; governance; process and technology; people; country and political; and reputational. These represent the various risks that the Group assumes across the entirety of its operations in the pursuit of its strategic goals.
- (2) For each risk category, there is a declared risk appetite. To ensure consistency in our risk conversations, these have been distilled into the three options set out in the following table, with each appetite designed to convey a clear strategic direction in terms of the risk/reward profile assumed:

Appetite	Definition	Profile
Averse	The Group will work to avoid exposure to this risk given its potential for financial loss, reputational damage, and/or the loss of customer and/or investor confidence.	Our processes and controls are defensive and focus on detection and prevention.
Cautious	Given the potential for financial loss, reputational damage, and the loss of customer and/or investor confidence, the Group will be very selective in the exposures assumed to this risk and will monitor it closely.	Security is favored over reward. Exposures are only assumed when the risk can be quantified accurately and is assessed as being acceptable.
Open	The Group will consider opportunities to accept this risk and will accept those that fall within clearly defined parameters. The risk of loss or reputational damage is accepted but the exposure can be estimated reliably and can be managed to a tolerable level.	Reward is commensurate with the risk assumed. Exposures can be estimated reliably and structures, systems and processes are in place to manage them.

- (3) A statement of our governing principles relating to each risk category. This establishes the characteristics of the risks that the Bank is willing to assume and the management behaviors that we should exhibit when doing so.

Specific performance measures and tolerance thresholds in respect of each risk category, combining quantitative and qualitative targets (which are designed to reflect both forward-looking as well as historical perspectives), are designed to provide executive management and the Board with an indication of the "direction" of our exposure relative to our declared risk appetite and an early warning of material adverse developments requiring remedial action.

Application of the Risk Appetite Framework

The limits, targets and thresholds used to measure performance continue to be refined by the Group Risk Management function in an effort to express as complete a "picture" as possible of our exposure to a given risk, relative to the stated appetite. All changes proposed pass through a formal review and approval process at both the executive management and Board levels prior to their adoption. Through this approach, the risk appetite framework sets the tone for our risk culture across the Group as a whole, influencing behaviors at all levels of the organization and reinforcing accountability for decisions taken. Many of our jurisdictional offices have developed subsidiary risk appetite frameworks in conjunction with their local risk management functions. This ensures appropriate coverage of local risk factors and the establishment of proportional tolerance thresholds. Group Risk has reviewed these frameworks prior to their adoption and has modified any appetites proposed that are considered to be inconsistent with the overall Group approach.

Market Risks

Interest Rate Risk Management

Our primary market risk is interest rate risk, which is defined as the risk of loss of net interest income or changes in net interest margin because of changes in interest rates.

We seek to measure and manage the potential impact of interest rate risk. Interest rate risk occurs when interest earning assets and interest bearing liabilities mature or re-price at different times, on a different basis or in unequal amounts. Interest rate risk also arises when our assets, liabilities and off-balance sheet contracts each respond differently to changes in interest rates, including as a result of explicit and implicit provisions in agreements related to such assets and liabilities and in off-balance sheet contracts that alter the applicable interest rate and cash flow characteristics as interest rates change. The two primary examples of such provisions that we are exposed to are the duration and rate sensitivity associated with indeterminate-maturity deposits (e.g., non-interest bearing checking accounts) and the rate of prepayment associated with fixed-rate lending and mortgage-backed securities. Interest rates may also affect loan demand, credit losses, mortgage origination volume and other items affecting earnings.

Our management of interest rate risk is overseen by the RPC, which outlines reporting and measurement requirements. In particular, this infrastructure sets limits and management targets, calculated for various metrics, including our economic value sensitivity, our economic value of equity and net interest income simulations involving parallel shifts in interest rate curves, steepening and flattening yield curves, and various prepayment and deposit duration assumptions. Our risk management infrastructure also requires a periodic review of all key assumptions used, such as identifying appropriate interest rate scenarios, setting loan prepayment rates based on historical analysis, non-interest bearing and interest bearing demand deposit durations based on historical analysis, and the targeted investment term of capital.

The principal objective of our interest rate risk management is to maximize profit potential while minimizing exposure to changes in interest rates. Our actions in this regard are taken under the guidance of GALCO. The committee is actively involved in formulating the economic assumptions that we use in our financial planning and budgeting processes and establishes policies which control and monitor the sources, uses and pricing of funds. From time to time, we utilize hedging techniques to reduce interest rate risk. GALCO uses interest income simulation and economic value of equity analysis to measure inherent risk in our balance sheet at specific points in time.

Appetite for interest rate risk is documented in the Group's policies on market risk and investments. This includes the completion of stress testing on at least a quarterly basis of the impact of an immediate and sustained shift in interest rates of +/- 200 basis points on net interest income, economic value of equity and the ratio of tangible total equity to average assets. If any of the parameters established by policy are exceeded, GALCO will provide a plan to executive management to bring the exposure back within tolerance under advice to the Board. The plan does not have to bring the exposure back within limit immediately, but must adjust the exposure within Board and management approved timeframes.

We also use derivatives in the asset and liability management of positions to minimize significant unplanned fluctuations in earnings that are caused by interest rate volatility. Our derivative contracts principally involve over-the-counter transactions that are privately negotiated between the Group and the counterparty to the contract. Derivative instruments that are used as part of our interest rate risk management strategy include interest rate swaps. 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.

Interest Rate Risk

The following table sets out the assets, liabilities and shareholders' equity and off-balance sheet instruments on the date of the earlier of contractual maturity, expected maturity and repricing date. Use of these tables to derive information about our 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 differ from contractual maturities because borrowers may have the right to prepay obligations before the underlying mortgages mature.

December 31, 2018 (in millions of \$)	Earlier of contractual maturity or repricing date						Total	Total fair value ⁽¹⁾
	Within 3 months	3 to 6 months	6 to 12 months	1 to 5 years	After 5 years	Non-interest bearing		
Assets								
Cash and deposits with banks	1,930	—	—	—	—	124	2,054	2,054
Securities purchased under agreement to resell	27	—	—	—	—	—	27	27
Short-term investments	40	10	—	—	—	2	52	52
Investments ⁽²⁾	488	35	8	245	3,473	6	4,255	4,225
Loans ⁽³⁾	3,160	278	38	223	330	15	4,044	4,047
Other assets	—	—	—	—	—	341	341	341
Total assets	5,645	323	46	468	3,803	488	10,773	10,746
Liabilities and shareholders' equity								
Demand deposits	5,357	—	—	—	—	2,120	7,477	7,477
Term deposits ⁽⁴⁾	1,245	228	432	70	—	—	1,975	1,970
Other liabilities	—	—	—	—	—	296	296	296
Subordinated capital ⁽⁴⁾	70	—	—	73	—	—	143	146
Shareholders' equity	—	—	—	—	—	882	882	857
Total liabilities and shareholders' equity	6,672	228	432	143	—	3,298	10,773	10,746
Interest rate sensitivity gap	(1,027)	95	(386)	325	3,803	(2,810)	—	—
Cumulative interest rate sensitivity gap	(1,027)	(932)	(1,318)	(993)	2,810	—	—	—

(1) See "Critical Accounting Policies and Estimates - Fair Values" and Note 17 "Fair value measurement" of the audited consolidated financial statements for further detail on the determination of fair value.

(2) Investments include (i) held-to-maturity investments, which are carried at their amortized cost on the consolidated balance sheet, and (ii) held-for-trading and available-for-sale investments, each of which are carried at fair value on the consolidated balance sheet. The fair value columns presents all classifications at their fair value.

(3) Loans are carried on the consolidated balance sheet as the principal amount outstanding, net of allowance for credit losses, unearned income, fair value adjustments arising from hedge accounting and net deferred loan fees.

(4) Term deposits and subordinated capital are carried on the consolidated balance sheet as the principal outstanding.

Asset/Liability Management and Interest Rate Risk

The principal objective of our asset and liability management function is to evaluate the interest rate risk within the balance sheet and pursue a controlled assumption of interest rate risk while maximizing net income and preserving adequate levels of liquidity and capital.

As a financial institution, our primary component of market risk is interest rate volatility. Fluctuations in interest rates will ultimately impact both the level of income and expense recorded on most of our assets and liabilities, and the fair value of all interest earning assets and interest bearing liabilities, other than those which have a short term to maturity. Interest rate risk is the potential of economic losses due to future interest rate changes. These economic losses can be reflected as a loss of future net interest income and/or a loss of current fair values. The objective is to measure the effect on net interest income and to adjust the balance sheet to minimize the inherent risk while at the same time maximizing income.

We manage our exposure to interest rates primarily by structuring our balance sheet in the ordinary course of business. We do not typically enter into derivative contracts for the purpose of managing interest rate risk, but we may elect to do so in the future. Based upon the nature of our operations, we are not subject to foreign exchange or commodity price risk. Our exposure to holdings categorized as "trading positions" falls below the *de minimis* threshold established of 5% (ratio of total trading book open position compared to the sum of on and off-balance sheet assets that are not part of the trading book).

We use an interest rate risk simulation model to test the interest rate sensitivity of net interest income and the balance sheet. Instantaneous parallel rate shift scenarios are modeled and utilized to evaluate risk and establish exposure limits for acceptable changes in net interest margin. These scenarios, known as rate shocks, simulate an instantaneous change in interest rates and use various assumptions, including, but not limited to, prepayments on securities, deposit decay rates, pricing decisions on loans and deposits, reinvestment and replacement of asset and liability cash flows. We also analyze the economic value of equity as a secondary measure of interest rate risk. This is a complementary measure to net interest income where the calculated value is the result of the fair value of assets less the fair value of liabilities. The economic value of equity is a longer-term view of interest rate risk because it measures the present value of all future cash flows. The impact of changes in interest rates on this calculation is analyzed for the risk to our future earnings and is used in conjunction with the analysis on net interest income. The following table summarizes simulated change in net interest income versus unchanged rates as of December 31, 2018 and December 31, 2017:

	For the year ended			
	December 31, 2018		December 31, 2017	
	Following 12 Months	Months 13 - 24	Following 12 Months	Months 13 - 24
+300 basis points	10.40 %	13.20 %	17.40 %	21.40 %
+200 basis points	6.80 %	8.90 %	11.70 %	14.50 %
+100 basis points	3.70 %	4.90 %	6.00 %	7.60 %
Flat rates	0.00 %	0.00 %	0.00 %	0.00 %
-100 basis points	(8.20)%	(11.10)%	(13.80)%	(16.50)%

The following table presents the change in our economic value of equity as of December 31, 2018 and December 31, 2017, assuming immediate parallel shifts in interest rates:

	For the year ended	
	December 31, 2018	December 31, 2017
+300 basis points	(6.20)%	(3.60)%
+200 basis points	(4.50)%	(2.80)%
+100 basis points	(2.10)%	(1.40)%
Flat rates	0.00 %	0.00 %
-100 basis points	(3.20)%	(1.80)%

The differences between the change in our economic value of equity assuming immediate parallel shifts in interest rates from December 31, 2017 to December 31, 2018 is driven by an increase in non-interest bearing deposits and an increase in fixed rate investments, which impacted both the maturity and convexity of interest bearing assets and liabilities on the balance sheet.

Many assumptions are used to calculate the impact of interest rate fluctuations. Actual results may be significantly different than our projections due to several factors, including the timing and frequency of rate changes, market conditions and the shape of the yield curve. The computations of interest rate risk shown above do not include the full suite of actions that our management may undertake to manage the risks in response to anticipated changes in interest rates, and actual results may also differ materially.

Foreign Exchange Risk

The Group holds various non-USD denominated assets and liabilities and maintains investments in subsidiaries whose domestic currency is either not USD or whose domestic currency is not pegged to USD. Assets and liabilities denominated in currencies other than USD are translated to USD at the rates of exchange prevailing at the balance sheet date. The resulting gains or losses are included in foreign exchange revenue in the consolidated statement of operations. Assets and liabilities of subsidiaries outside of Bermuda are translated at the rate of exchange prevailing on the balance sheet date while associated revenues and expenses are translated to USD at the average rate of exchange prevailing through the accounting period. Unrealized translation gains or losses on investments in foreign currency based subsidiaries are recorded as a separate component of shareholders' equity within accumulated other comprehensive loss. Such gains or losses are recorded in the consolidated statement of operations only when realized. Our foreign currency subsidiaries, located in Guernsey and the United Kingdom, may give rise to significant foreign currency translation movements against the USD. We also provide foreign exchange services to our clients, principally in connection with our banking and wealth management businesses, and effect other transactions in non-USD currencies. Foreign currency volatility and fluctuations in exchange rates may impact the value of non-USD denominated assets and liabilities and raise the potential for losses resulting from foreign currency trading positions where aggregate obligations to purchase and sell a currency other than USD do not offset one another, or offset each other in different time periods. If the policies and procedures we have in place to assess and mitigate potential impacts of foreign exchange volatility are not followed, or are not effective to mitigate such risks, our results and earnings may be negatively affected. The Group maintains a clearly articulated foreign exchange risk exposure tolerance framework which limits exposures to select currencies.

Liquidity Risk

The objectives of liquidity risk management are to ensure that the Group can meet its cash flow requirements and capitalize on business opportunities on a timely and cost-effective basis. Liquidity is defined as the ability to hold and/or generate cash adequate to meet our needs for day-to-day operations and material long and short-term commitments. Liquidity risk is the risk of potential loss if the Group were unable to meet its funding requirements at a reasonable cost.

We monitor and manage our liquidity on a Group-wide basis. The treasury functions in the Group's banking operations, located in Bermuda, the Cayman Islands, and Guernsey, manage day-to-day liquidity. The Group market risk function has the responsibility for measuring and reporting to senior management on liquidity risk positions. We manage our liquidity based on demand, commitments, specific events and uncertainties to meet current and future financial obligations of a short-term nature. Our objective in managing liquidity is to respond to the needs of depositors and borrowers as well as to earnings enhancement opportunities in a changing marketplace. Management is responsible for establishing and monitoring liquidity targets as well as strategies to meet these targets. The Group adopts a cautious liquidity risk appetite with internal quantitative liquidity risk tolerances more stringent than regulatory requirements. Specifically the Group manages liquidity against internal limits established by the market risk management policy and its related liquidity risk standard and quarterly stress testing methodology.

We maintained a balance sheet with loans representing 37.5% of total assets as of December 31, 2018. Further, at that date there were significant sources of liquidity within our balance sheet in the form of cash and cash equivalents, short-term investments securities purchased under agreement to resell and investments (excluding held-to-maturity investments) amounting to \$6.4 billion, or 59.3%, of total assets.

An important element of our liquidity management is our liquidity contingency plan which can be employed in the event of a liquidity crisis. The objective of the liquidity contingency plan is to ensure that we maintain our liquidity during periods of stress. This plan takes into consideration a variety of scenarios that could challenge our liquidity. These scenarios include specific and systemic events that can impact our on-and off-balance sheet sources and uses of liquidity. This plan is reviewed and updated at least annually.

Credit Risk

Credit risk is defined as the risk that unexpected losses arise as a result of the Group's borrowers or market counterparties failing to meet their obligations to repay. Credit risk is managed through the Group credit risk management department ("GCRM"). GCRM provides a system of checks and balances for our diverse credit-related activities by establishing and monitoring all credit-related policies and practices throughout the Group and assuring their uniform application. These activities are designed to diversify credit exposure on an industry and client basis, thus lessening overall credit risk. These credit management activities also apply to our use of derivative financial instruments, including foreign exchange contracts and interest rate risk management instruments, which are used primarily to facilitate client transactions.

Individual credit authority for commercial and other loans is limited to specified amounts and maturities. Credit decisions involving commitment exposure in excess of the specified individual limits are submitted to GCRM and then to the GCC, which provides a forum for ongoing executive review of loan activity, establishing our credit guidelines and policies and approving selected credit transactions in accordance with our business objectives. The committee reviews large credit exposures, establishes and reviews credit strategy and policy and approves selected credit transactions. The Financial Institutions Committee ("FIC") manages counterparty risk in respect of (third party) bank counterparties which do not have commercial credit relationships within the Group and also approves country exposure limits.

As part of our ongoing credit granting process, internal ratings are assigned to commercial clients before credit is extended, based on an assessment of creditworthiness. At least annually, a review of all significant credit exposures is undertaken to identify, at an early stage, clients who might be facing financial difficulties. Internal borrower risk ratings are also reviewed during this process, allowing identification of adverse individual borrower and sector trends.

An integral part of the GCRM function is to formally review past due and potential problem loans to determine which credits, if any, need to be placed on non-accrual status or charged off. The allowance for loan losses is reviewed monthly to determine the amount necessary to maintain an adequate provision for credit losses.

Another way credit risk is managed is by requiring collateral. Management's assessment of the borrower's creditworthiness determines whether collateral is obtained. The amount and type of collateral held varies but may include deposits held in financial institutions, mutual funds, US Treasury securities, other marketable securities, income-producing commercial properties, accounts receivable, residential real estate, property, plant and equipment, and inventory. Values of variable collateral are monitored on a regular basis to ensure that they are maintained at an appropriate level.

Credit Risk — Retail and Private Banking

Retail and private lending activity is split between residential mortgages, personal loans, credit cards and authorized overdrafts. Retail credit risks are managed in accordance with limits and processes set out in the credit risk policies and guidelines approved by GCC and GRC (and ratified by the Board). The policies set out where specialist underwriting may be needed.

For residential mortgages, a combination of lending policy criteria, lending guidelines and underwriting are used to make a decision on applications for credit. The primary factors considered are affordability, residential status, residential history, credit history, employment history, nature of income and loan-to-value of the residential property. In addition, confirmation of a borrower's identity is obtained and an assessment of the value of the collateral carried out prior to granting a credit facility. When considering applications the primary focus is placed on the willingness and ability to repay.

Loan-to-value ("LTV") ratios are derived based on third-party valuations as part of the original underwriting or when increased borrowing has been requested. Updated valuations are not otherwise obtained unless the loan reaches non-accrual status. Non-accrual loans which are collateral-dependent on real estate must be supported by a third-party valuation no older than 12 months. Specific provisions are calculated as the amount by which non-accrual loan principal exceeds the value of the supporting real estate, after application of a haircut for the estimated costs of sale. Costs of sale for commercial properties are calculated based on individual circumstances, whereas the haircuts for residential real estate are prescribed in lending guidelines by geographic location and are never less than 15% of the valuation amount.

As valuations are conducted throughout the year, the rolling average age of the valuations is closer to 6 months than 12 months. In addition, on at least a quarterly basis, impairment levels are adjusted for any changes in non-accrual principal.

To further ensure that valuations within the 12-month revaluation period remain appropriate measures for impairment, we: (1) compare renewal valuations to the prior valuation to track market movement; (2) back-test all sales to compare net carrying value versus any additional gain/loss at the time of sale; (3) segregate the tests described in (1) and (2) by Bermuda geographic area and, where required, amend provision factors accordingly; and (4) perform a review of new valuations to ascertain such valuations' reasonableness and determine if any change in value may impact similar properties or locations where valuations are more stale-dated and require an adjustment to the impairment level.

The Bank performs an annual assessment of group residential LTV ranges as part of its stress-testing exercise for regulatory and capital-adequacy purposes. Real estate indices are not available in the Bank's primary markets and LTV values are based on standard reductions in value over time, based on observed market activity.

Generally, maximum LTV for new residential and commercial loans follow:

	Bermuda	Cayman	UK—London
Residential:			
Owner-occupied freehold	80%	85%	65%
Owner-occupied leasehold condominium	80%	85%	65%
Investment (not owner-occupied)	65%	75%	65%
Raw land	50%	80%	n/a
Commercial Real Estate	65%	65%	n/a

For other retail lending products, similar lending policy criteria are used, and each of these products has its own policy and underwriting guidelines to enable decisions on applications for credit and to manage accounts. The factors used are attuned to the lending product in question, although affordability and credit history are considered in all cases. Ongoing monitoring of all retail and private banking credit is undertaken by the business unit concerned as well as by GCRM. In addition, the GCC reviews reports on a weekly basis. In the event that particular exposures show adverse features such as arrears, the Bank's specialist recovery teams generally work with borrowers to resolve the situation.

Unlike the United States where the Fair Credit Reporting Act ("FCRA") is designed to help ensure that credit bureaus furnish correct and complete information when evaluating loan applications, the markets in which we operate do not have systemic credit bureau reports. Therefore, we manually review each loan and we use a formally governed tiered credit approval process that is administered through and governed by our risk management framework.

Credit Risk — Commercial Banking

Commercial credit risks are managed in accordance with limits and asset quality measures set out in the credit risk policies and guidelines approved by GCC (and ratified by the Board).

In respect of commercial banking, there is a level of delegated sanctioning authority to underwrite certain credit risks based upon an evaluation of the borrower's experience, track record, financial strength, ability to repay, transaction structure and security characteristics. Lending decisions for large or high risk exposures are based upon a thorough credit risk analysis and the assignment of an internal borrower risk rating, and are subject to further approval by the assigned officers in GCRM or the GCC.

Consideration is also given to risk mitigation measures which will provide the Group with protection, such as third-party guarantees, supporting collateral and security, legal documentation and financial covenants. Commercial portfolio asset quality monitoring is based upon a number of measures, including the monitoring of financial covenants, cash flows, pricing movements and variable collateral. In the event that particular exposures begin to show adverse features such as payment arrears, covenant breaches or business trading losses, a full risk reassessment is undertaken. Where appropriate, a specialist recovery team will work with the borrower to resolve the situation. If this proves unsuccessful, the case will be subject to intensive monitoring and management procedures designed to maximize debt recovery.

Credit Risk — Treasury

Treasury credit risks are managed in accordance with limits, asset quality measures and criteria set out within the policy approved by the GCC and ratified by the Board. The policy also sets out powers which require higher levels of authorization according to the size of the transaction or the nature of the associated risk. The financial institutions committee identifies, assesses, prioritizes and manages our risks associated with counterparty exposure to other financial institutions, as well as country-specific exposures.

Exposures to financial institutions arise within the Group's investment portfolio and treasury operations. The Group has treasury operations in all of its banking locations. Treasury exposures primarily take the form of deposits with banks and foreign exchange positions. Exposures to financial institutions in the investment portfolio can take the form of bonds, floating rate notes and or certificates of deposit.

Diversification and avoidance of concentration is emphasized. The Group establishes limits for countries and each financial institution where there is an expected exposure. Ongoing asset quality monitoring is undertaken by Treasury and GCRM. reports are sent to the FIC, GCC and the GRC on a monthly basis. Exception reporting takes place against a range of asset quality triggers. Treasury uses a number of risk mitigation techniques including netting and collateralization agreements. Other methods (such as margining and derivatives) are used periodically to mitigate the risk associated with particular transactions or group of transactions.

For its exposure to treasury credit risk, the Group uses Standard and Poor's ("S&P"), Fitch and Moody's as external credit assessment institutions as permitted under Basel II for sovereign, financial institutions, asset-backed securities, covered bonds and corporate risks. With regard to financial institutions and corporates, the Group's preference for a long-term rating is the senior unsecured rating. However, counterparty ratings and/or short-term deposit or commercial paper ratings are used if this is unavailable. For asset-backed securities, the issue or tranche rating is used.

Exposures

The following tables analyze the Group's regulatory credit risk exposures as of December 31, 2018 and December 31, 2017. Exposures are allocated to specific standardized exposure portfolios determined by the BMA's Revised Framework for Regulatory Capital Assessment and it is these portfolios that determine the risk weights used. These exposures include both on and off-balance sheet exposures, with the latter shown separately after credit conversion factors have been applied.

Analysis of exposures class (in millions of \$)	Average Exposure 2018	Position as of December 31, 2018	Average Exposure 2017	Position as of December 31, 2017
Cash	45.0	38.4	51.5	44.4
Claims on Sovereigns	528.1	331.2	965.2	618.4
Claims on Public Sector Entities	102.4	101.9	102.9	99.9
Claims on Corporates	628.1	609.2	527.9	589.3
Claims on Banks and Securities Firms	1,513.0	1,877.7	1,532.2	1,531.8
Securitized	4,351.4	4,121.2	4,154.3	4,354.5
Retail Loans	216.2	222.1	211.6	211.9
Residential Mortgages	2,531.0	2,626.5	2,368.5	2,462.9
Commercial Mortgages	515.4	487.1	551.9	527.0
Past Due Loans	42.5	45.2	47.3	39.1
Other Balance Sheet Exposures	247.8	235.1	254.6	250.9
Non - Market Related Off-Balance Sheet Credit Exposures	367.2	379.8	380.5	406.4
Market Related Off - Balance Sheet Credit Exposures	60.1	51.3	71.0	48.2
Total	11,148.2	11,126.7	11,219.4	11,184.7

Geographic segment distribution of exposures class as of December 31, 2018 (in millions of \$)

	Bermuda	Cayman	Channel Islands & UK	Other	Total
Cash	21.7	16.7	—	—	38.4
Claims on Sovereigns	203.5	30.0	97.7	—	331.2
Claims on Public Sector Entities	93.0	8.9	—	—	101.9
Claims on Corporates	362.3	161.9	85.0	—	609.2
Claims on Banks and Securities firms	592.2	874.7	405.5	5.3	1,877.7
Securitized	2,358.9	1,601.9	160.4	—	4,121.2
Retail loan	106.7	111.6	3.8	—	222.1
Residential Mortgages	1,089.6	554.3	982.6	—	2,626.5
Commercial Mortgages	301.0	174.1	12.0	—	487.1
Past Due Loans	41.9	3.3	—	—	45.2
Other Balance Sheet Exposures	141.1	61.9	25.7	6.4	235.1
Non - Market Related Off-Balance Sheet Credit exposures	180.9	165.1	33.8	—	379.8
Market Related Off-Balance Sheet Credit Exposures	29.0	18.0	4.3	—	51.3
Total	5,521.8	3,782.4	1,810.8	11.7	11,126.7

Residual maturity breakdown of exposures class as of December 31, 2018 (in millions of \$)

	Up to 12 months	1 - 5 years	More than 5 years	No specific maturity	Total
Cash	38.4	—	—	—	38.4
Claims on Sovereigns	274.3	56.9	—	—	331.2
Claims on Public Sector Entities	—	95.4	6.5	—	101.9
Claims on Corporates	148.0	320.6	140.6	—	609.2
Claims on Banks and Securities firms	1,813.5	64.2	—	—	1,877.7
Securitized	—	11.1	4,110.1	—	4,121.2
Retail loan	156.5	49.1	16.5	—	222.1
Residential Mortgages	160.6	880.1	1,585.8	—	2,626.5
Commercial Mortgages	20.7	165.5	300.9	—	487.1
Past Due Loans	10.0	4.1	31.1	—	45.2
Other Balance Sheet Exposures	—	—	—	235.1	235.1
Non - Market Related Off-Balance Sheet Credit exposures	379.8	—	—	—	379.8
Market Related Off-Balance Sheet Credit Exposures	51.3	—	—	—	51.3
	3,053.1	1,647.0	6,191.5	235.1	11,126.7

The table below details the mappings between the main Fitch and Moody's external credit assessment institutions used by the Group and the credit quality steps used to determine the risk weightings applied to rated counterparties. Where no external rating is used in the risk weighted assets calculation, the unrated credit quality step applies.

Credit quality step	Fitch's assessment	Moody's assessment	S&P's assessment
Step 1	AAA to AA-	Aaa to Aa3	AAA to AA-
Step 2	A+ to A-	A1 to A3	A+ to A-
Step 3	BBB+ to BBB-	Baa1 to Baa3	BBB+ to BBB-
Step 4	BB+ to BB-	Ba1 to Ba3	BB+ to BB-
Step 5	B+ to B-	B1 to B3	B+ to B-
Step 6	CCC+ and below	Caa1 and below	CCC+ and below

Impairment Provisions

Credit Risk Concentrations

Concentration risk is defined as: any single exposure or group of exposures with the potential to produce losses large enough (relative to the Group's capital, total assets or overall risk level) to threaten the Group's health or ability to maintain core operations. The management of concentration risk is addressed in the first instance by the Group's large exposure policy and related credit guidelines, which require that credit facilities to entities that are affiliated through common ownership or management are aggregated for adjudication and reporting purposes. The policy also defines what constitutes a large exposure and the related reporting requirements. The GCRM function also undertakes monitoring and assessment of our exposure to concentration risk, reporting the results of these analyses to the GCC, the GRC and RPC.

The factors taken into consideration when assessing concentration risk are as follows:

- single or linked counterparty;
- industry or economic sector (e.g., hospitality, property development, commercial office building investment);
- geographic region;
- product type;
- collateral type;
- maturity date (whether of the facility or of interest rate fixes).

Counterparty Concentrations

Counterparty concentrations is the risk associated with assuming a high level of exposure to a single counterparty, the failure of which could have an adverse impact on the Group.

Large exposures are reviewed quarterly by the GRC and RPC for the loan portfolio and the treasury/investment portfolios. GCRM and Treasury work closely together on daily treasury positions and exceptions.

All large exposures and concentrations in the portfolio are reviewed and agreed by the FIC on a quarterly basis and are reported to the Board as a part of this process. The review of large exposures considers:

- facility total;
- any link with other facilities;
- total linked facility being within guidelines;
- borrower risk rating;
- security value on the facility;
- loan-to-value percentage against minimum security covenants.

Industry Concentration

Industry concentration encompasses the scenario that a risk factor inherent within an industry is tied to an entire portfolio of accounts or investments; e.g., a portfolio made up of a large number of small individual loans where all the counterparties are hotel operators. We believe that due to the nature of the Group's client base our exposure to the property, insurance and fund sectors could be classified as industry concentration, although geographic and product concentration are the more appropriate risks to measure.

Geographic Concentration

Geographic concentration of the book is monitored as follows. Reports are generated which provide details of all the property loan exposure of the Group. Through this, loans are subdivided into regional exposure. From this, the percentage breakdown per region of the Group's property exposure is analyzed and reported to the GRC and RPC. Assessment of the exposure allows the committees to decide whether the Group should decline further lending in any area in which it is becoming over-weighted.

Product Concentration

Product concentration is defined in the context of credit risk, as an over-weighting in the portfolio to a given product type, making the Group vulnerable to the impact of a variety of external factors that could either reduce demand for the product itself or lead to an increase in the level of default rates experienced. We operate as a full service bank in Bermuda and Cayman and aim to satisfy the requirements of our customers in these communities through the range of products and services we offer. Accordingly, there is no dependence or concentration on a single product in these markets outside of the residential mortgage portfolios, which comprised 65.4% of the Group's loan book as of December 31, 2018 (compared to 65.4% as of December 31, 2017); in Bermuda, residential mortgage lending made up 57.1% of the Bermuda loan book as of December 31, 2018 (compared to 58.5% as of December 31, 2017), and loans for many purposes (education, business support, family requirements) were made in the form of residential mortgages. Product category analysis confirms that the total lending portfolio is concentrated in the property market; this has been addressed in stress testing performed.

Collateral Concentration

Collateral concentration considers whether the Group's loan book is secured by a limited number of collateral types. An example of this would be when a large value of loans to a diversified group of borrowers is all secured by shares in the same company or by the shares of various companies within the same industry sector. Any decline in the value of these shares or in the performance of the sector as a whole could have an adverse impact on the Group's security position across all affected borrowers. The most obvious and relevant example of collateral concentration is the Group's exposure to real estate property values. Ignoring cash-backed facilities, the largest collateral concentrations within the portfolio are to residential and commercial property. The greatest risk with collateral concentration is that the value of the security could be severely reduced. To simulate this, the Group's stress testing process incorporates a scenario in which all real estate collateral is devalued by factors as high as 30%.

Credit Risk Mitigation

The Group uses a wide range of techniques to reduce credit risk of its lending. The most basic of these is performing an assessment of the ability of a borrower to service the proposed level of borrowing without distress. However, the risk can be further mitigated by obtaining security for the funds advanced.

Residential Mortgages

Residential property is the Group's main source of collateral and means of mitigating credit risk inherent in the residential mortgage portfolio. All mortgage lending activities are supported by underlying assumptions and estimated values received by independent third parties. All residential property must be insured to cover property risks through a third party.

Commercial

Commercial property is one of the Group's primary sources of collateral and means of mitigating credit risk inherent in its commercial portfolios. Collateral for the majority of commercial loans comprises first legal charges over freehold or long leasehold property but the following may also be taken as security: life insurance policies; credit balances assignments; share guarantees; equitable charges; debentures; chattel mortgages and charges over residential property.

For property-based lending, supporting information such as professional valuations are an important tool to help determine the suitability of the property offered as security and, in the case of investment lending, generating the cash to cover interest and principal payments. All standard documentation is subject to in-house legal review and sign-off in order to ensure that the Group's legal documentation is robust and enforceable. Documentation for large advances may be specifically prepared by independent solicitors. Insurance requirements are always fully considered as part of the application process and the Group ensures that appropriate insurance is taken out to protect the property against an insurable event.

Treasury

Collateral held as security for treasury assets, including investments, is determined by the nature of the instrument. Loans, debt securities, treasury and other eligible bills are generally unsecured with the exception of asset-backed securities and similar instruments, which are secured by pools of financial assets. The International Swaps and Derivatives Association ("ISDA") Master Agreement is the Group's preferred method of documenting derivative activity. It is common in such cases for a Credit Support Annex to be executed in conjunction with the ISDA Master Agreement in order to mitigate credit risk on the derivatives portfolio. Valuations are performed, agreed with the relevant counterparties, and collateral is exchanged to bring the credit exposure within agreed tolerances. From January 1, 2017, the Exposure at Default ("EAD") value to the counterparty is measured under the standardised approach for measuring counterparty credit risk exposures ("SA-CCR") method (previously the Current Exposure Method). The EAD value is derived by adding the gross positive fair value of the contract (replacement cost) to the contracts potential future credit exposure, which is derived by applying a multiple base on the contracts residual maturity to the notional value of the contract, and applying an alpha of 1.4 to the sum of these components.

The following table shows the exposures to counterparty credit risk for derivative contracts as of December 31, 2018 and December 31, 2017:

(in millions of \$)	Gross Positive Fair Value of Contracts as of December 31, 2018	Potential Future Credit Exposure as of December 31, 2018	Alpha as of December 31, 2018	EAD Value as of December 31, 2018	Gross Positive Fair Value of Contracts as of December 31, 2017	Potential Future Credit Exposure as of December 31, 2017	Alpha as of December 31, 2017	EAD Value as of December 31, 2017
Spot and forward foreign exchange and currency swap contracts	13.6	23.0	1.4	51.2	11.3	23.1	1.4	48.2
Other market-related contracts	—	—	—	—	—	—	—	—
Total	13.6	23.0	—	51.2	11.3	23.1	1.4	48.2

Securitizations

The Bank has not, to date, securitized assets that it has originated. The Bank's total exposure to purchased securitization positions as of December 31, 2018 was \$4.1 billion by market value (compared to \$4.3 billion as of December 31, 2017), with US Government and federal agencies accounting for the majority of this exposure.

The following table provides an analysis of the Bank's investments in securitization positions by exposure type as of December 31, 2018 and December 31, 2017:

Underlying asset type (in millions of \$)	Exposure Value as of December 31, 2018	Exposure Value as of December 31, 2017
US government and federal agencies	3,828.3	4,014.9
Mortgage backed securities — Commercial	123.6	141.9
Mortgage backed securities — Retail	156.7	185.2
Asset-backed securities — Student loans	12.6	12.5
Total	4,121.2	4,354.5

A combination of ratings published by Fitch, Moody's and S&P are used to derive the external rating to be used under the standardized approach for securitization exposures. In line with the BMA's revised framework for regulatory capital assessment, where two credit assessments by Fitch and Moody's as external credit assessment

institutions are available, the less favorable of the two credit assessments is applied. Where more than two credit assessments are available, the two most favorable credit assessments are used and where the two most favorable assessments are different, the less favorable of the two is applied.

The following table shows the aggregate amount of the Bank's purchased securitizations as of December 31, 2018 and December 31, 2017 broken down by risk weighting:

Risk Weight % (in millions of \$)	Exposure Value as of December 31, 2018	Exposure Value after Credit Risk Mitigation as of December 31, 2018	Exposure Value as of December 31, 2017	Exposure Value after Credit Risk Mitigation as of December 31, 2017
20%	4,121.2	2,207.0	4,354.5	2,606.2
50%	—	—	—	—
100%	—	—	—	—
350%	—	—	—	—
Look through to underlying assets	—	—	—	—
Total	4,121.2	2,207.0	4,354.5	2,606.2

Operational Risk

In providing our services, we are exposed to operational risk. This is the risk of loss from inadequate or failed internal processes and systems, actions or inactions of people, or from external events. Operational risk is inherent in our activities and can manifest itself in various ways including fraudulent acts, business interruptions, inappropriate behavior of employees, unintentional failure to comply with applicable laws and regulations, cyber-security incidents and privacy breaches or failure of vendors to perform in accordance with their arrangements. These events could result in financial losses, litigation and regulatory fines, as well as other damage to us. Our risk management goal is to keep operational risk at appropriate levels consistent with our risk appetite, financial strength, the characteristics of our businesses, the markets in which we operate and the competitive and regulatory environment to which we are subject.

As we continue to expand our use of technology, we are exposed to various forms of cyber-attacks. We have taken significant steps to mitigate cyber threats, and we devote significant resources to maintain and regularly upgrade our systems and networks and review the ever changing threat landscape. In addition to the policy reviews, we continue to look to implement technology solutions that enhance preventive and detection capabilities and our ability to recover quickly should a successful cyber-attack occur. We assess our third-party vendor controls and have a developed business continuity plan. We also maintain insurance coverage that may, subject to policy terms and conditions, cover certain aspects of cyber risks. However, such insurance may be insufficient to cover all losses.

Operational risk is mitigated through internal controls embedded in our business activities and our risk management practices, which are designed to continuously reassess the effectiveness of these controls in order to keep the risk we assume at levels appropriate to our risk appetite as approved by the Board. Data on operational losses and any significant control failures incurred are captured through an incident reporting process. These events are reported to both the GRC and RPC, which assess the sufficiency of the corrective actions taken by management to prevent recurrence. Both committees also receive regular reporting on actual performance against established risk tolerance metrics.

Capital Adequacy Management

Effective January 1, 2015 the BMA adopted capital and liquidity requirements consistent with Basel III. These requirements are contained within the BMAs "Basel III for Bermuda Banks November 2017 Rule Update" and can be found on their website.

One of management's primary objectives is to maintain the confidence of our clients, bank regulators and shareholders. A strong capital position helps the Group to take advantage of profitable investment opportunities and withstand unforeseen adverse developments. The Group manages its capital both on a total Group basis and, where appropriate, on a legal entity basis. The finance department has the responsibility for measuring, monitoring and reporting capital levels within guidelines and limits established by the RPC. The management of capital will also involve regional management to ensure compliance with local regulation. In establishing the guidelines and limits for capital, a variety of factors are taken into consideration, including the overall risk of the business in stressed scenarios, regulatory requirements, capital levels relative to our peers, and the impact on our credit ratings.

Capital Assessment and Risk Profiling ("CARP")

Under the requirements of Basel II as implemented by the BMA, the Group undertakes a CARP process, which is an internal assessment of all material risks to determine our capital needs. This internal assessment takes account of the minimum capital requirement and other risks not covered by the minimum capital requirement (Pillar II). Where capital is deemed as not being able to mitigate a particular risk, alternative management actions are identified and described within the CARP. The CARP is presented to the RPC before being presented to the Board for challenge and approval and then submission to the BMA. The CARP process is performed annually or more frequently should the need arise.

A supervisory assessment process ("SAP") is then undertaken annually by the BMA, which is designed to assess the Group's risk profile as documented in the CARP. This assessment is used to determine and set the Individual Capital Guidance which is the minimum level of capital the Group will be required to hold until the next SAP review is conducted.

SUPERVISION AND REGULATION

Bermuda

The Bank is subject to regulation and supervision by the Bermuda Monetary Authority (the "BMA") under:

- the Bermuda Monetary Authority Act 1969;
- the Banks and Deposit Companies Act 1999;
- the Trusts (Regulation of Trust Business) Act 2001;
- the Investment Business Act 2003;
- the Exchange Control Regulations 1973;
- the Corporate Services Provider Business Act 2012; and
- the Deposit Insurance Act 2011 and the Deposit Insurance Rules 2016.

The Bank is also subject to regulation by the Minister of Finance in Bermuda under the Companies Act 1981.

Supervision and Monitoring by the BMA

Our activities are regulated by the BMA and our ability to engage in certain activities are subject to prior approval by the BMA. One of the principal objectives of the BMA is to supervise, regulate and inspect financial institutions which operate in or from within Bermuda and further to promote the financial stability and soundness of such financial institutions. The supervision is primarily for the benefit and protection of the Bank's clients and not for the benefit of our investors. The BMA is also responsible for managing and regulating transactions in foreign currency or gold.

In addition to conducting on-site reviews, the BMA utilizes a comprehensive quarterly statistical return system that enables off-site monitoring of institutions licensed under the BDCA. The statistical system, which follows the standards imposed on banks in the United Kingdom by the Financial Conduct Authority and is consistent with Basel Committee Standards, provides the BMA with a detailed breakdown of a bank's balance sheet and profit-and-loss accounts on both a consolidated and unconsolidated basis. This information enables the BMA to monitor the soundness of a bank's financial position and ensure that it meets certain capital requirements.

As the Bank's supervisory authority in Bermuda, the BMA is responsible for the consolidated supervision of our worldwide operations. There are also host regulatory bodies performing a similar function to that of the BMA in all major locations in which the Bank operates. Many of these local authorities require detailed reporting on the activities of the Bank's subsidiaries located in their jurisdictions. As part of its oversight process, the BMA receives copies of each of these reports on a regular basis and liaises with the regulatory authorities in the respective locations.

From time to time, in the ordinary course of business, the Bank enters into agreements with the BMA under which the Bank agrees to achieve or maintain certain levels of capital and to obtain the BMA's prior approval to take certain corporate actions. Certain actions that may not be taken without prior BMA approval include: (1) creating or increasing the authorized amount of, or issuing any class of shares, (2) repurchasing any class of shares and (3) entering into a material acquisition.

Under the market disclosure requirements (referred to as Pillar III disclosures) applicable under the Basel III Accord ("Basel III"), the Bank is required to publish information about the risks to which it is exposed. Effective as of January 1, 2015, the BMA adopted capital and liquidity regulatory requirements consistent with Basel III, a framework released by the BCBS. Basel III aims to raise the quality, consistency and transparency of the capital base, limit the build-up of excess leverage and increase capital requirements for the banking sector. Basel III adopts CET1 capital as the predominant form of regulatory capital with the CET1 ratio as a new metric. Basel III also adopts the new LCR and NSFR regimes.

The Basel III regulatory framework adopts a phased implementation approach for Bermuda banks with full implementation on January 1, 2019, consistent with BCBS recommendations. When fully phased-in, the Bank will be subject to the following requirements:

- adopting CET1 as the primary and predominant form of regulatory capital, with a requirement of CET1 of at least 7.0% of RWA, inclusive of a minimum CET1 ratio of 4.5% and the new capital conservation buffer of 2.5%, but excluding the D-SIB surcharge described below. The BMA has allowed Bermuda banks to make the one-time irrevocable election to exclude other comprehensive income on their available-for-sale portfolios from CET1;
- adopting a Tier 1 capital requirement of at least 8.5% of RWA, inclusive of a minimum Tier 1 ratio of 6% and the new capital conservation buffer of 2.5% but excluding the D-SIB surcharge described below;
- adopting a total capital requirement of at least 105% of RWA, inclusive of a minimum total capital ratio of 8% and the new capital conservation buffer of 2.5% but excluding the D-SIB surcharge described below;
- the Bank will be considered to be a D-SIB and will be subject to a 3% surcharge composed of CET1-eligible capital implemented by the BMA effective September 30, 2015. This is based upon its assessment of the extent to which the Bank (individually and collectively with the other Bermuda banks) poses a degree of material systemic risk to the economy of Bermuda due to its role in deposit taking, corporate lending, payment systems and other core economic functions;
- providing for the inclusion of a countercyclical buffer to be introduced when macro-economic indicators provide an assessment of excessive credit or other pressures building in the banking sector, potentially increasing the CET1, Tier 1 and total capital ratios by up to 2.5%;
- adopting the introduction of a 5% leverage ratio as calculated in Basel III;
- adopting the LCR implementation timetable consistent with that published by Basel III, with a minimum requirement of 60%, rising in equal annual steps to 100% by January 1, 2019; and
- adopting the NSFR as of January 1, 2018 with a minimum requirement of 100%.

The minimum capital ratio requirements set forth above do not reflect additional Pillar II add-on requirements that the BMA may impose upon us as a prudential measure from time to time. As of January 1, 2019 our minimum total capital ratio required by the BMA is 16.3% (inclusive of the minimum required total capital ratio of 10.5% as described above) and our minimum CET1 ratio requirement is 10.0%.

Bermuda Monetary Authority Act 1969

The Bermuda Monetary Authority Act 1969 established the Bermuda Monetary Authority as a statutory corporate body responsible for, among other things, supervising, regulating and inspecting any financial institution which operates in or from within Bermuda (which includes the Bank). Specific areas of financial regulation, such as the banking industry, are also the subject of separate, specific legislation (some of which is discussed below), but this specific legislation is nevertheless administered by the BMA in its supervisory capacity. In addition to its supervisory functions, both under the Bermuda Monetary Authority Act 1969 and the specific legislation discussed below, the BMA is empowered to assist foreign regulatory bodies by requiring entities supervised and regulated by the BMA to furnish information on demand to the BMA in connection with foreign regulatory requests.

Banks and Deposit Companies Act 1999

The Banks and Deposit Companies Act 1999 (the "BDCA") prohibits any person from carrying on a deposit-taking business in or from within Bermuda unless that person is a company incorporated in Bermuda and licensed by the BMA under the BDCA. The BDCA provides for three classes of licenses: banking licenses, restricted banking licenses and deposit company licenses. The Bank holds a banking license and a deposit company license. Unless otherwise permitted by the BMA, a company that holds a banking license must provide a range of minimum services to the public in Bermuda, including (without limitation) current accounts in Bermuda dollars, other deposit accounts, loan facilities in Bermuda Dollars, foreign exchange services and credit card or debit card facilities. A company holding a deposit company license typically offers a small range of services but, unless otherwise permitted by the BMA, must also provide some specified services to the public in Bermuda, including (without limitation) savings, deposit or other similar accounts in Bermuda Dollars and loans in Bermuda Dollars secured on mortgages of real property in Bermuda.

As the agency responsible for administering the BDCA, regulating deposit-taking businesses and protecting depositors, the BMA has broad authority to compel companies licensed under the BDCA to take or cease specific actions and comply with informational or access requests. Under the BDCA, the BMA can, or can compel these companies, including us to, among other things, do any or all of the following:

- provide such information as the BMA may reasonably require;
- submit a report prepared by the Bank's auditors or by an accountant or other person with professional skills on any matter about which the BMA could require us to provide information;
- produce documentation or other information as the BMA may reasonably require; and
- permit any officer, servant or agent of the BMA, on producing evidence of his authority, to enter the Bank's premises to obtain information and documents.

In addition, the BMA has the power to do any or all of the following:

- examine, copy or retain any documents relating to the Bank's deposit-taking business;
- require the Bank to take certain steps or to refrain from adopting or pursuing a particular course of action or to restrict the scope of the Bank's business in a particular way;
- appoint competent persons to investigate and report to the BMA on the Bank's business or the Bank's ownership and control;
- restrict the scope of a license or revoke a license; and
- vary, suspend or revoke the Bank's banking license and to give directions if it feels these are necessary to protect the Bank's depositors.

The Bank's failure to comply with any of the statutory requirements set forth in the BDCA could result in civil or criminal penalties.

The Bank is required to report certain transactions to the BMA. These include any transaction or transactions relating to any one person as a result of which the Bank would be exposed to a risk of incurring losses in excess of 10% of the Bank's available capital resources, or where the Bank proposes to enter into a transaction or transactions relating to any one person, which, either alone or together with previous transactions entered into by the Bank in relation to the same person, would result in the Bank being exposed to the risk of incurring losses in excess of 25% of its available capital resources. This also applies where the transaction relates to different persons if they are connected in such a way that the financial soundness of any of them may affect the financial soundness of the others or the same factors may affect the financial soundness of both or all of them. The BMA may extend the scope of this requirement to the Bank's subsidiaries even if these subsidiaries are not licensed under the BDCA as if the transactions and available capital resources of the Bank's subsidiaries were included in the Bank's available capital resources. For the purpose of the foregoing, the transactions which must be reported by the Bank to the BMA are those between the Bank and a person where:

- (a) that person incurs an obligation to the Bank or as a result of which such person may incur such an obligation;
- (b) the Bank will incur, or as a result of which it may incur, an obligation in the event of that person defaulting on an obligation to a third party; or
- (c) the Bank acquires or incurs any obligation to acquire, or as a result of which it may incur an obligation to acquire, an asset the value of which depends wholly or mainly on that person performing their obligations or otherwise on his financial soundness.

The risk of loss attributable to the transaction is, in a case within paragraph (a) or (b), the risk of the person concerned defaulting on the obligation there mentioned and, in a case within paragraph (c), the risk of the person concerned defaulting on the obligations there mentioned or of a deterioration in such person's financial soundness. The Bank's available capital resources may be determined by the BMA after consultation with it and in accordance with principles published by the BMA. It is an offense for the Bank to fail to make the required reports.

Under the BDCA, any person who becomes a significant shareholder of a deposit-taking institution, which is defined to include persons, either individually or with associates, who (i) hold 5% or more of the shares in the institution or another company of which it is a subsidiary company; or (ii) is entitled to exercise, or control the exercise of 5% or more of the voting power at any general meeting of the institution or of another company of which it is such a subsidiary, must notify the BMA in writing of that fact within seven days. Failure to provide the BMA with prompt and appropriate notice would constitute an offense that could result in a fine.

The BDCA prohibits a person from becoming a shareholder controller of any company licensed under the BDCA unless the person provides written notice to the BMA of his intent to do so and the BMA does not object. The definition of shareholder controller is set out in the BDCA but generally refers to a person who, among other things, either alone or with any associate or associates (within the meaning of the BDCA) (i) holds 10% or more of the shares in the licensed institution or another company of which it is a subsidiary company; or (ii) is entitled to exercise, or control the exercise of 10% or more of the voting power at any general meeting of the licensed institution or another company of which it is such a subsidiary. The BDCA distinguishes between shareholder controllers of the following threshold descriptions: "10% shareholder controllers," "20% shareholder controllers," "30% shareholder controllers," "40% shareholder controllers," "50% shareholder controllers," "60% shareholder controllers" and "principal shareholder controllers" who have a 75% or greater interest. A person who intends to become a shareholder controller, or a shareholder controller who intends to increase his shareholding/control, meaning generally, ownership of shares or the ability to exercise or control the exercise of voting rights attached to shares, beyond his present threshold, must provide written notice to the BMA that he intends to do so. It is an offense not to give this notice. The BMA may object to a person's notice of intent to become a shareholder controller of

any description or to an existing shareholder controller where it appears to the BMA that, among other things, such person is not or is no longer a fit and proper person to be such controller of the institution. If the BMA objects, the BMA will provide such person with written notice of its objection.

Prior to serving a notice of objection, the BMA shall serve the person seeking to become a shareholder controller of any description or existing shareholder controller seeking to increase their control with a preliminary written notice stating that the BMA is considering service on that person of a notice of objection, and that notice shall state among other things, the reasons for the BMA's proposed objection. The statement of the BMA's reasons for their proposed objection will, however, be subject to the BMA's determination that such statement would not involve the disclosure of confidential information, the disclosure of which would be prejudicial to a third party. A person served with a preliminary written notice may, within a period of 28 days beginning with the day on which the notice is served, make written representations to the BMA and the BMA shall take any such representations into account in deciding whether to serve a notice of objection.

If three months pass from the date of giving notice of intent to the BMA without the BMA serving a notice of objection, then the person may become a shareholder controller as requested in the notice of intent. In practice, the BMA's procedure is generally to respond to a shareholder controller notification of intent.

If a person becomes a shareholder controller or increases their shareholding/control in spite of the BMA's objection thereto, if a shareholder controller fails to comply with the foregoing notice requirements or if a shareholder controller continues as such after being given notice of objection to his or her being a shareholder controller, the BMA may take the actions specified in the BDCA, including revoking the relevant license where a 50%, 60% or principal shareholder controller is involved, or mandating that any specified shares become subject to one or more of the following restrictions:

- any transfer of or agreement to transfer those shares or, in the case of unissued shares, any transfer of or any agreement to transfer the right to be issued with them, will be void;
- no voting rights may be exercisable in respect of the shares;
- no further shares may be issued in right of them or pursuant to any offer made to their holder; or
- except in liquidation, no payment may be made of any sums due from the institution on the shares, whether in respect of capital or otherwise.

A court in Bermuda may, on the application of the BMA, order the sale of any such shares. Any person may appeal to a tribunal constituted under the BDCA for a review of a notice of objection given by the BMA as described above. However, this right of appeal does not apply to a person in any case in which such person has failed to give a notice or has become or continued to be a controller in contravention of the BDCA. In addition, if a person has had its license revoked or has been subject to any of the restrictions set forth above, the tribunal may confirm or reverse the decision which is the subject of the appeal but shall not have power to vary it except:

- where the decision was made to impose or vary any restriction, the tribunal may direct the BMA to impose different restrictions or to vary them in a different way; or
- where the decision was to revoke a license, the tribunal may direct the BMA to restrict it instead.

In the event that the BMA imposes any of the restrictions listed above, the restrictions may apply to:

- all shares of the institution where the person in question is a shareholder controller that (i) are held by him or any associate of his, and (ii) were not so held immediately before he became such shareholder controller of the institution; and
- all shares in another company where the person in question became a shareholder controller (i) as a result of the acquisition by him or any associate of his of shares in such other company, and (ii) the shares were not so held before he became a shareholder controller of such institution.

A company licensed under the BDCA must give written notice to the BMA in the event that any person has either become or ceased to be a director, controller or senior executive of such licensed company. The written notice is required to be given to the BMA within 14 days beginning with the day on which the licensed company becomes aware of the relevant change in director, controller or senior executive. The definition of "controller" is set out in the BDCA but generally refers to (i) a shareholder controller, a managing director or chief executive officer of the institution or of another company of which it is a subsidiary, or (ii) a person whose duties include directing the actions of the board of directors of the licensed company or of another company of which it is a subsidiary, or (iii) a person whose duties include directing the actions of any shareholder controller of the institution.

Trusts (Regulation of Trust Business) Act 2001

The principal purpose of the Trusts (Regulation of Trust Business) Act 2001 (the "Trusts Business Act"), is to regulate "trust business," which is generally defined as providing the services of a trustee as a business, trade, profession or vocation. Under the Trusts Business Act, a license is required to conduct trust business in or from within Bermuda. Licenses are designated either "unlimited" or "limited." Only bodies corporate are entitled to obtain unlimited licenses, which allow them to conduct trust business and solicit business from the public generally. At present, the Bank and certain of its subsidiaries hold unlimited licenses issued by the BMA pursuant to the Trusts Business Act. Pursuant to Section 6 of the Trusts Business Act, the BMA has published a Statement of Principles, in accordance with which it is acting or purporting to act with respect to the exercise of its powers under the Trusts Business Act, including (without limitation) the BMA's minimum licensing criteria, the grounds for revocation of licenses, the power to grant, revoke or restrict a license and the power to obtain information or require the production of documents. In addition, pursuant to Section 7 of the legislation, the BMA published a Code of Practice that provides guidance as to the duties, requirements, procedures, standards and principles to be observed by persons carrying on trust business under the Trusts Business Act.

The BMA's powers under the Trusts Business Act include (without limitation) the power to:

- impose conditions on a license with respect to scope and type of business, to protect a client or potential client of a licensee;
- revoke a license in certain circumstances including if the licensee has not complied with the licensing criteria; and
- request and obtain information from a licensee to ensure compliance with the Trusts Business Act, and to safeguard the interests of the licensee's clients.

The Trusts Business Act prohibits a person from becoming a 10% shareholder controller or a majority shareholder controller of a licensed company, unless such person provides written notice to the BMA of his intent to do so and the BMA does not object. It is an offense not to provide this notice. The definition of shareholder controller is set out in the Trusts Business Act, but generally refers to a person who, among other things, either alone or with any associate or associates (within the meaning of the Trusts Business Act) (i) holds 10% or more of the shares in the licensed company or another company of which it is a subsidiary company; or (ii) is entitled to exercise, or control the exercise of 10% or more of the voting power at any general meeting of the licensed company or another company of which it is such a subsidiary. A "majority shareholder controller" is defined under the Trusts Business Act as a shareholder controller which, among other things, (i) holds 50% or more of the issued and outstanding shares in the licensed company; or (ii) is entitled to exercise, or control the exercise of 50% or more of the voting power at any general meeting of the licensed company.

The BMA may object to a person's notice of intent to become a 10% shareholder controller or majority shareholder controller or may object to an existing shareholder controller of any description where it appears to the BMA that, among other things, such person is not or is no longer a fit and proper person to be such a controller of the

licensed company. If the BMA objects, the BMA will provide such person with a written notice of objection. Prior to serving any such notice of objection, the BMA shall serve the person seeking to become a shareholder controller or the existing shareholder controller with a preliminary written notice stating that the BMA is considering service on that person of a notice of objection, stating, among other things, the reasons for the BMA's proposed objection. The statement of the BMA's reasons for its proposed objection will, however, be subject to the BMA's determination that such statement would not involve the disclosure of confidential information, the disclosure of which would be prejudicial to a third party. A person served with a preliminary written notice may, within a period of 28 days beginning with the day on which the notice is served, make written representations to the BMA and the BMA shall take any such representations into account in deciding whether to serve a notice of objection.

If three months pass from the date of notifying the BMA of a new shareholder controller or an increased shareholding/control beyond a shareholder controller's then current threshold, without the BMA serving a notice of objection, then the person may become a shareholder controller as requested in the notice. In practice, the BMA's procedure is generally to respond to a person's shareholder controller notification.

If a person becomes a shareholder controller or increases their shareholding control, in spite of the BMA's objection thereto, if a shareholder controller fails to comply with the foregoing notice requirements or if a shareholder controller continues as such after being given notice of objection to his being a shareholder controller, the BMA may take certain actions, including revoking the relevant license where a shareholder controller holding 50% or more of the shares of the licensed company is involved or mandating that any specified shares become subject to one or more of the following restrictions:

- any transfer of or agreement to transfer those shares or, in the case of unissued shares, any transfer of or any agreement to transfer the right to be issued with them, will be void;
- no voting rights may be exercisable in respect of the shares;
- no further shares may be issued in right of them or pursuant to any offer made to their holder; or
- except in liquidation, no payment may be made of any sums due from the licensed company on the shares, whether in respect of capital or otherwise.

A court in Bermuda may, on the application of the BMA, order the sale of any such shares. Any person may appeal to a tribunal constituted under the Trusts Business Act for a review of a notice of objection given by the BMA as described above. However, this right of appeal does not apply to a person in any case in which such person has failed to give a notice or has become or continued to be a controller in contravention of the Trusts Business Act. In addition, if a person has had its license revoked or has been subject to any of the restrictions set forth above, the tribunal may confirm or reverse the decision which is the subject of the appeal but shall not have power to vary it except:

- where the decision was made to impose or vary any restriction, the tribunal may direct the BMA to impose different restrictions; or
- where the decision was to revoke a license, the tribunal may direct the BMA to restrict it instead.

In the event that the BMA imposes any of the restrictions listed above, the restrictions may apply to:

- all shares of the licensed company of which the person in question is a shareholder controller that (i) are held by him or any associate of his, and (ii) were not so held immediately before he became such shareholder controller of the licensed company; and
- all shares in another company where the person in question became a shareholder controller (i) as a result of the acquisition by him or any associate of his of shares in such other company, and (ii) the shares were not so held before he became a shareholder controller of such licensed company.

A company licensed under the Trusts Business Act must give written notice to the BMA in the event that any person has either become or ceased to be a controller or officer of such licensed company. The written notice is required to be given to the BMA within 14 days beginning with the day on which the licensed company becomes aware of the change in controller or officer. The definition of "controller" is set out in the Trusts Business Act but generally refers to (i) a shareholder controller, a managing director or chief executive officer of the licensed company or of another company of which it is a subsidiary, or (ii) a person whose duties include directing the actions of the board of directors of the licensed company or of another company of which it is a subsidiary, or (iii) a person whose duties include directing the actions of any shareholder controller of the licensed company. The definition of "officer" under the Trusts Business Act, includes a director, secretary or any senior executive.

Investment Business Act 2003

The Investment Business Act 2003 (the "Investment Business Act") prohibits any person from carrying on, or purporting to carry on, an investment business in or from within Bermuda unless that person holds a license granted under the Investment Business Act, or is exempted from holding a license. The Investment Business Act defines "investment business" broadly as the business of dealing in investments, arranging deals in investments, managing or offering investments and giving advice on investments.

Under the Investment Business Act, the BMA is given the authority to grant licenses and to supervise license holders. The BMA will only grant a license if it is satisfied that the applicant complies with licensing criteria set out in the Investment Business Act, which include (without limitation) that controllers and senior executives of the applicant are fit and proper persons to carry on such business, the applicant company's business is effectively directed by at least two individuals (unless the BMA otherwise approves), the Board of the applicant has a number of independent directors considered appropriate by the BMA, the applicant's business is conducted in a prudent manner, the position of the applicant in the group does not obstruct effective consolidated supervision and the applicant will carry on the investment business with integrity and professional skill appropriate to the nature and scale of its activities.

At the present time, the Bank's wholly owned subsidiaries Butterfield Trust (Bermuda) Limited, Butterfield Securities (Bermuda) Limited and Butterfield Asset Management Limited hold licenses under the Investment Business Act.

Under the Investment Business Act the BMA may require an accountant's report on a license holder or the appointment of an inspector to carry out an investigation into the affairs of a license holder and/or demand the production of documents or information relating to the investment business of a license holder. The Investment Business Act also grants the BMA broad powers to enforce the provisions of the Investment Business Act, including (without limitation) powers to issue directions, to vary, suspend or cancel a license, to appoint a custodian manager of an offending investment business, to levy fines and to seek from the court injunctions and restitution orders. If the BMA considers that an investment provider knowingly and willfully has breached any condition imposed on its license, the licensing criteria or any other duty or obligation under the Investment Business Act, or has been carrying on investment business in a manner detrimental to the interest of its clients and creditors, or contrary to the public's interests, the BMA may issue a direction of compliance, or vary, suspend or cancel the license of the investment provider, appoint a custodian manager to manage the investment business, impose civil penalties, or publicly censure an investment provider.

The Investment Business Act prohibits a person from becoming a 10% shareholder controller or a majority shareholder controller of an investment provider, unless such person provides written notice to the BMA of his intent to do so and the BMA does not object. It is an offense not to provide this notice. The definition of 10% shareholder controller is set out in the Investment Business Act, but generally refers to a person who, among other things, either alone or with any associate or associates (within the meaning of the Investment Business Act) (i) holds 10% or more of the shares in the investment provider or its parent undertaking; or (ii) is entitled to exercise, or control the exercise of 10% or more of the voting power in the investment provider or in the parent undertaking. A "majority shareholder controller" is defined under the Investment Business

Act as a shareholder controller which (i) holds 50% or more of the issued and outstanding shares in the investment provider or its parent undertaking; or (ii) is entitled to exercise, or control the exercise of 50% or more of the voting power in the investment provider or in the parent undertaking.

The BMA may object to a person's notice of intent to become a 10% shareholder controller or majority shareholder controller or to an existing shareholder controller of any description where it appears to the BMA that, among other things, such person is not or is no longer a fit and proper person to be such controller of the licensed company. If the BMA objects, the BMA will provide such person with a written notice of objection. Prior to serving any such notice of objection, the BMA serves the person seeking to become a shareholder controller or will serve an existing shareholder controller with a preliminary written notice stating that the BMA is considering service on that person of a notice of objection, stating, among other things, the reasons for the BMA's proposed objection. The statement of the BMA's reasons for their proposed objection will, however, be subject to the BMA's determination that such statement would involve the disclosure of confidential information, the disclosure of which would be prejudicial to a third party. A person served with a preliminary written notice may, within a period of 28 days beginning with the day on which the notice is served, make written representations to the BMA and the BMA shall take any such representations into account in deciding whether to serve a notice of objection.

If three months pass from the date of notifying the BMA of a new shareholder controller or an increased shareholding/control beyond a shareholder controller's then current threshold, without the BMA serving a notice of objection, then the person may become a shareholder controller as requested in the notice. In practice, the BMA's procedure is generally to respond to a person's shareholder controller notification.

If a person becomes a shareholder controller or increases their shareholding/control in spite of the BMA's objection to his becoming a shareholder controller or if a shareholder controller fails to comply with the foregoing notice requirements or if a shareholder controller continues as such after being given notice of objection to his being a shareholder controller, the BMA may take certain actions, including revoking the relevant license where a shareholder controller holding 50% or more of the shares of the licensed company is involved or mandating that any specified shares become subject to one or more of the following restrictions:

- any transfer of or agreement to transfer those shares or, in the case of unissued shares, any transfer of or any agreement to transfer the right to be issued with them, will be void;
- no voting rights may be exercisable in respect of the shares;
- no further shares may be issued in right of them or pursuant to any offer made to their holder; or
- except in liquidation, no payment may be made of any sums due from the investment provider on the shares, whether in respect of capital or otherwise.

A court in Bermuda may, on the application of the BMA, order the sale of any such shares. Any person may appeal to a tribunal constituted under the Investment Business Act for a review of a notice of objection given by the BMA as described above. However, this right of appeal does not apply to a person in any case in which such person has failed to give a notice or has become or continued to be a controller in contravention of the Investment Business Act. In addition, if a person has had its license revoked or has been subject to any of the restrictions set forth above, the tribunal may confirm or reverse the decision which is the subject of the appeal but shall not have power to vary it except:

- where the decision was made to impose or vary any restriction, the tribunal may direct the BMA to impose different restrictions or to vary them in a different way; or
- where the decision was to revoke a license, the tribunal may direct the BMA to restrict it instead.

In the event that the BMA imposes any of the restrictions listed above, the restrictions may apply to:

- all shares of the investment provider of which the person in question is a shareholder controller that (i) are held by him or any associate of his, and (ii) were not so held immediately before he became such shareholder controller of the investment provider; and
- all shares in another company where the person in question became a shareholder controller (i) as a result of the acquisition by him or any associate of his of shares in such other company, and (ii) the shares were not so held before he became a shareholder controller of such investment provider.

A company licensed under the Investment Business Act must give written notice to the BMA in the event that any person has either become or ceased to be a controller or officer of such investment provider. The written notice is required to be given to the BMA within 14 days beginning with the day on which the investment provider becomes aware of the change in controller or officer. The definition of "controller" is set out in the Investment Business Act but generally refers to a shareholder controller, a managing director or chief executive officer of the investment provider or of another company of which it is a subsidiary, or a person whose duties include directing the actions of any shareholder controller of the investment provider. The definition of "officer" under the Investment Business Act, includes a director, secretary or any senior executive.

Corporate Service Provider Business Act 2012

The Corporate Service Provider Business Act 2012 ("CSPB") regulates persons carrying on a corporate service provider business in Bermuda. "Corporate service provider business" in this context means the provision of any of the following services for a profit: (i) acting as a company formation agent; (b) providing nominee services, including (among other things) providing nominee shareholders; (c) providing administrative and secretarial services to companies or partnerships (including, among other things, providing a registered office and maintaining the books and records of a company or partnership); (d) performing functions in the capacity as a resident representative under various Bermuda statutes; and (e) providing any other corporate or administrative services as may be specified in regulations made under the CSPB. Under the CSPB, the Bank or any of its subsidiaries are required to hold a corporate service provider license to lawfully provide corporate services to our customers in Bermuda. Licensing under the CSPB is administered by the BMA.

Pursuant to the provisions of the CSPB any person who, together with their associates (within the meaning of the CSPB), intends to become either a shareholder controller or a majority shareholder controller of a CSPB licensed entity, must first serve notice of their intent to do so on the BMA and either receive a notice of non-objection from the BMA, or wait for the expiration of a three month period starting from the date of the notice to the BMA without the BMA having served a written notice of objection. A "shareholder controller" under the CSPB is any person who, either alone or with any associate or associates, (i) holds 10% or more of shares of the licensed entity (if it is a company) or 10% or more of another company of which the licensed entity is a subsidiary; (ii) is entitled to control or control the exercise of 10% or more of the voting power at any general meeting of the licensed entity (if it is a company) or of another company of which the licensed entity is a subsidiary; or (iii) is able to exercise a significant influence over the management of a licensed entity or of another company of which the licensed entity is a subsidiary by virtue of holding shares in or an entitlement to exercise or control the exercise of the voting power at any general meeting of either the licensed entity (if it is a company) or its holding company. A "majority shareholder controller" under the CSPB has the same meaning as limbs (i) and (ii) in the preceding sentence, save that the relevant percentage threshold for ownership is 50% or more.

In addition to the requirement to notify and obtain BMA non-objection (whether express or deemed) of any change in shareholder controller or majority shareholder controller of a CSPB licensed entity, if at any time it appears to the BMA that a person who is a "controller" of any description of a CSPB licensed entity is not a fit and proper person for such role, the BMA may serve a written notice of objection to that controller; provided that, before serving such a notice, the BMA must serve that person with a preliminary written notice stating that the BMA is considering service on that person of a notice of objection, specifying the reasons for which it appears to the BMA why that person is not or is no longer a fit and proper person and advising as to the rights of that person to make written representations to the BMA within 28 days beginning on the day

on which such notice is served, and that such written representations shall be taken into account by the BMA in deciding whether to serve a notice of objection. For these purposes a "controller" includes (i) a managing director of a licensed entity or the licensed entity's holding company; (ii) the CEO of the licensed entity or the licensed entity's holding company; and (iii) a person in accordance with whose directions or instruction the directors of the licensed entity (or its holding company) are accustomed to act. Upon determining that any individual is not a fit and proper person, the BMA may pass a prohibition order, thereby preventing that individual from exercising any functions in connection with any business requiring licensing under the CSPB. Furthermore, under the CSPB, a licensed entity is required to give written notice to the BMA of any person becoming or ceasing to be a controller or an "officer" (director, company secretary or senior executive) of the licensed entity.

Breaches of the CSPB are punishable by a range of criminal and civil penalties including fines, imprisonment and public censure; breaches can result in the licensed entity losing its license and therefore its ability to conduct corporate service provider business. The BMA is also empowered to restrict a controller's ability to sell any shares (and exercise any rights in respect of such shares) held by the controller in a CSPB licensed entity if they continue to be or become a controller following a notice of objection from the BMA.

Companies Act 1981

As a local company incorporated in Bermuda, the Bank is subject to the Companies Act 1981 (the "Companies Act"). Under section 114 of the Companies Act, no local company may carry on business of any sort in Bermuda unless, among other things, (i) it complies with the control and ownership requirements set out in Part I of the Third Schedule of the Companies Act; (ii) it is licensed under section 114B of the Companies Act and is carrying on such business in accordance with the terms and conditions imposed in such license; or (iii) its shares are listed on a designated stock exchange and the company is engaged as a business in a material way in a prescribed industry pursuant to section 114(1)(e) of the Companies Act.

In December 2000, the Minister of Finance issued to the Bank a license pursuant to section 114B of the Companies Act allowing the Bank to carry on business in Bermuda without complying with certain provisions of the Third Schedule to the Companies Act. Effective June 10, 2016, the Bank relinquished its section 114B license and carries on business in Bermuda without complying with the provisions of the Third Schedule in reliance upon the exemption in section 114(1)(e) of the Companies Act. The Bank qualifies for this statutory exemption by virtue of (i) the listing of the Bank's shares on the BSX, which is a "designated stock exchange" for the purposes of the Companies Act and (ii) the Bank's material business of banking, which is a "prescribed industry" for the purposes of the Companies Act.

Exchange Control

The Bank is designated as resident in Bermuda for exchange control purposes.

The BMA has given its consent for the issue and free transferability of all of the common shares to and are between non-residents of Bermuda for exchange control purposes, provided the Bank's shares remain listed on an appointed stock exchange, which includes the NYSE. Approvals or permissions given by the BMA do not constitute a guarantee by the BMA as to our performance or our creditworthiness. Accordingly, in giving such consent or permissions, the BMA shall not be liable for the financial soundness, performance or default of our business or for the correctness of any opinions or statements expressed in this report.

Financial Crime Regulation

Bermuda has enacted a number of laws relating to combating money laundering and terrorist financing. The Proceeds of Crime Act 1997 (as amended), the Anti-Terrorism (Financial and other Measures) Act 2004, the Proceeds (Anti-Money Laundering and Anti-Terrorist Supervision and Enforcement) Act 2008 and the Proceeds of Crime (Anti-Money Laundering and Anti-Terrorist Financing) Regulations 2008, the Financial Intelligence Agency Act 2007, and the Anti-Terrorism (Financial and Other Measures) (Businesses in Regulated Sector) Order 2008.

The Bank may be regulated together with its branches and subsidiaries in respect of anti-money laundering and anti-terrorist financing policies and procedures as a "financial group" if so designated by the Bermuda minister responsible for justice. Furthermore, under the Bribery Act 2016 of Bermuda, the Bank may be guilty of an offence if persons associated with the Bank (which can include the Bank's employees, agents or subsidiaries) bribe another person intending to obtain or retain business for the Bank or to obtain or retain an advantage in the conduct of business for the Bank. It is a defence to such offences if the Bank proves that it has in place adequate procedures designed to prevent persons associated with the Bank from undertaking such bribery.

Stamp Duty

Stamp duty is a tax in Bermuda imposed on written documents. The governing legislation is the Stamp Duties Act 1976, as amended (the "Stamp Duties Act"). The Stamp Duties Act sets out the instruments that are subject to stamp duty, which generally include certain instruments or documents as specified in the Stamp Duties Act that are executed in Bermuda or, if executed outside of Bermuda, are then brought into Bermuda.

There are certain limited stamp duty exemptions under the Bermuda Stock Exchange Company Act 1992 (the "BSX Act"), which extend to local companies, the securities of which are listed on the BSX. The Bank's common shares are currently listed on the NYSE and BSX. Pursuant to the BSX Act, the provisions of the Stamp Duties Act will not apply to any instrument which relates to (i) a conveyance or transfer on sale, (ii) a conveyance or transfer to effect or having the effect of a voluntary disposition *inter vivos*, or (iii) any agreement for the lending and borrowing, of any securities which are listed on the BSX. Accordingly, for so long as the common shares of the Bank remain listed on the BSX (and to the extent any other securities issued by the Bank are listed on the BSX), the forgoing stamp duty exemptions under the BSX Act would apply. However, dealings in the Bank's common shares beyond the limited exemptions under the BSX Act may attract stamp duty under various heads of the Schedule to the Stamp Duties Act. For example, ad valorem stamp duty may be payable (i) where security is granted over shares of the Bank, (ii) where shares of the Bank form part of a deceased's estate and probate is sought, and (iii) on a share certificate where the share is issued by the Bank for the first time at a premium in excess of the par value thereof.

The Stamp Duties Act prescribes the persons liable to pay the stamp duty, whether the amount of duty is a fixed or ad valorem amount and the time period in which the duty must be paid, depending on the nature of the instrument. The Stamp Duties Act also sets out the consequences for failure to stamp instruments which are subject to duty.

Generally, if a stampable document has been executed in Bermuda or has been executed outside of Bermuda and then brought into Bermuda and stamp duty is not paid, the document is not valid for any purpose (including registration) in Bermuda, until such time as it is stamped. In addition, a stampable document which is not stamped (i) is not admissible in court proceedings in Bermuda, except in criminal proceedings or stamp duty violation prosecutions; and (ii) may not be acted upon, filed, or registered by any public official or by any company. For any instrument which is liable to stamp duty that is not duly stamped, every person who is specified in the Stamp Duties Act as liable for stamping commits an offence.

Limits on Shareholding

Generally, limits are imposed by the Companies Act on the percentage of shares in a local company carrying on business in Bermuda which may be held by persons who are non-Bermudian as that term is defined in the Companies Act. As described above, although the Bank relies on an exemption under section 114(1)(e) of the Companies

Act to these ownership requirements and related control requirements, the bye-laws of the Bank currently restrict the voting rights of a person who is not "Bermudian" (as such term is defined in the Companies Act) and who is "interested" (as such term is defined in the bye-laws) in the shares of the Bank which constitute more than 40% of all shares then issued and outstanding is not entitled to vote the shares which are in excess of such 40% interest at any general meeting without the prior written approval of the Minister of Finance.

In addition, there are certain prior approval requirements pursuant to the BDCA, the Trusts Business Act and the Investment Business Act with respect to any person who seeks to become a "shareholder controller" (as defined in each of those Acts) of the Bank.

Deposit Insurance Scheme

Pursuant to the Deposit Insurance Act 2011 and the Deposit Insurance Rules 2016 of Bermuda, a Deposit Insurance Scheme ("DIS") has come into effect in Bermuda. The DIS is administered by the Bermuda Deposit Insurance Corporation. The DIS is designed to protect the deposits of individuals, charities, unincorporated associations, partnerships, sole proprietors and small businesses by guaranteeing up to \$25,000 of their aggregate Bermuda Dollar deposits in the event of a Bermuda deposit taking institution's failure. The DIS is backed by a Deposit Insurance Fund which is in turn funded from premium contributions that are payable by all banks and credit unions licensed by the BMA. As a bank licensed by the BMA, we are required to be a member of the DIS and pay contributions to the Deposit Insurance Fund. Currently, our premium contribution is calculated by the Bermuda Deposit Insurance Corporation as 0.25% per annum of the average total amount of our Bermuda Dollar deposits that are covered by the DIS guarantee over a rolling three-month period based on information disclosed by us to the Bermuda Deposit Insurance Corporation. Each contribution to the Deposit Insurance Fund (including the initial contribution) is payable every three months in arrears.

The Cayman Islands

The Cayman Islands Monetary Authority ("CIMA")

Our activities in the Cayman Islands are monitored by CIMA. CIMA is responsible for currency management, regulation and supervision of the Cayman Islands financial services sector (which includes securities and investments business, banking, insurance and fiduciary services), advice to the Cayman Islands government and cooperation with overseas regulatory authorities. CIMA's principal focus is to promote and maintain a sound financial system in the Cayman Islands and to promote and enhance market confidence, consumer protection and the reputation of the Cayman Islands as a financial center.

CIMA has broad statutory powers of enforcement. These powers are intended to permit CIMA to have access to information held or maintained by a licensee as necessary and to enable CIMA to take appropriate remedial action if a licensee is in default of its obligations under applicable laws.

Relevant Legislation/Regulations

Banks & Trust Companies Law (2018 Revision)

The Banks and Trust Companies Law (2018 Revision) (the "**BATCL**") provides that it is an offense to conduct banking business or trust business without the appropriate license. Bank of Butterfield (Cayman) Limited holds a category "A" banking license and a trust license, both issued by CIMA.

The BATCL is supplemented by certain regulations which, among other things, prescribe the fees that are payable by licensees and certain information that must be submitted to CIMA in connection with any license application.

Licensees must adhere to certain capital adequacy requirements and must file audited financial statements with CIMA within three months of their financial year-end. Prior written approval of CIMA is required in a number of circumstances including, but are not limited to, the issue, transfer or disposal of any shares, the appointment of a new director or senior officer or where the licensee wishes to conduct business that deviates from its business plan submitted at the time of its license application.

Securities Investment Business Law (2015 Revision), as amended

The Securities Investment Business Law (2015 Revision), as amended (the "**SIBL**") provides that a person shall not carry on, or purport to carry on, securities investment business in or from the Cayman Islands unless that person is for the time being licensed under SIBL or is exempted from the requirement to hold a license pursuant to SIBL. Butterfield Bank (Cayman) Limited holds a securities investment business license, issued by CIMA, to conduct its business.

SIBL is essentially designed to achieve the licensing and regulation of securities investment providers and applies to (i) any company, foreign company or partnership incorporated or registered in the Cayman Islands and carrying on "securities investment business" anywhere in the world, or (ii) any entity which has a "place of business" in the Cayman Islands through which "securities investment business" is carried on. The entity need not have a physical presence in the Cayman Islands in order for such entity to fall within the ambit of SIBL.

Certain activities are explicitly excluded that would otherwise fall within the definition of securities investment business. In addition, SIBL exempts certain persons who are engaged in securities investment business with, among other things, sophisticated or high net worth persons (as such terms are defined in SIBL) from the full licensing requirements of SIBL, provided that they file an annual declaration with CIMA and pay an annual fee.

Insurance Law, 2010 (as amended)

CIMA regulates the insurance industry in the Cayman Islands pursuant to the Insurance Law, 2010 (as amended) (the "**IL**"). Such regulation includes licensing, ongoing supervision, and enforcement.

Pursuant to the IL, a company is required to hold a license in order to carry on insurance or reinsurance business or business as an insurance agent, insurance broker or insurance manager in or from the Cayman Islands. Bank of Butterfield (Cayman) Limited (which is not itself an insurer) holds an insurance agent license, issued by CIMA, permitting it to solicit domestic business on behalf of not more than one general insurer and one long term insurer.

Companies Law (2018 Revision) as amended

Butterfield Bank (Cayman) Limited is an ordinary resident company incorporated in the Cayman Islands, meaning that, subject to it being licensed under the BTCL, it can carry on business within the Cayman Islands. Butterfield Bank (Cayman) Limited is required to comply with the requirements of the Companies Law (2018 Revision), as amended, this being the principal statute governing the incorporation and ongoing operations of the Cayman Islands companies.

Anti-Money Laundering Regulations (2018 Revision); Proceeds of Crime Law (2018 Revision); and Terrorism Law (2018 Revision), each as amended

Butterfield Bank (Cayman) Limited is subject to the Anti-Money Laundering Regulations (2018 Revision) (the "Regulations") made pursuant to the Proceeds of Crime Law (2018 Revision) (the "PCL"), each as amended. The Regulations apply to anyone conducting "relevant financial business" in or from the Cayman Islands intending to form a business relationship or carry out a one-off transaction. The Regulations require a financial service provider to maintain certain anti-money laundering procedures including those for the purposes of verifying the identity and source of funds of an "applicant for business" except in certain circumstances, including where an entity is regulated by a recognized overseas regulatory authority and/or listed on a recognized stock exchange in an approved jurisdiction. In addition, if any person resident in the Cayman Islands knows or suspects, or has reasonable grounds for knowing or suspecting that another person is engaged in criminal conduct, or is involved with terrorism or terrorist property, and the information for that knowledge or suspicion came to their attention in the course of business in the regulated sector, or other trade, profession, business or employment, the person will be required to report such knowledge or suspicion to (i) the Financial Reporting Authority of the Cayman Islands (the "FRA"), pursuant to the PCL, if the disclosure relates to criminal conduct or money laundering, or (ii) a police officer of the rank of constable or higher, or the FRA, pursuant to the Terrorism Law 2018 Revision), if the disclosure relates to involvement with terrorism or terrorist financing and property.

Guernsey

Guernsey Financial Services Commission

Our activities in Guernsey are monitored by the Guernsey Financial Services Commission (the "GFSC") through its Probability and Risk Impact System. The primary objective of the GFSC is to regulate and supervise finance businesses in the Bailiwick of Guernsey ("Guernsey," or the "Bailiwick"). Almost all financial service activities in Guernsey are required to be licensed by the GFSC. Once licensed, the businesses are subject to the regulation, oversight, investigatory, information gathering and enforcement powers of the GFSC.

The various divisions of the GFSC perform regular visits with the purpose of understanding the business and reviewing the risk management and internal control environment (including monitoring and any outsourced functions). Such visits also monitor compliance with applicable law and regulation.

In addition to conducting on-site reviews, the GFSC has a continuing duty to determine whether entities it regulates and the persons who own or run them remain fit and proper. Licensees therefore have a statutory obligation to notify the GFSC of various changes, which are set out in comprehensive rules and regulations. The GFSC also requires financial services businesses to submit periodic returns for statistical analysis and inclusion in thematic studies.

The GFSC has wide powers of enforcement to address shortcomings and breaches by financial services businesses. These range from private warnings and reprimands to revocation and suspension of applicable licenses and consents and criminal prosecution, among others.

The Banking Supervision (Bailiwick of Guernsey) Law, 1994

The Banking Supervision (Bailiwick of Guernsey) Law, 1994 (the "BSL") provides that no person shall in the Bailiwick accept a deposit in the course of carrying on, whether in the Guernsey or elsewhere, a deposit-taking business under the authority of and in accordance with the condition of a license granted by the GFSC. Butterfield Bank (Guernsey) Limited holds a license under the BSL. In order to be granted a license, a company's business must be carried on with prudence, integrity, professional skills and in a manner which will not tend to bring the Bailiwick into disrepute. The business must also be directed by at least two individuals who are resident in the Bailiwick of Guernsey with appropriate standing and experience and sufficiently independent of each other. Businesses must also adhere to codes, principles, rules and instructions issued from time to time.

Regulation of Fiduciaries, Administration Businesses and Company Directors (Bailiwick of Guernsey) Law 2000

The Regulation of Fiduciaries, Administration Businesses and Company Directors (Bailiwick of Guernsey) Law 2000 (the "Guernsey Fiduciaries Law") provides that only a person licensed by the GFSC under the Guernsey Fiduciaries Law can operate fiduciary businesses, which includes:

- formation, management and administration of trusts;
- company or corporate administration;
- provision of executorship services; and
- the formation and management of foundations.

The GFSC can grant two different categories of license, including a full fiduciary license, which can only be granted to a company or a partnership, and a personal fiduciary license. The full fiduciary license covers any director, manager, partner or employee acting in the course of their employment.

The Protection of Investors (Bailiwick of Guernsey) Law, 1987

Under the Protection of Investors (Bailiwick of Guernsey) Law, 1987, as amended (the "POI Law"), a person shall not (subject to certain exemptions) carry on, or hold himself out as carrying on, any controlled investment business in or from within the Bailiwick, except under and in accordance with the terms of a license. For the purposes of the POI Law, a controlled investment includes collective investment schemes and general securities and derivatives. All Guernsey domiciled funds have to be authorized by or registered with the GFSC and be administered by a Guernsey licensed administrator. In addition, open-ended funds must also have a Guernsey licensed custodian.

The Financial Services Commission (Bailiwick of Guernsey) Law, 1987

The Financial Services Commission (Bailiwick of Guernsey) Law, 1987 provides that the general functions of the GFSC are to supervise the finance business in the Bailiwick, to counter financial crime and the financing of terrorism and to maintain confidence in the Bailiwick's reputation as an international finance center.

The Criminal Justice (Proceeds of Crime) (Bailiwick of Guernsey) Law, 1999

The Criminal Justice (Proceeds of Crime) (Bailiwick of Guernsey) Law, 1999 established certain offenses in connection with the proceeds of criminal conduct including concealing of transferring the proceeds of crime, assisting another person to retain the proceeds of criminal conduct, acquisition, possession or use of proceeds of criminal conduct and tipping-off.

The Terrorism and Crime (Bailiwick of Guernsey) Regulations, 2007

The Terrorism and Crime (Bailiwick of Guernsey) Regulations, 2007 provides for a positive obligation on businesses to report internally any suspicions of money laundering. A money laundering reporting officer must be appointed to fulfill this function and to make disclosure to the relevant division of Guernsey's police unit.

United Kingdom

Regulatory Regime

Prior to January 2017, our activities in the UK took place through Butterfield Bank (UK) Limited ("BBUK") and consisted of various banking and investment services businesses, including lending, administering and advising on regulated mortgage contracts (including consumer buy to let business), and arranging deals in, and managing investments. Throughout 2016, we wound down the private banking business, deposit-taking and investment management services of BBUK. We continue to provide UK residential property lending services through an entity now known as Butterfield Mortgages Limited ("Butterfield UK").

The primary legislation governing the provision of Butterfield UK's services is the Financial Services and Markets Act 2000 and its secondary regulations ("FSMA"). FSMA requires that in order to carry on mortgage and investment services in the UK, a firm must be authorized (or exempt) and have the necessary permissions. Butterfield UK is authorized and has permissions to enter into, advise on and administer regulated mortgage contracts and to provide certain investment services.

Because its permissions are limited to mortgage and investment activities, Butterfield UK is, as of January 2017, only regulated by the Financial Conduct Authority ("FCA") and not by the Prudential Regulation Authority ("PRA"), which regulates banks and insurers. The FCA has responsibility for regulating the conduct of the business of Butterfield UK. On December 21, 2016, Butterfield UK ceased to be authorized as a bank and therefore ceased to be regulated by the PRA.

Butterfield UK must comply with the FCA handbook which contains detailed rules and guidance in respect of governance and conduct matters. The FCA's Principles for Business require, among other things, that Butterfield UK conducts its business with integrity and due skill, care and diligence and deal with its regulators in an open and co-operative way. In addition, certain directors and approved persons of Butterfield UK are subject to statements of principle and a code of practice that describes behaviors expected of persons operating in the regulated sector.

Control

FSMA requires any person seeking to obtain (and in certain circumstances increase) control over Butterfield UK to first get approval from the FCA. A person will become a controller if it holds (itself or with another where they are acting together) (i) 10% or more in the shares of Butterfield UK or in any parent undertaking; or (ii) 10% or more of the voting power in Butterfield UK or any parent.

The Companies Act 2006 requires that UK incorporated companies maintain a register of persons who have significant control over them. A person will be considered to have significant control if it holds (itself or with another where they are acting together) 25% or more of the company's shares or voting rights or has the ability to appoint a majority of the board of directors.

Capital

Butterfield UK is subject to capital rules under the FCA's Prudential sourcebook for Mortgage and Home Finance Firms and Insurance Intermediaries handbook (MIPRU). The MIPRU capital rules stipulate the minimum level and quality of capital that must be maintained to support the activities carried on.

AML and Financial Crime

Butterfield UK is subject to a range of legislation at a UK and European level requiring it to take steps to detect and prevent potential money laundering, financial crime or terrorist financing. The FCA and HM Treasury have investigatory powers in relation to suspected breaches.

Relevant legislation at the EU level is the Fourth Money Laundering Directive (2015/849) which has been implemented in the UK through The Money Laundering, Terrorist Financing and Transfer of Funds (Information on the Payer) Regulations 2017 ("**MLRs 2017**") from 26 June 2017.

At the UK level, Butterfield UK must comply with its obligations under the Proceeds of Crime Act 2002, the Terrorism Act 2000 and the Anti-terrorism, Crime and Security Act 2001, Counter-Terrorism Act 2008 (Schedule 7), MLRs 2017 and certain specific obligations the Transfer of Funds (Information on the Payer) Regulations 2007, the Money Laundering Regulations 2007 and certain specific obligations in FSMA (in particular with respect to market abuse and insider dealing) and the FCA Handbook. Together, this legislation requires regulated firms to create appropriate and risk-sensitive policies and procedures in relation to customer due diligence procedures and monitoring of transactions, to avoid financing terrorism or money laundering or facilitating either of these, to avoid dealing with certain persons specified by HM Treasury, and to disclose suspicious activity to the relevant regulatory authorities. In addition, the UK and all entities of the Bank must adhere to the Bribery Act 2010 which has broad extra-territorial reach.

Butterfield UK must also comply with legislation of third countries to the extent that such legislation has extra-territorial effect and is applicable to it. Examples of this are the US PATRIOT Act of 2001 and The Foreign Account Tax Compliance Act ("FATCA") of 2010.

The Bahamas

The Central Bank of The Bahamas

Butterfield Trust (Bahamas) Limited has been granted a license from the Central Bank of The Bahamas to conduct trust business from within The Bahamas. As the primary regulator of Butterfield Trust (Bahamas) Limited, the Central Bank of The Bahamas is responsible for the regulation and supervision of Butterfield Trust (Bahamas) Limited with respect to all of its operations, corporate governance issues, and compliance with applicable laws and regulations. The Central Bank of The Bahamas' regulations on capital adequacy and the regulatory framework within The Bahamas take into account the recommendations of the BCBS.

Relevant Legislation/Regulations

The Banks and Trust Companies Regulation Act and Regulations

The Banks and Trust Companies Regulation Act and Regulations set forth the basic provisions relating to the licensing and operations of banks and trust companies in The Bahamas, as well as the powers of the Central Bank of The Bahamas to supervise and audit the activities of such entities.

The Central Bank of The Bahamas Act

The Central Bank of The Bahamas Act provides general provisions relating to the structure and operation of the Central Bank of The Bahamas, the regulatory reporting required to be submitted to the Central Bank of The Bahamas by the licensees and the penalties that may be imposed for failure to comply with the orders of the Central Bank of The Bahamas.

Financial Intelligence and Reporting

The Financial Intelligence Unit Act provides for the establishment of the financial intelligence unit organization in The Bahamas that is responsible for receiving, analyzing, obtaining and disseminating information which relates to or may relate to the proceeds of offenses under the Proceeds of Crime Act or the Anti-Terrorism Act.

The Financial Transactions Reporting Act and Regulations provides the basic requirements applicable to financial institutions in The Bahamas with respect to verifying the identities of facility holders and bank customers, the obligation to report suspicious transactions to the financial intelligence unit, and minimum record retention policies and procedures.

Other Relevant Regulations

Butterfield Trust (Bahamas) Limited is also subject to various other regulations, including the Proceeds of Crime Act, which sets forth that it is a crime in The Bahamas for a person to conceal, transfer or deal with the proceeds of criminal conduct (such as money laundering) and the Anti-Terrorism Act, which sets forth that it is a crime in The Bahamas for a person to provide or collect funds or provide financial services or make such services available to persons with the intention that such funds or services are to be used in full or in part to carry out a terrorist act. In addition to the laws and regulations set forth above, Butterfield Trust (Bahamas) Limited is also obligated to comply with the guidelines released by the Central Bank of The Bahamas from time to time.

Singapore

Butterfield (Singapore) Pte. Ltd. ("**BSPL**") holds a trust business license issued by the Monetary Authority of Singapore ("**MAS**") pursuant to the Trust Companies Act (Chapter 336 of Singapore) ("**TCA**").

As the integrated financial services regulatory authority in Singapore, the MAS administers (among other financial services related statutes) the TCA and regulates and supervises (among other types of financial institutions) trust business license holders (such as BSPL) in accordance with the TCA and all related subsidiary legislation, notices, guidelines and other regulatory instruments issued by the MAS ("**MAS Instruments**"). These MAS Instruments cover a wide range of ongoing obligations relating to, inter alia, capital adequacy, audit, conduct of business, confidentiality, anti-money laundering and countering of terrorist financing and also impose approval and/or notification requirements in respect of controllers, directors and key officers.

Under the TCA, the MAS is empowered to conduct inspections and/or investigations of BSPL to ensure that BSPL is in compliance with requirements contained in the MAS Instruments. Where there is a breach, the MAS may pursue a wide range of enforcement sanctions, including private warnings, private or public reprimands, composition offers (i.e. allowing the offence to be compounded by payment of a fine), prohibition orders, suspension or revocation of licenses, civil penalties and criminal prosecution.

Jersey

Butterfield Bank (Jersey) Limited ("**BBJL**") is regulated by the Jersey Financial Services Commission ("**JFSC**") to carry on deposit-taking business under The Banking Business (Jersey) Law 1991 (as amended); investment business pursuant to the Financial Services (Jersey) Law 1998 (as amended); and fund service business pursuant to the Financial Services (Jersey) Law 1998 (as amended).

The JFSC uses four key areas in supervising banks which are the development of regulatory requirements including laws and codes of practice; on-site examinations and meetings; off-site supervision including the analysis of financial information; and international dialogue and liaison with other regulators involved in the supervision of the broader group.

The JFSC has wide powers of enforcement to address shortcomings and breaches by financial services businesses. These range from private warnings and reprimands to revocation and suspension of applicable licenses and consents, fines and referral for criminal prosecution, among others.

Financial Services Commission (Jersey) Law 1998

The Financial Services Commission (Jersey) Law 1998 provides that the JFSC is, among other things, responsible for the supervision and development of financial services in or from within Jersey, preparing and submitting recommendations for legislation regarding financial services, supervising regulated entities, and administering laws such as the Control of Borrowing (Jersey) Law 1947 and the Companies (Jersey) Law 1991. It will also have particular regard to the reduction of risk to the public of financial loss, to protecting and enhancing the reputation and integrity of Jersey, and to the best economic interests of Jersey and the need to counter financial crime.

Banking Business (Jersey) Law 1991

The Banking Business (Jersey) Law 1991 (the "**BBL**") provides that no person shall carry on or hold themselves out as carrying on a deposit taking business in or from within Jersey unless they are registered under the BBL. Butterfield Bank (Jersey) Limited holds a license under the BBL. In order to be granted a license, the JFSC will consider the integrity, competence and financial standing of a company's business and that it would be in the best interests of persons who may deposit money that the company should be registered. The business must also have a physical presence in Jersey involving meaningful decision making and management, and be subject to supervision by a relevant supervisory authority. Businesses must adhere to secondary legislation and codes issued from time to time. This law also contains provisions regarding notification of principal persons, key persons and shareholders, and sets out further powers of the JFSC.

Financial Services (Jersey) Law 1998

This law regulates investment, trust company, general insurance mediation, money service, fund services and alternative investment fund services business. It includes requirements to register if carrying on regulated business, provisions for the supervision of financial services (including requirements to notify of changes to principal persons, key persons and shareholders), and gives the JFSC powers to issue directions and public statements, request information, and issue further orders and regulations. It also sets out the offences of market manipulation, misleading information and insider dealing.

Collective Investment Funds (Jersey) Law 1988

Under the Collective Investment Funds (Jersey) Law, a person shall not (subject to certain exemptions) hold himself out as being a functionary of a recognized fund in or from within Jersey, except under a permit. For the purposes of this law, a recognized fund is a type of collective investment fund subject to additional regulations. Any person

carrying on the business of an unclassified fund must also hold a certificate. This law also contains provisions regarding notification of principal persons, key persons and shareholders, and sets out further powers of the JFSC.

Proceeds of Crime (Jersey) Law 1999 and Terrorism (Jersey) Law 2002

The Proceeds of Crime (Jersey) Law 1999 established certain offences in connection with the proceeds of criminal conduct including acquiring, using or having possession or control of criminal property, concealing, disguising, converting, transferring or removing such criminal property from Jersey, and tipping off and interference with material.

The Terrorism (Jersey) Law 2002 contains similar offences regarding using, possessing, providing, collecting or receiving property for the purposes of terrorism, and otherwise dealing with terrorist property.

Both the Proceeds of Crime (Jersey) Law 1999 and the Terrorism (Jersey) Law 2002 provide for a positive obligation on businesses to report any suspicions of money laundering or terrorist financing.

United States

Foreign Account Tax Compliance Act (FATCA)

Under FATCA, US federal tax legislation passed in 2010, a 30% withholding tax will be imposed on "withholdable payments" made to non-US financial institutions (including non-US investment funds and certain other non-US financial entities) that fail (or, in some cases, that have 50% affiliates which are also non-US financial institutions that fail) to provide certain information regarding their US accountholders and/or certain US investors (such as US accountholders and US investors, "US accountholders") to the IRS. For non-US financial institutions that fail to comply, this withholding will generally apply without regard to whether the beneficial owner of a withholdable payment is a US person or would otherwise be entitled to an exemption from US federal withholding tax. "Withholdable payments" generally include, among other items, payments of US-source interest and dividends. Furthermore, FATCA may also impose withholding on non-US source payments by non-US financial institutions that comply with FATCA to non-US financial institutions that fail to comply with FATCA. Withholding pursuant to FATCA will start no earlier than January 2019 with respect to non-US source payments by non-US financial institutions. However, under proposed Treasury regulations, such withholding will not apply to payments made before the date that is two years after the date on which final regulations defining the term "foreign passthrough payment" are published. In general, non-publicly traded debt and equity interests in investment vehicles will be treated as "accounts" and subject to these reporting requirements. In addition, certain insurance policies and annuities are considered accounts for these purposes.

Some countries, including the Cayman Islands, Guernsey, Jersey, the United Kingdom, Singapore, Switzerland and The Bahamas, have entered into, and other countries are expected to enter into, Intergovernmental Agreements ("IGAs") with the United States to facilitate the type of information reporting required under FATCA. While the existence of IGAs will not eliminate the risk of the withholding described above, these agreements are expected to reduce that risk for financial institutions and investors in countries that have entered into IGAs. IGAs will often require financial institutions in those countries to report some information on their US accountholders to the taxing authorities of those countries, which will then pass the information to the IRS.

The Group closely monitors all present and new legislation that is or will be applicable for its organization, and is currently investigating all implications of FATCA and legislation of countries that have entered into IGAs. While investigating these implications, the Group is and will be in close contact with all of its stakeholders, including its peers and financial industry representative organizations.

The Group has taken all the steps it believes are necessary to comply with current FATCA regulations, including analysis of its group entities and conclusions as to their FATCA classifications, entering into agreements with the US tax authorities (as necessary), identification of reportable accounts, and timely and accurate filing of all required annual FATCA filings, all in accordance with the appropriate IGA. Certain payments to the Group may be subject to withholding under FATCA if, in the future, the Group cannot enter into such agreements or satisfy the requirements thereunder (including as a result of local laws in non-IGA countries prohibiting information-sharing with the IRS, as a result of contracts or local laws prohibiting withholding on certain payments to accountholders, policyholders, annuitants or other investors, or as a result of the failure of accountholders, policyholders, annuitants or other investors to provide requested information). The possibility of such withholding and the need for accountholders, policyholders, annuitants and investors to provide certain information may adversely affect the sales of certain of the Group's products. In addition, entering into agreements with the IRS and compliance with the terms of such agreements and with FATCA and any regulations or other guidance promulgated thereunder or any legislation promulgated under an IGA may substantially increase the Group's compliance costs.

Office of Foreign Assets Control Regulation

The US Treasury Department's Office of Foreign Assets Control ("OFAC"), administers and enforces economic and trade sanctions against targeted foreign countries and regimes, under authority of various laws, including designated foreign countries, nationals and others. OFAC publishes lists of specially designated targets and countries. OFAC sanctions apply to all transactions that take place in the United States. Transactions that take place outside the United States may become subject to the jurisdiction of the United States and subject to compliance with OFAC sanctions if they involve US persons or payment in US dollars. Such payments typically are cleared through the US Dollar settlement system located in the United States and involve the intermediation of US financial institutions. Although we currently do not have any operations in the United States, our operations may involve transactions with US persons or in US Dollars and as a result, in order to comply with OFAC sanctions, we are responsible for, among other things, blocking any such transactions with designated targets and countries and reporting blocked transactions after their occurrence. Failure to comply with these sanctions could have serious legal and reputational consequences, including causing applicable bank regulatory authorities not to approve merger or acquisition transactions when regulatory approval is required or to prohibit such transactions even if approval is not required.

Anti-Money Laundering and the USA PATRIOT Act

A major focus of worldwide governmental policy on financial institutions in recent years has been aimed at combating money laundering and terrorist financing. In particular, the USA PATRIOT Act of 2001, or the USA Patriot Act, substantially broadened the scope of United States anti-money laundering laws and regulations applicable to US banks and non-US banks with operations in the United States, including banks that engage in transactions outside the United States with US persons or in US Dollars, by imposing significant new compliance and due diligence obligations, creating new crimes and penalties and expanding the extra-territorial jurisdiction of the United States. Financial institutions are also prohibited from entering into specified financial transactions and account relationships and must use enhanced due diligence procedures in their dealings with certain types of high-risk customers and implement a written customer identification program. Financial institutions must take certain steps to assist government agencies in detecting and preventing money laundering and report certain types of suspicious transactions. Regulatory authorities routinely examine financial institutions for compliance with these obligations, and failure of a financial institution to maintain and implement adequate programs to combat money laundering and terrorist financing, or to comply with all of the relevant laws or regulations, could have serious legal and reputational consequences for the institution, including causing applicable bank regulatory

authorities not to approve merger or acquisition transactions when regulatory approval is required or to prohibit such transactions even if approval is not required. Regulatory authorities have imposed cease and desist orders and civil money penalties against institutions found to be violating these obligations.

Future Legislation and Regulation

The governments of Bermuda and the other jurisdictions in which we operate may enact legislation from time to time that affects the regulation of the financial services industry or that affect the regulation of financial institutions chartered by or operating in those jurisdictions. These governments and their regulatory agencies also periodically propose and adopt changes to their regulations or change the manner in which existing regulations are applied. The substance or impact of pending or future legislation or regulation, or the application thereof, cannot be predicted, although enactment of the proposed legislation could impact the regulatory structure under which we operate and may significantly increase our costs, impede the efficiency of our internal business processes, require us to increase our regulatory capital and modify our business strategy, and limit our ability to pursue business opportunities in an efficient manner. Our business, financial condition, results of operations or prospects may be adversely affected, perhaps materially, as a result.

Additional Information

The Butterfield Act and our current amended and restated bye-laws have been filed as exhibits to this annual report on Form 20-F. The information contained in these exhibits is incorporated by reference herein.

Information regarding the rights, preferences and restrictions attaching to each class of our common and preferred shares, as well as other information regarding director and shareholder rights and proceedings, is described in the section entitled "Description of Share Capital" in our registration statement on Form F-1 filed with the SEC on February 12, 2017 with the file number 333-216018 and incorporated by reference herein.

MANAGEMENT

Board

Our Board oversees the affairs of the Bank. The current Board is composed of nine members, consisting of our Chairman and Chief Executive Officer and eight non-executive directors. The Bank's bye-laws provide that the Board shall consist of not less than six and not more than twelve directors. The Board holds regular meetings five times per year and special meetings when necessary.

Persons may be proposed for election or appointed as directors at a general meeting either by the Board or by one or more shareholders holding shares which in the aggregate carry not less than 5% of the voting rights in respect of the election of directors. There is only a single class of director and each director holds office until the next annual general meeting.

Prior to the completion of our registered secondary offering on February 28, 2017, Carlyle owned approximately 14% of the Bank's common shares and had the right to nominate two persons for election by the shareholders as directors pursuant to an Amended and Restated Investment Agreement, dated as of August 4, 2016, between Carlyle and us (the "Amended Investment Agreement"). Mr. James Burr was appointed as a director on our Board by Carlyle pursuant to the Amended Investment Agreement. Following the completion of the offering, Carlyle no longer owns any of our common shares and no longer has the right to nominate any persons for election by our shareholders as members of the Board. For more information, see "Major Shareholders and Related Party Transactions—Our Relationship with the Carlyle Group".

As a foreign private issuer we are allowed to follow our "home country" corporate governance practices in lieu of the NYSE governance requirements for NYSE-listed U.S. companies. Notwithstanding this, our Board has determined that, under current NYSE listing standards regarding independence (to which we are not currently subject), and taking into account any applicable committee standards, a majority of our Board, including Alastair Barbour, James Burr, Michael Covell, Caroline Foulger, Meroe Park, Pamela Thomas-Graham and John Wright, are independent directors.

As the regulatory environment in which we operate becomes more complex, our governance practices and the structures and methodology we use to operate the Bank continue to be of key strategic significance. With the exception of the Chairman and Chief Executive Officer, our Board is comprised entirely of Directors who are not employees of the Bank. Our Board reviews and oversees the Bank's implementation of corporate governance policies and practices in accordance with prevailing standards. The following table lists the names, positions and date of birth of the Directors of the Bank:

Name	Date of Birth	Position
Michael Collins	March 29, 1963	Chairman and Chief Executive Officer
Alastair Barbour	February 10, 1953	Non-Executive Director
James Burr	January 11, 1966	Non-Executive Director
Michael Covell	September 30, 1954	Non-Executive Director
Caroline Foulger	January 9, 1961	Non-Executive Director
Conor O'Dea	March 23, 1959	Non-Executive Director
Meroe Park	December 1, 1966	Non-Executive Director
Pamela Thomas-Graham	June 24, 1963	Non-Executive Director
John Wright	September 10, 1941	Non-Executive Director

Each of our directors may be reached at our registered office at: 65 Front Street, Hamilton, HM 12, Bermuda, or by postal mail at P.O. Box HM 195, Hamilton HM AX, Bermuda.

Michael Collins joined the Board in September of 2015 when he was named Chief Executive Officer of the Bank. He was named Chairman in July of 2017. Prior to this appointment, Mr. Collins was Senior Executive Vice President with responsibility for all of the Bank's client businesses in Bermuda, including Corporate, Private and Retail Banking, as well as the Operations, Custody and Marketing functions in Bermuda and the Cayman Islands. Mr. Collins has 31 years' experience in financial services, having held progressively senior positions, at Morgan Guaranty Trust Company in New York and later at Bank of Bermuda and HSBC in Bermuda. Before joining the Bank in 2009, Mr. Collins was Chief Operating Officer at HSBC Bank Bermuda. Mr. Collins holds a BA in Economics from Brown University.

James Burr joined the Board in 2016 and was named Lead Independent Director in October of 2018. Mr. Burr was originally appointed as a Director upon Carlyle's designation pursuant to the Investment Agreement (as defined herein). Presently, Mr. Burr is a Managing Director in the Global Financial Services Group of The Carlyle Group, where he focuses on investing in management buyouts, growth capital opportunities and strategic minority investments in financial services. Prior to joining Carlyle, Mr. Burr served as Corporate Treasurer of Wachovia Bank, where he was responsible for activities relating to funding, investing, risk transference, balance sheet management, liquidity and capital usage. He has served in various other roles at Wachovia Bank, including as Assistant Treasurer, Controller of the Corporate and Investment Bank and Management Analyst since 1992. Mr. Burr began his career at Ernst & Young, where he was a certified public accountant focused on banking and computer audit issues. Mr. Burr formerly served on the Board of Directors of Central Pacific Financial Corp.

Alastair Barbour joined the Board in 2012. He is a Chartered Accountant with more than 25 years of experience providing auditing and advisory services to publicly traded companies, primarily in the financial services industry. Mr. Barbour was employed with KPMG from 1978 until his retirement in 2011. During his time there, he held various positions both locally and overseas. In 1985, he was named Partner at KPMG (Bermuda). Mr. Barbour's most recent position was head of KPMG's Financial Services Group in Scotland. Currently, Mr. Barbour serves on the Boards of Directors and chairs the Audit Committees of several listed and private companies, including RSA Insurance Group plc, Liontrust Asset Management plc and Phoenix Group Holdings plc. Mr. Barbour trained with Peat, Marwick, Mitchell & Co. in London and holds a Bachelor of Science from the University of Edinburgh. He is a Fellow of the Institute of Chartered Accountants in England & Wales.

Michael Covell joined the Board in 2018. Mr. Covell is an experienced non-executive Chairman, Director and advisor to a range of businesses, family offices and private equity firms. He is currently Chairman of Ascot Lloyd, a UK financial planning business, a Director of C Le Masurier Limited, Jersey's largest private European real estate owner, and a Director/advisor to two large family offices. Previously, Mr. Covell was Chairman of both the Tilney Group, a UK wealth manager, and Hawksford International, an offshore fiduciary business, leading growth, mergers and acquisitions, managed buyouts and post-MBO turnarounds. He was also a Director of the International Property Securities Exchange and Leeds Castle Foundation. Mr. Covell retired from Goldman Sachs in 2008, where he was a Managing Director of their European Private Wealth Management Division. Prior to Goldman Sachs, he was a partner at Rawlinson & Hunter, an international accountancy firm. Mr. Covell is a Fellow of the Institute of Chartered Accountants in England and Wales, and Member of the Society of Trust & Estate Practitioners.

Caroline Foulger joined the Board in 2013. Prior to her retirement in 2012, Ms. Foulger was a Partner with PricewaterhouseCoopers Bermuda, where she led the firm's insurance and public sector groups. She holds directorship positions with several listed and private companies, including Hiscox Ltd. and Oakley Capital Investments Limited. Ms. Foulger graduated with honors, from University College, University of London. Currently, she is either a Fellow or Member of several professional bodies, namely, the Institute of Chartered Accountants in England and Wales, Institute of Chartered Professional Accountants of Bermuda, and the Institute of Directors.

Conor O'Dea joined the Board in 2016 following his retirement as the Group's President & Chief Operating Officer and Managing Director of Butterfield Bank (Cayman) Limited. He joined Butterfield in 1989 and was named Managing Director, Butterfield Bank (Cayman) Limited in 1997. In 2010, he was named Senior Executive Vice President, Caribbean, and in 2011 Senior Executive Vice President, International Banking. Mr. O'Dea is a Chartered Accountant who has worked in the financial services industry in the Cayman Islands and internationally for over 30 years. He is Chairman of Cayman Finance (a financial services industry group) and is a past President of the Cayman Islands Chamber of Commerce and the Cayman Islands Bankers Association. Mr. O'Dea serves as a Director of several listed and private companies, including BF&M Limited and Digicel Cayman Limited. Mr. O'Dea holds a Bachelor of Commerce degree from the University College Dublin and has been a Fellow of Chartered Accountants in Ireland since 1995.

Meroe Park joined the Board of Directors in October 2017. Currently, Ms. Park serves as Executive Vice President at the Partnership for Public Service. She was most recently the Executive Director of the United States Central Intelligence Agency (the "CIA"), serving as the Agency's chief operating officer in its most senior career post. Prior to her retirement in June 2017, Ms. Park was a 27-year career intelligence officer and one of the US Government's leading professionals. She held increasingly senior positions at the CIA, including Chief of Human Resources and a Senior Mission Support Officer for locations in Eurasia and Western Europe. Ms. Park successfully led key strategic initiatives, including the modernization of the CIA's technology systems and organizational structure, and the implementation of talent initiatives focused on workforce development and inclusion. Ms. Park also serves on the Advisory Board for Chart National Management and on the Board of Managers of Sequoia Solutions LLC, a company that has developed a commercial cloud product for the U.S. government's classified cloud regions. Ms. Park has earned a number of awards during her career and has twice been the recipient of the Presidential Rank Award, the Executive Branch's highest honor for government career professionals. She holds a Bachelor of Science degree from Georgetown University, where she is also a Distinguished Executive in Residence.

Pamela Thomas-Graham joined the Board in December 2017. She is the Founder and Chief Executive Officer of Dandelion Chandelier LLC, a private digital media enterprise focused on the intersection of luxury, marketing and technology. Prior to establishing Dandelion Chandelier, Ms. Thomas-Graham spent six years with Credit Suisse where she served as Chief Talent, Branding and Communications Officer, and Chief Marketing and Talent Officer & Head of Private Banking and Wealth Management New Markets. From 2008 to 2010, she was Managing Director of private equity firm, Angelo, Gordon & Company, leading the firm's investments in the consumer and retail sectors. Before assuming leadership roles in financial services, Ms. Thomas-Graham was Senior Vice President, Global Brand Development and Group President, Apparel Brands at Liz Claiborne (now Kate Spade & Company) where she was responsible for the P&L of 18 global brands. Prior to joining Liz Claiborne, she spent six years at NBC Universal, where she served as President and Chief Executive Officer of CNBC.com, and later President and Chief Operating Officer, and Chairman, President and Chief Executive Officer of CNBC. Ms. Thomas-Graham began her career at global consulting firm McKinsey & Company in 1989, and became the firm's first African-American female partner in 1995. She serves as a Director for several private and listed companies, including as the Lead Independent Director for Clorox and as a Director and member of the Audit Committee of Norwegian Cruise line Holdings Limited. Ms. Thomas-Graham holds Bachelor of Arts in Economics, Master of Business Administration, and Doctor of Law degrees from Harvard University.

John Wright joined the Board in 2002. Mr. Wright served as a non-executive director of Butterfield UK from 2001 through 2014. Mr. Wright retired as chief executive of Clydesdale & Yorkshire Banks in 2001. Mr. Wright's career in commercial banking spans over 43 years and includes assignments in the UK, India, Sri Lanka, West Africa, Canada, Hong Kong and the United States. He is a visiting Professor at Heriot-Watt University Business School and he serves as on the Board of Directors of several public and private U.K. and overseas companies, including as Senior Independent Director of DAMAC Properties, Chairman of the Advisory Board of XM International Associates Limited and Director of Rasmala UK Limited. He is also a past President of the Irish Institute of Bankers and a past Vice President of the Chartered Institute of Bankers in Scotland. Mr. Wright was educated at Daniel Stewarts College Edinburgh.

Executive Management Team

The Group's current executive management team is as follows:

Name	Date of Birth	Position
Michael Collins	March 29, 1963	Chairman and Chief Executive Officer
Elizabeth Bauman	April 25, 1960	Group Head of Human Resources
Andrew Burns	October 18, 1978	Group Head of Internal Audit
Siân Dalrymple	August 15, 1963	Group Head of Compliance
Daniel Frumkin	June 3, 1964	Chief Operating Officer
Michael McWatt	December 31, 1965	Managing Director, Cayman
Shaun Morris	March 3, 1960	General Counsel, Group Chief Legal Officer
Michael Neff	September 24, 1963	Managing Director, Bermuda
Richard Saunders	July 16, 1969	Managing Director, Channel Islands and the UK
Michael Schrum	August 30, 1968	Chief Financial Officer

Each member of our executive management team may be reached at our registered office at 65 Front Street, Hamilton, HM 12, Bermuda, or by postal mail at P.O. Box HM 195, Hamilton HM AX, Bermuda.

Elizabeth Bauman currently serves as Group Head of Human Resources with responsibility for the overall management and development of the Human Resources function. Mrs. Bauman joined the Group in September 2015. She has more than 25 years of progressive leadership experience in financial services with a focus on human resources management. She was previously President of Crestview Business Consulting, providing strategic planning and change management advisory services to clients in several industries. Prior to founding Crestview, Mrs. Bauman held the positions of Chief Administrative Officer and SVP, Human Resources at First Niagara Financial Group and Business Chief Financial Officer (Personal Financial Services), SVP Strategy & Development and SVP Human Resources at HSBC Bank USA. Mrs. Bauman holds a Bachelor of Science degree in Economics from Allegheny College and a Master of Business Administration from State University of New York at Buffalo New York.

Andrew Burns currently serves as Group Head of Internal Audit. Mr. Burns was named Executive Vice President and Group Head of Internal Audit in 2016, and became a member of the Executive Committee in October 2017. In 2018, Mr. Burns was promoted to Executive Vice President. He is responsible for all aspects of the Internal Audit function across Butterfield. Mr. Burns has more than 17 years of progressive leadership experience in the financial services sector, having begun his career with PricewaterhouseCoopers' financial services group in Australia. He first joined the Group in the Fund Services subsidiary in Bermuda, before transferring to the Internal Audit team in 2007, where he has held progressively senior management roles. Mr. Burns is a Chartered Accountant and a Certified Internal Auditor. He holds a Bachelor of Commerce from the University of Melbourne, Australia.

Siân Dalrymple currently serves as Group Head of Compliance. Ms. Dalrymple was named to the Group Executive Committee in October 2017 after joining Butterfield in December 2016 as Group Head of Compliance. She has more than 25 years' experience in compliance management in Europe and Asia. Prior to joining Butterfield, she was Regional Head of Compliance - Asia/Pacific for Deutsche Bank. Her previous roles include progressively senior positions within compliance at leading financial institutions including Bank of America, ABN AMRO, J. Henry Schroder & Co. (now Citi), Société Générale and Guinness Mahon (now Investec).

Daniel Frumkin currently serves as Senior Executive Vice President, Chief Operating Officer of the Group. Mr. Frumkin joined the Group in late 2010 as Chief Risk Officer. Mr. Frumkin is a career banker with a depth of experience in risk management, credit and retail banking. Mr. Frumkin has responsibility for IT, operations, trust, international corporate banking, international wealth banking, marketing and corporate development. Mr. Frumkin is a career banker who, prior to joining Butterfield, spent 21 years at Royal Bank of Scotland in the U.S. and U.K, culminating in the role of Managing Director of retail products and commercial, responsible for driving forward the retail bank's profitability covering approximately 2,200 branches and 14 million customers. Mr. Frumkin's previous experience includes providing oversight of the restructuring of the failed Northern Rock Bank, creating a good and bad bank. Mr. Frumkin was also the Chief Restructuring Officer responsible for the reorganization of the nationalized Latvian Bank. Mr. Frumkin holds a Bachelor of Arts degree in Finance and Economics from Syracuse University and a Masters of Business Administration from Boston University.

Michael McWatt currently serves as Managing Director for Butterfield Bank (Cayman) Limited, with responsibility for the overall operations of the bank in the Cayman Islands. Mr. McWatt joined the Group in 1999 and was appointed Managing Director in 2016. He has held progressively senior leadership positions with the Group, including Deputy Managing Director, EVP Group Head of Community Banking and SVP Group Chief Credit Officer. Mr. McWatt is a career banker with more than 25 years of experience in Canada, Bermuda and the Cayman Islands. He has been with the Group for over 19 years and previously held progressively senior positions in Corporate Banking and Risk Management in Canada. Mr. McWatt holds a BA in Economics from McMaster University, an Honors Commerce Degree from University of Windsor and is a graduate of the Ivey Executive Program at Western University. He is a Director and past president of the Cayman Islands Bankers' Association and is a Director of Cayman Finance.

Shaun Morris currently serves as General Counsel and Group Chief Legal Officer. Mr. Morris joined the Group as General Counsel and Group Chief Legal Officer in 2012. From 2005 to 2012, Mr. Morris was the Managing Partner of Appleby's Bermuda Office. Appleby is the largest offshore law and fiduciary group operating in Bermuda. Prior to joining the Group, Mr. Morris spent his entire professional career at Appleby and was a Partner in the Banking and Asset Finance team in Bermuda. In that role, he practiced corporate and commercial law, specializing in shipping, capital markets, mergers & acquisitions and project finance. Mr. Morris holds an MA (Economics) from Dalhousie University in Canada and a Bachelor of Laws from the London School of Economics & Political Science. He is currently a member of the Bermuda Bar Association.

Michael Neff currently serves as Managing Director, Bermuda. He previously served as the Bank's Group Head of Wealth Management. Mr. Neff has over 30 years' experience in financial services, having held senior roles in wealth management, commercial banking, client services, and business development functions. He began his career at Chemical Bank's Private Banking Group where he ultimately served on the Executive Committee and led relationship management across the group. Mr. Neff then led the implementation of the global wealth management client relationship model at Citibank's Private Bank before leaving to establish AnswerSpace Inc., a financial planning technology consultancy in 1998. He went on to found Monetaire Inc., a leading provider of financial and investment planning software that was acquired by the RiskMetrics Group. At RiskMetrics, he initially served as Global Head of Wealth Management, rising to become Co-Head of the firm's Global Financial Risk Management business in 2009. Mr. Neff holds a Bachelor of Arts from Middlebury College and a Master of Business Administration from Columbia Business School.

Richard Saunders currently serves as Managing Director, Channel Islands, with responsibility for Butterfield Bank (Guernsey) Limited, Butterfield Bank (Jersey) Limited and Butterfield Mortgages Limited in London. Mr. Saunders joined the Group in 2001 and was appointed Managing Director in 2015. He has held progressively senior leadership positions with the Group, including Head of European Asset Management. Mr. Saunders joined the Butterfield Group Executive Committee in July 2018. He has more than 25 years of progressive management experience, having begun his career at Royal Bank of Canada in Guernsey. Mr. Saunders is a Chartered Member of the London-based Chartered Institute for Securities & Investment ("CISI") and holds a Bachelor's degree in Mathematics and Sports Science from Loughborough University, England.

Michael Schrum was appointed Chief Financial Officer of the Group effective September 21, 2015. Mr. Schrum joined the Group from HSBC Bank Bermuda Limited, where he was CFO. He has more than 20 years of financial services experience in London, New York and Bermuda, mainly in banking, insurance and tax. He joined HSBC in Bermuda in 2001 and held progressively senior positions within the HSBC's Commercial Banking, Strategy, and Finance divisions. He is a Chartered Financial Analyst and a Fellow of the Institute of Chartered Accountants in England and Wales. Mr. Schrum holds Master's (University of London) and Bachelor's (Southern Denmark Business School) degrees in Economics. Mr. Schrum is a director of Ascendant Group Limited, Treasurer of the Bermuda Community Foundation and Director of Pathways Bermuda.

Committees of the Board

The Bank's bye-laws authorize the Board to delegate certain of its duties to committees of directors. The principal board committees are the: (1) Audit Committee, (2) Risk Policy & Compliance Committee, (3) Corporate Governance Committee, (4) Compensation & Human Resources Committee, and (5) Executive Committee. Members of committees are appointed by, from and among the non-executive members of the Board (other than the Executive Committee which includes our Chairman and Chief Executive Officer). The responsibilities and compositions of these committees are described below.

Audit Committee

Our Audit Committee, on behalf of the Board, monitors: (1) the integrity of the financial reports and other financial information provided by the Group to any governmental body or the public; (2) the independent auditor's qualifications and independence; (3) the performance of the Group's internal audit function and the independent auditors; (4) compliance with legal and regulatory requirements; (5) the Group's system of internal controls; and (6) the Group's auditing, accounting and financial reporting processes generally. Subject to shareholder approval, the Audit Committee has responsibility for the appointment or replacement of the independent auditor and for the compensation and oversight of the work of the independent auditor. In addition, the Audit Committee is responsible for approving all audit services, internal control-related services and permitted non-audit services. With respect to internal controls, the Audit Committee reviews and evaluates any major issues as to the adequacy of the Bank's internal controls, and any major control deficiencies or changes in internal controls over financial reporting are discussed with the Bank's management and the independent auditor. With respect to financial reporting, the Audit Committee consults with management, the independent auditor and the internal auditors about the integrity of the financial reporting process, reviews significant financial reporting risk exposure and management's responses, reviews significant auditor findings and establishes, reviews procedures for the receipt, retention and treatment of complaints about accounting and auditing matters, and reviews and recommends for the Board's approval the Group's financial reports.

Our Audit Committee consists of four directors that are independent under the NYSE requirements. Each member of the Audit Committee also meets the additional criteria for independence of Audit Committee members set forth in Rule 10A-3(b)(1) under the Exchange Act.

The members of the Audit Committee are appointed by the Board upon the recommendation of the Corporate Governance Committee. The Audit Committee's membership is as follows:

Name	Position
Alastair Barbour	Chairperson
Michael Covell	Member
Caroline Foulger	Member
Pamela Thomas-Graham	Member

Mr. Barbour and Ms. Foulger each qualify as the Audit Committee financial expert. Mr. Barbour serves on the Audit Committee of more than three public companies. The Board has determined that such simultaneous service does not impair his ability to effectively serve as a member of the Audit Committee.

Risk Policy and Compliance Committee

The Risk Policy and Compliance Committee, on behalf of the Board, acts as the oversight function in respect to those activities throughout the Group that give rise to credit, market, liquidity, interest rate, operational and reputational risks and reviews compliance with laws and regulations. Specifically, the Risk Policy and Compliance Committee assists the Board in fulfilling its responsibilities by overseeing the Group's risk profile and its performance against approved risk appetites and tolerance thresholds. It approves and ensures compliance with the capital allocation model and approves overall insurance coverage for the Group. The Risk Policy and Compliance Committee also reviews the credit risk of the Group with respect to country and financial institution risk, large exposures, reserves and provisioning, off-balance sheet risk and related capital needs, as well as market, interest rate and liquidity risks. The Risk Policy and Compliance Committee monitors operational risks, material breaches of agreed risk limits, appropriate product risk profiles and senior management policies for identification and management of risk. In doing so, the Risk Policy and Compliance Committee seeks to ensure compliance with all applicable policies and establishes the Group's risk appetite and tolerance.

The Risk Policy and Compliance Committee's membership is as follows:

Name	Position
Conor O'Dea	Chairperson
James Burr	Member
Meroe Park	Member
John Wright	Member

Corporate Governance Committee

The Corporate Governance Committee, on behalf of the Board, provides oversight of the effectiveness of the Board and other Board committees in accordance with the prevailing standards of corporate governance and acts as the nomination committee for the Board. The principal duties of the Corporate Governance Committee include reviewing and recommending to the Board Board membership criteria and director nominees, membership of the Board's committee and matters relating to the performance, diversity and independence of Directors. The Corporate Governance Committee oversees questions of director independence and conflicts of interest, induction and ongoing training for Directors and the Board's corporate governance policies and procedures as well as recommending Director compensation. The Corporate Governance Committee also reviews and approves related-party transactions and reviews the Board's performance, the performance and effectiveness of the committees of the Board and the committees of the Bank's subsidiary boards.

The Corporate Governance Committee's membership is as follows:

Name	Position
Caroline Foulger	Chairperson
Alastair Barbour	Member
Michael Covell	Member
Pamela Thomas-Graham	Member

Compensation & Human Resources Committee

The Compensation & Human Resources Committee, on behalf of the Board, determines executive compensation, employee salary ranges, levels and degrees of participation in incentive compensation programs (including bonuses and equity-based incentive plans) and oversees employee development, relations and succession. Specifically, the Compensation & Human Resources Committee evaluates the fairness and effectiveness of the compensation practices implemented by the Group, approves overall compensation packages for executives, provides regular updates on executive compensation to the Board, approves changes in employee salary ranges for employees, approves the criteria and design of the Group's incentive bonus plans and approves changes to the other employee benefit plans. The Compensation & Human Resources Committee also recommends to the Board changes in the Group's equity-based incentive plans and the granting of awards under such plans, reviews and approves changes to our pension plans, reviews periodic management reports on our compensation and benefits, as well as other matters bearing on the relationship between management and employees, while making recommendations to the Board concerning our senior level organization structure and staffing, training and employee development programs.

The Compensation & Human Resources Committee's membership is as follows:

Name	Position
James Burr	Chairperson
Meroe Park	Member
John Wright	Member

Executive Committee

The Executive Committee, on behalf of the Board, acts as a forum to provide for ongoing oversight of matters in the intervals between regularly scheduled Board meetings. The other principal duties of the Executive Committee are to monitor progress and provide guidance on important Group initiatives, plan for upcoming Board meetings and consider and, if thought fit, approve matters requiring approval at short notice in the intervals between Board meetings when it is not possible to convene a meeting of the full Board. The Executive Committee's membership is comprised of the Chairman and Chief Executive Officer, the chair of the Corporate Governance Committee, the chair of the Audit Committee, the chair of the Risk Policy and Compliance Committee and the chair of the Compensation & Human Resources Committee. The Chairman of the Board serves as the chair of the Executive Committee.

The Executive Committee's membership is as follows:

Name	Position
Michael Collins	Chairperson
James Burr	Member
Alastair Barbour	Member
Caroline Foulger	Member
Conor O'Dea	Member

Governance of Geographical Segments

Our banking business operates in three geographical segments — Bermuda, the Cayman Islands, and The Channel Islands and the UK— and each geographical segment utilizes operating subsidiary companies of the Bank within these jurisdictions. See "Information on the Company — Our International Network and Group Structure", which presents the corporate structure chart of our principal subsidiaries as of December 31, 2018. Our principal operating subsidiaries are each regulated by their respective geographical regulator and are fully capitalized as stand-alone operating companies, each with its own board of directors consisting of both executive and non-executive independent directors. Guidance on general corporate governance, board sub-committee structuring, and the various governance policies and procedures of the operating subsidiaries is determined at the Group level.

Current Executive Compensation Arrangements

Senior Management and Director Compensation

In 2018, senior management included the following executives: Michael Collins, Elizabeth Bauman, Daniel Frumkin, Shaun Morris, Michael Schrum, Siân Dalrymple, Andrew Burns, Michael Neff, Michael McWatt and Richard Saunders. Our compensation program is designed to reward and retain senior management and includes base salary, annual short-term cash incentive compensation, long-term equity incentive compensation and miscellaneous employee benefits and fringe benefits (including, among others, executive medical benefits). In 2018, our compensation program for directors was comprised of an annual cash retainer and an equity grant. None of our directors has entered into service contracts with the Group that provide for benefits upon the termination of their service as a director.

On December 12, 2016, the Board approved a new CEO Stock Ownership Guideline (the "Guideline") which requires the CEO to own a minimum aggregate value of our common shares equal to five times base salary. Eligible stock includes vested shares, unvested restricted shares, and other stock held by the CEO. The intrinsic value of vested or unvested stock options is not considered eligible stock under the Guideline. The CEO complied with the Guideline at its inception on December 12, 2016 and as of December 31, 2017. If the market value of the CEO's common stock falls below the Guideline, the CEO must retain 50% of the shares he receives as compensation until he achieves the specified ownership level.

The aggregate amount of compensation, including the value of in-kind benefits, paid to our directors and senior management during fiscal year 2018 was \$19.5 million. During 2018, the Group did not sponsor any deferred compensation plans (other than the equity compensation programs described below) and no amounts were set aside or accrued to provide pension, retirement or similar benefits to directors or senior management, other than employer matching contributions to retirement accounts on terms applicable to employees generally.

Short-Term Incentive Compensation

Senior management participates in our annual discretionary bonus program. Our compensation committee establishes an annual bonus pool based on overall company-wide performance during the applicable fiscal year. Once the compensation committee has approved the pool, the pool is allocated to eligible employees, including senior management, based on the employee's achievement of pre-established performance goals during the applicable fiscal year. Annual bonuses for executives are paid 50% in cash and 50% in the form of restricted share awards that vest in three equal installments on the first three anniversaries of the date of grant.

Equity Compensation

The Group sponsors two equity incentive plans, the 1997 Stock Option Plan for Employees (the "1997 Plan") and the 2010 Omnibus Share Incentive Plan (the "2010 Plan"), in which our senior management and directors have been or are eligible to participate. The Group no longer grants equity awards under the 1997 Plan, although there are unvested stock options under the 1997 Plan that will remain outstanding through 2019. The Group previously granted options under the 2010 Plan and currently grants performance-vesting restricted share awards under the 2010 Plan. As of December 31, 2018, in the aggregate, our members of senior management held 100,000 options and 434,281 restricted shares (assuming that performance with respect to performance-vesting restricted share awards is satisfied at target levels). The outstanding options held by our members of senior management will expire by April 26, 2020 at the latest and have an exercise prices of \$12.40.

Senior management participates in our long-term equity incentive compensation program. Our compensation committee grants annual restricted share awards under our 2010 Plan. Restricted share awards granted in 2014, 2015, 2016, 2017 and 2018 were granted in the form of performance shares, generally vesting upon the achievement of certain performance targets in the three-year period from the effective grant date. Certain members of senior management also participate in our 2010 Executive Stock Purchase Plan, which allows participants to borrow against their common shares and vested options held in a restricted account to purchase common shares.

During calendar year 2018, in the aggregate, our compensation committee granted senior management 276,828 restricted shares (which includes restricted share awards granted under both the annual bonus program and long-term equity incentive compensation, and assumes that performance with respect to performance-vesting restricted share awards is satisfied at target levels).

The Group may, from time to time, in the future establish or sponsor new equity incentive plans, including to replace any existing plan.

Board Leadership Structure and Qualifications

The Bank must comply with the Bermuda Monetary Authority Corporate Governance Policy, which requires the Bank to appoint board members who have appropriate experience, competencies and personal qualities, including professionalism and personal integrity.

It is the Bank's policy to ensure that all companies within the Group have board members who are fit and proper persons to direct the Bank's business with prudence, integrity and professional skills. The boards of the Bank and the Bank's subsidiaries are composed of individuals who possess diverse skills, experience and knowledge that are key to understanding the Bank's business and the execution of the Bank's strategies.

The Bank has established guidelines that address the size and composition of its own board and those of its subsidiaries, and for identifying and selecting suitable candidates for appointment to these boards. The Corporate Governance Committee makes appointment recommendations to the Board and the appointment procedure is formal, rigorous and transparent. Each of the Bank and the Bank's subsidiary boards are reviewed at least every two years or earlier whenever circumstances dictate in order to assess whether the board composition is commensurate with the Bank's strategic objective and diversity principles.

In assessing continuity of service on the Board there is a general presumption that individuals should serve for a maximum of 15 years in order that the Board tenure be refreshed. Non-executive directors who have served for a period of more than 15 years are subject to an independent assessment in accordance with applicable legal requirements and regulatory and listing standards.

Board Oversight of Risk Management

The Board believes that effective risk management and control processes are critical to our safety and soundness, our ability to predict and manage the challenges that we face and, ultimately, our long-term corporate success. The Board, both directly and through its committees, is responsible for overseeing our risk management processes, with each of the committees of the Board assuming a different and important role in overseeing the management of the risks we face.

The Risk Policy and Compliance Committee oversees our enterprise-wide risk management framework, which establishes our overall risk appetite and risk management strategy and enables our management to understand, manage and report on the risks we face. The Risk Policy Compliance Committee also reviews and oversees policies and practices established by management to identify, assess, measure and manage key risks we face, including the risk appetite metrics developed by management and approved by the Board. The Audit Committee of the Board is responsible for overseeing risks associated with financial, accounting and legal matters (particularly financial reporting, accounting practices and policies, disclosure controls and procedures and internal control over financial reporting), reviewing and discussing generally the identification, assessment, management and control of our risk exposures on an enterprise-wide basis and engaging as appropriate with The Risk Policy Compliance Committee to assess our enterprise-wide risk framework. The Compensation & Human Resources Committee of the Board has primary responsibility for risks and exposures associated with our compensation policies, plans and practices, regarding both executive compensation and the compensation structure generally. In particular, our Compensation & Human Resources Committee, in conjunction with our Chairman and Chief Executive Officer and Chief Risk Officer and other members of our management as appropriate, reviews our incentive compensation arrangements to ensure these programs are consistent with applicable laws and regulations, including safety and soundness requirements, and do not encourage imprudent or excessive risk-taking by our employees. The Corporate Governance Committee of the Board oversees risks associated with the independence of the Board and potential conflicts of interest.

Our senior management is responsible for implementing and reporting to the Board regarding our risk management processes, including by assessing and managing the risks we face, including strategic, operational, regulatory, investment and execution risks, on a day-to-day basis. Our senior management is also responsible for creating and recommending to the Board for approval appropriate risk appetite metrics reflecting the aggregate levels and types of risk we are willing to accept in connection with the operation of our business and pursuit of our business objectives.

The role of the Board in our risk oversight is consistent with our leadership structure, with our Chief Executive Officer and the other members of senior management having responsibility for assessing and managing our risk exposure, and the Board and its committees providing oversight in connection with those efforts. We believe this division of risk management responsibilities presents a consistent, systemic and effective approach for identifying, managing and mitigating risks throughout our operations.

Code of Conduct and Ethics and Whistleblower Policy

The Board has adopted a Group Code of Conduct and Ethics (the "Code") based upon recommended principles of corporate governance. The Code sets out the guidelines and procedures for establishing a high standard of ethical conduct, accountability and transparency to which all of our employees are expected to comply and which are consistent with our high standards of ethics and core values. The Board, in conjunction with the Corporate Governance and Risk Policy & Compliance Committees, are responsible for administering the Code. The Code is available on our website at www.butterfieldgroup.com.

The Board has adopted a Whistleblower Policy which augments the Code. The policy is designed to serve as a tool to assist employees who believe they have or may have discovered illegal, unethical, or questionable practices to communicate their concerns confidentially and without fear of reprisals. It is also designed to protect the integrity of the Bank's financial reporting and its business dealings.

Foreign Private Issuer Status

The listing rules of the NYSE include certain accommodations with respect to corporate governance requirements that allow foreign private issuers, such as us, to follow "home country" corporate governance practices in lieu of otherwise applicable NYSE corporate governance standards for listed U.S. companies. However, foreign private issuers are required to have an audit committee that satisfies certain of the NYSE standards, including the requirements of the SEC's Rule 10A-3. Our Audit Committee satisfies such requirements. The NYSE also requires a foreign private issuer to provide certain written affirmations and notices to the NYSE.

SEC rules require foreign private issuers to disclose the significant ways in which their corporate governance practices differ from NYSE listing standards. A description of how our corporate governance practices compare to NYSE listing standards is set forth below:

- *A Majority of Independent Directors.* The NYSE requires the majority of the board of directors of a listed U.S. company to be independent directors pursuant to applicable NYSE standards. As required by our Corporate Governance Guidelines, a majority of our Board (including Alastair Barbour, James Burr, Michael Covell, Caroline Foulger, Meroe Park, Pamela Thomas-Graham and John Wright) is independent according to the NYSE's standards.
- *A Nominating/Corporate Governance Committee.* The NYSE requires a listed U.S. company to have a nominating/corporate governance committee consisting of independent directors as well as a written charter specifying the purpose and responsibilities of the committee. We currently have a Corporate Governance Committee, and the composition of this committee and its written charter are determined pursuant to the NYSE standards. A copy of the charter is available on our website at www.butterfieldgroup.com.
- *A Compensation Committee.* The NYSE requires that requires a listed U.S. company to have a compensation committee consisting of independent directors that also meet additional independence requirements as set forth in the NYSE rules as well as a committee charter specifying the purpose and responsibilities of the committee. We currently have a Compensation & Human Resources Committee, and the composition of this committee and its written charter are determined pursuant to the NYSE standards. A copy of the charter is available on our website at www.butterfieldgroup.com.
- *Executive Sessions.* The NYSE requires that non-management directors meet regularly in executive sessions without management. The NYSE also requires that all independent directors meet in an executive session at least once a year. Our non-management directors meet regularly in executive sessions without management present. In 2018, the Board held two executive sessions with only our independent directors present.
- *Company Policies.* The NYSE requires a listed U.S. company to adopt and disclose a code of business conduct and corporate governance guidelines that address certain governance standards. As noted above, the Board has adopted the Code. In addition, the Board has adopted Corporate Governance Guidelines that address Board composition and qualifications, director responsibilities, director access to management and the Board's authority to engage advisors. Furthermore, we have adopted a Corporate Governance Policy that addresses director compensation, director orientation and continuing education, management succession and Board assessments. The Code and the Corporate Governance Guidelines are available on our website.

We believe that our established corporate governance practice satisfies the NYSE listing standards applicable to foreign private issuers. If at any time we cease to be a "foreign private issuer" under the rules of the NYSE and no other exemptions apply, or if we otherwise so elect, the Board will take any additional actions necessary to comply with NYSE corporate governance rules applicable to listed U.S. companies, subject to a permitted "phase-in" period.

MAJOR SHAREHOLDERS AND RELATED-PARTY TRANSACTIONS

The following table sets forth information with respect to the beneficial ownership of our common shares as of February 15, 2019, unless noted otherwise, in each case by: each person or entity known by us to beneficially own 5% or more of our issued and outstanding common shares; each of our directors and executive officers individually; and all of our directors and executive officers as a group. As of February 15, 2019, we had approximately 55.3 million common shares issued and outstanding.

Under the rules of the Securities and Exchange Commission, a person is deemed to be a "beneficial owner" of a security if that person has or shares "voting power," which includes the power to vote or to direct the voting of such security, or "investment power," which includes the power to dispose of or to direct the disposition of such security. A person is also deemed to be a beneficial owner of any securities of which that person has a right to acquire beneficial ownership within 60 days. Under these rules, more than one person may be deemed to be a beneficial owner of such securities as to which such person has voting or investment power. Except as described in the footnotes below, to our knowledge, each of the persons named in the table below has sole voting and investment power with respect to the common shares beneficially owned, subject to community property laws where applicable.

Unless otherwise noted, the address for each shareholder listed on the table below is: c/o The Bank of N.T. Butterfield & Son Limited, 65 Front Street, Hamilton, HM 12, Bermuda.

Name of beneficial owner	Number of common shares beneficially owned	Beneficial ownership percentage
Major Shareholders:		
Capital World Investors ⁽¹⁾	2,882,958	5.20%
Davis Selected Advisers, L.P. ⁽²⁾	3,224,347	5.80%
Directors and Executive Officers:		
Alastair Barbour	10,908	*
Elizabeth Bauman ⁽³⁾	17,735	*
Andrew Burns ⁽⁴⁾	4,747	*
James F. Burr ⁽⁵⁾	1,553	*
Michael Collins ⁽⁶⁾	104,659	*
Michael Covell	649	*
Siân Dalrymple ⁽⁷⁾	1,516	*
Caroline Foulger	9,081	*
Daniel Frumkin ⁽⁸⁾	255,756	*
Michael McWatt ⁽⁹⁾	29,639	*
Shaun Morris ⁽¹⁰⁾	38,993	*
Michael Neff ⁽¹¹⁾	24,079	*
Conor O'Dea	62,000	*
Meroe Park	1,084	*
Richard Saunders ⁽¹²⁾	8,777	*
Michael Schrum ⁽¹³⁾	116,531	*
Pamela Thomas-Graham	950	*
John R. Wright ⁽¹⁴⁾	12,052	*
All directors and executive officers as a group (18 persons)	700,709	1.30%

* Indicates less than 1%

- (1) Based on the Schedule 13G filed on February 14, 2019 by Capital World Investors, which reported that as of December 31, 2018, Capital World Investors beneficially owned 2,882,958 common shares, with sole voting and dispositive power over all such shares. The Capital World Investors divisions of Capital Research and Management Company and Capital International Limited collectively provide investment management services under the name Capital World Investors. The business address of Capital World Investors is 333 South Hope Street, Los Angeles, CA 90071.
- (2) Based on the Schedule 13G filed on February 13, 2019, 2019 by Davis Selected Advisers, L.P., which reported that as of December 31, 2018, Davis Selected Advisers, L.P. beneficially owned 3,224,347 common shares with sole voting power over 3,179,307 common shares and sole dispositive power over 3,224,347 common shares. The business address of Davis Selected Advisers, L.P. is 2949 East Elvira Road, Suite 101 Tucson, Arizona 85756.
- (3) Consists of (i) 4036 common shares and (ii) 13,699 common shares underlying restricted stock that will vest within 60 days of February 12, 2019.
- (4) Consists of (i) 500 common shares and (ii) 4,247 common shares underlying restricted stock that will vest within 60 days of February 12, 2019.
- (5) Consists of (i) 649 common shares held by Mr. Burr and (ii) 904 common shares held by Wells Fargo over which Mr. Burr exercises voting and dispositive control.
- (6) Consists of (i) 22,755 common shares and (ii) 81,904 common shares underlying restricted stock that will vest within 60 days of February 12, 2019.
- (7) Consists of (i) 142 common shares and (ii) 1,374 common shares underlying restricted stock that will vest within 60 days of February 12, 2019.
- (8) Consists of (i) 118,456 common shares, (ii) 100,000 shares underlying vested but unexercised options, exercisable at strike prices between \$11.50 to \$12.40 which expire on December 20, 2020, and (iii) 37,312 common shares underlying restricted stock that will vest within 60 days of February 12, 2019.
- (9) Consists of (i) 15,707 common shares and (ii) 13,932 common shares underlying restricted stock that will vest within 60 days of February 12, 2019.
- (10) Consists of (i) 19,436 common shares and (ii) 19,557 common shares underlying restricted stock that will vest within 60 days of February 12, 2019.
- (11) Consists of (i) 11,732 common shares and (ii) 12,347 common shares underlying restricted stock that will vest within 60 days of February 12, 2019.
- (12) Consists of 8,777 common shares underlying restricted stock that will vest within 60 days of February 12, 2019.
- (13) Consists of (i) 12,764 common shares held jointly with his spouse, (ii) 68,050 common shares held directly and (iii) 35,717 common shares underlying restricted stock that will vest within 60 days of February 12, 2019.
- (14) Consists of (i) 11,403 common shares held jointly with his spouse and (ii) 649 common shares held directly.

The shareholders listed above do not have voting rights that are different from those held by any other holder of common shares of the Bank. As of February 15, 2019, approximately 80% of our common shares were held of record by holders located in the United States, and there were approximately 240 holders of record of our

common shares located in the United States. As of February 15, 2019, approximately 20% of our common shares were held of record by holders located in Bermuda, and there were approximately 5,000 holders of record of our common shares located in Bermuda.

Our Relationship with The Carlyle Group

Prior to the completion of our registered secondary offering on February 28, 2017, Carlyle held approximately 14% of our equity voting power along with the right to designate two persons for nomination for election by the shareholders as members of the Board. Following the completion of the offering, Carlyle no longer owns any shares of our common stock and no longer has the right to nominate any persons for election by our shareholders as members of the Board.

Investment Agreement

In connection with the subscription by Carlyle and certain other investors for newly issued common shares and preference shares that have since been converted to our common shares, we entered into an Investment Agreement, dated as of March 2, 2010 (the "Investment Agreement") with Carlyle. The Investment Agreement provides for, among other items, subject to the terms set forth in the Investment Agreement, certain transfer restrictions and Carlyle's right to designate two persons for nomination for election by the shareholders as members of the Board. The Investment Agreement also contained certain standstill and other provisions which have generally expired.

Amended Investment Agreement

Prior to our IPO, in August 2016, we entered into the Amended Investment Agreement with Carlyle.

The Amended Investment Agreement provides that, subject to certain exceptions for ordinary public market trades, Carlyle may not transfer the common shares it holds to any person or group if, to its knowledge, such transferee (directly or together with its affiliates) would own 10% or more of the outstanding voting power in the Bank.

In addition, the Amended Investment Agreement provided that (a) until our common shares held by Carlyle represented less than 10% of our issued and outstanding common shares, Carlyle was entitled to nominate two persons for election as members of the Board and (b) if our common shares held by Carlyle represented less than 10% but at least 5% of our issued and outstanding common shares, Carlyle was entitled to nominate one person for election as a member of the Board (such nominees, "Carlyle Directors"), in each case subject to the Carlyle Directors' satisfaction of legal requirements regarding services as a director. The Amended Investment Agreement provided that we would use our reasonable best efforts to cause the Carlyle Directors to be elected to the Board and would solicit proxies for the Carlyle Directors to the same extent that we do for our other nominees to the Board, and that if requested by Carlyle, one Carlyle Director chosen by Carlyle would be appointed to certain committees and subcommittees of the Board.

Under the terms set forth in the Amended Investment Agreement, until our common shares held by Carlyle represented less than 5% of our issued and outstanding common shares, we also agreed to share certain financial and other information with Carlyle and Carlyle was generally obliged to treat information provided to it as confidential, and to comply with all applicable rules and regulations in relation to the use and disclosure of such information.

As of the completion of our registered secondary offering on February 28, 2017, Carlyle no longer holds any of our issued and outstanding common shares. As such, Carlyle is no longer entitled to the applicable rights set forth above under the Amended Investment Agreement, including the right to nominate persons for election by our shareholders as members of the Board.

This summary does not purport to be a comprehensive description of the Amended Investment Agreement, and is qualified in its entirety by the full text of the Amended Investment Agreement filed as an exhibit to this report.

Financing Transactions

On June 27, 2013, the Group executed a \$95 million loan agreement with an investment fund managed by The Carlyle Group which provided for maturity on June 30, 2017. This loan was made in the ordinary course of business on normal commercial terms and was repaid in full according to its terms on August 11, 2015. In 2018, nil (2017: nil) of interest income was recognized in the consolidated statements of operations.

Transactions with Related Parties and with Directors and Executive Officers

Financing Transactions

Certain directors and executives of the Bank, companies in which they are principal owners and/or members of the board, and trusts in which they are involved, have loans with the Bank. Loans to directors were made in the ordinary course of business at normal credit terms, including interest rate and collateral requirements. Loans to executives may be eligible to preferential rates. As at December 31, 2018, related party director and executive loan balances were \$97.2 million (December 31, 2017: \$30.6 million). During the year ended December 31, 2018, new issuance of loans and change in directorships to directors and executives were \$77.3 million and repayments and change in directorships were \$11.0 million (year ended December 31, 2017: \$31.7 million and \$8.9 million, respectively; year ended December 31, 2016: \$27.6 million and \$25.1 million, respectively). During the year ended December 31, 2017, a director resigned from the Board resulting in \$4.3 million in loans being reclassified out of related-party loans. All of these loans were considered performing loans as at December 31, 2018 and December 31, 2017. For the year ended December 31, 2018, the Bank has recognized \$4.5 million (December 31, 2017: \$1.1 million; December 31, 2016: \$0.4 million) of loan interest revenue in the consolidated statement of operations relating to directors and executives, companies in which they are principal owners and/or members of the board and trusts in which they are involved.

Certain directors and executives of the Bank, companies in which they are principal owners, and trusts in which they are involved, have deposits with the Bank. As at December 31, 2018, related party director and executive deposit balances were \$17.2 million (December 31, 2017: \$23.5 million).

Certain affiliates of the Bank have loans and deposits with the Bank. The loans were made and the deposits are maintained in the ordinary course of business on normal commercial terms. At December 31, 2018, affiliates had loan balances of \$10.2 million (December 31, 2017: \$10.5 million) and deposit balances of \$0.4 million (December 31, 2017: \$0.6 million). For the year ended December 31, 2018, the Bank has recognized \$1.8 million (December 31, 2017: \$1.9 million; December 31, 2016: \$2.2 million) of non-interest expenses and \$0.6 million (December 31, 2017: \$0.6 million; December 31, 2016: \$0.6 million) of loan interest revenue in the consolidated statement of operations relating to affiliates which the Bank holds investments in.

Capital Transaction

Up to February 28, 2017, investment partnerships associated with The Carlyle Group held approximately 14% of the Bank's equity voting power along with the right to designate two persons for nomination for election by the shareholders as members of the Bank's Board of Directors. On February 28, 2017, as a result of a secondary public offering, the Carlyle Group sold their holdings in the Bank, and as a result, the investment agreement between the Bank and the Carlyle Group was terminated.

Financial Transactions With Related Parties

The Bank holds seed investments in several Butterfield mutual funds, which are managed by a wholly-owned subsidiary of the Bank. As at December 31, 2018, these investments have a fair value of \$6.2 million with an unrealized gain of \$1.2 million (December 31, 2017: \$6.6 million and \$1.6 million, respectively) and were included in trading investments at their fair value. As at December 31, 2018, several Butterfield mutual funds which are managed by a wholly owned subsidiary of the Bank, had loan balances of \$1.8 million (December 31, 2017: nil) and deposit balances of \$36.7 million (December 31, 2017: \$0.2 million). During the year ended December 31, 2018, the Bank earned \$9.4 million (December 31, 2017: \$7.7 million; December 31, 2016: \$5.7 million) in asset management revenue from funds managed by a wholly-owned subsidiary of the Bank. During the year ended December 31, 2018, the Bank earned \$1.4 million (December 31, 2017: \$1.0 million; December 31, 2016: \$1.0 million) in custody and other administration services revenue from funds managed by a wholly-owned subsidiary of the Bank and directors and executives, companies in which they are principal owners and/or members of the board and trusts in which they are involved. During the year ended December 31, 2018, the Bank earned \$0.9 million (December 31, 2017: \$0.1 million; December 31, 2016: \$0.1 million) in other income from other related parties.

Employment Agreements

The Group has entered into employment agreements with senior management. The compensation paid in 2018 to senior management under the employment agreements is described above under "Management — Current Executive Compensation Arrangements". The senior management employment agreements generally provide for terms and conditions of employment, including the payment of a base salary, participation in the Group's short and long-term incentive compensation programs, notice provisions, severance benefits, change in control equity award vesting and participation in the Group's health, welfare and retirement programs available to all senior executives. For certain members of senior management, the employment agreements also provide for executive life insurance and participation in the Group's share purchase programs.

Related-Party Transaction Policy

The Board has adopted a written policy governing the review, approval or ratification of transactions between the Bank or any of its subsidiaries and any "related party," which is a person or entity: (1) that controls, is controlled by, or is under common control with the Bank; (2) that is an associate of the Bank; (3) that is a shareholder of the Bank that has significant influence by virtue of its ownership of the Bank; (4) that is a director, executive officer or other key management person at the Bank; or (5) in which a substantial interest in its voting power is held by the persons described in (3) or (4) above. The policy calls for the related-person transactions to be reviewed and, if deemed appropriate, approved or ratified by our Corporate Governance Committee. In determining whether or not to approve or ratify a related-person transaction, our Corporate Governance Committee takes into account, among other factors it deems important, whether the related-person transaction is in our best interests and whether the transaction is on terms no less favorable than terms generally available to an unaffiliated third party under the same or similar circumstances. In the event that a member of our Corporate Governance Committee is not disinterested with respect to the related-person transaction under review, that member may not participate in the review, approval or ratification of that related-person transaction. Approval of the disclosure of any related party transaction included in our financial statements or any other SEC filing is the responsibility of the Audit Committee.

CERTAIN TAXATION CONSIDERATIONS

Bermuda Tax Considerations

Under Bermuda law, there are currently no stamp or documentary taxes, duties or similar taxes in connection with a conveyance or transfer on sale, or a conveyance or transfer to effect or having the effect of a voluntary disposition inter vivos or any agreement for the lending and borrowing of the Bank's shares which are listed on the BSX or NYSE.

We are not required by any Bermuda law or regulation to make any deductions or withholdings in Bermuda from any payment we may make in respect of the Bank's shares. However, during 2018 the Bermuda Tax Reform Commission proposed the introduction of a withholding tax on interest and dividend income, amongst other reforms. The Bermuda government has not introduced this tax as yet. If the tax is introduced, there may be an impact on holders of the Bank's shares, along with an increase in our compliance obligations.

Furthermore, Bermuda currently has no corporate or capital gains taxes.

Material US Federal Income Tax Consequences

This section describes the material US federal income tax consequences of owning and disposing of common shares of the Bank. It applies solely to US shareholders (as defined below) that hold shares as capital assets for US federal income tax purposes. This section does not describe all of the tax consequences that may apply to members of a special class of holders subject to special rules, including:

- a dealer in securities or foreign currencies;
- a regulated investment company;
- a trader in securities that elects to use a mark-to-market method of accounting for securities holdings;
- a tax-exempt organization;
- a bank, an insurance company, or any other financial institution;
- a person that actually or constructively owns 10% or more, by vote or value, of the Bank;
- a person that holds the Bank's common shares as part of a straddle or a hedging, conversion, or other risk reduction transaction for US federal income tax purposes;
- a person that purchases or sells common shares as part of a wash sale for tax purposes;
- an entity classified as a partnership for US federal income tax purposes; or
- a person whose functional currency is not the US Dollar.

This section is based on the Internal Revenue Code of 1986, as amended (the "IRC"), its legislative history, existing and proposed Treasury regulations, published rulings and court decisions, all as of the date hereof. These laws are subject to change, possibly on a retroactive basis.

If an entity treated as a partnership for US federal income tax purposes holds common shares, the US federal income tax treatment of a partner will generally depend on the status of the partner and the tax treatment of the partnership. A partner in an entity treated as a partnership for US federal income tax purposes holding common shares should consult its tax advisers with regard to the US federal income tax treatment of the ownership and disposition of the Bank's common shares.

Shareholders should consult their own tax advisers regarding the US federal, state and local and foreign and other tax consequences of owning and disposing of the Bank's common shares in their particular circumstances.

Special adverse US federal income tax rules apply if a US shareholder owns shares of a company that is or was treated as a PFIC for US federal income tax purposes for any taxable year during which the US shareholder held such shares. US shareholders should consult their own tax advisers as to the potential application of the PFIC rules to their ownership and disposition of the Bank's common shares.

US Shareholders

For the purposes of this discussion, a "US shareholder" is a beneficial owner of common shares that is:

- an individual that is a citizen or resident of the United States,
- a corporation, or other entity taxable as a corporation, created or organized under the laws of the United States, any state therein or the District of Columbia,
- an estate whose income is subject to US federal income tax regardless of its source, or
- a trust if a US court can exercise primary supervision over the trust's administration and one or more US persons are authorized to control all substantial decisions of the trust.

Passive Foreign Investment Company Considerations

Special adverse US federal income tax rules apply if a US shareholder holds shares of a company that is treated as a PFIC for any taxable year during which the US shareholder held such shares. This conclusion is a factual determination that is made annually and thus may be subject to change. A foreign corporation will be considered a PFIC with respect to a US Shareholder for any taxable year if (i) at least 75% of its gross income for the taxable year is passive income (the "income test"), or (ii) at least 50% of the value, determined on the basis of a quarterly average, of its assets is attributable to assets that produce or are held for the production of passive income (the "asset test"). Passive income for this purpose generally includes dividends, interest, royalties, rents (other than certain rents and royalties derived in the active conduct of a trade or business), annuities and gains from assets that produce passive income. If a foreign corporation owns at least 25% (by value) of the shares or stock of another corporation, the foreign corporation is treated, for purposes of the PFIC tests, as owning a proportionate share of the other corporation's assets and receiving its proportionate share of the other corporation's income.

Banks generally derive a substantial part of their income from assets that are interest bearing or that otherwise could be considered passive under the PFIC rules. The IRS has issued a notice, and has proposed regulations, that exclude from passive income any income derived in the active conduct of a banking business by a qualifying foreign bank.

Based upon the proportion of our income derived from activities that are "bona fide" banking activities for US federal income tax purposes, we believe that we were not a PFIC for the taxable year ending December 31, 2017 (the latest period for which the determination can be made) and, based further on our present regulatory status under local laws, the present nature of our activities, and the present composition of our assets and sources of income, we do not expect to be a PFIC for the current year or any

future years. However, because PFIC status is a factual determination and because there are uncertainties in the application of the relevant rules, there can be no assurances that we will not be a PFIC for any particular year.

If the Bank were a PFIC in any taxable year during which a US shareholder owns the Bank's common shares and the US shareholder does not make a "mark-to-market" election, as discussed below, or a special "purging" election, the Bank generally would continue to be treated as a PFIC with respect to such US shareholder in all succeeding taxable years, regardless of whether the Bank continues to meet the income or asset test discussed above. US shareholders are urged to consult their own tax advisers with respect to the tax consequences to them if the Bank were to become a PFIC for any taxable year in which they own the common shares.

If the Bank is a PFIC for any taxable year during which a US shareholder holds the common shares and the US shareholder does not make a mark-to-market election, as described below, the US shareholder will be subject to special rules with respect to:

- any gain realized on the sale or other disposition of its common shares; and
- any "excess distribution" that the Bank makes to the US shareholder (generally, any distributions to the US shareholder during a single taxable year that are greater than 125% of the average annual distributions received by the US shareholder in respect of its common shares during the three preceding taxable years or, if shorter, the portion of the US shareholder's holding period for the common shares).

Under these rules:

- the gain or excess distribution will be allocated ratably over the US shareholder's holding period for the common shares;
- the amount allocated to the taxable year in which the US shareholder realized the gain or excess distribution and to years before the Bank became a PFIC will be taxed as ordinary income; and
- the amount allocated to each other taxable year, with certain exceptions, will be subject to additional tax calculated by multiplying the amount allocated to such other taxable year by the highest tax rate in effect for that taxable year for individuals or corporations, as appropriate, and the interest charge generally applicable to underpayments of tax will be imposed in respect of the tax attributable to each such year.

Alternatively, if a US shareholder owns shares in a PFIC that are treated as "marketable stock," the US shareholder may make a mark-to-market election. The common shares will be treated as marketable stock if they are regularly traded on a "qualified exchange." For these purposes, the common shares will be considered regularly traded during any calendar year during which it is traded, other than in negligible quantities, on a qualified exchange, which includes the NYSE, on at least 15 days during each calendar quarter. Any trades that have as their principal purpose meeting this requirement will be disregarded.

A US shareholder that makes a mark-to-market election will not be subject to the PFIC rules described above. Instead, the US shareholder will include as ordinary income each year that the Bank is a PFIC the excess, if any, of the fair market value of its common shares at the end of the taxable year over its adjusted basis in the common shares. These amounts of ordinary income will not be eligible for the favorable tax rates applicable to qualified dividend income or long-term capital gains discussed above. The US shareholder will also be allowed to take an ordinary loss in respect of the excess, if any, of the adjusted basis of its common shares over their fair market value at the end of the taxable year that the Bank is a PFIC (but only to the extent of the net amount of income previously included as a result of the mark-to-market election). The US shareholder's basis in its common shares will be adjusted to reflect any such income or loss amounts recognized. Any gain recognized on the sale or other disposition of the common shares in a taxable year when the Bank is a PFIC will be treated as ordinary income and any loss will be treated as an ordinary loss (but only to the extent of the net amount of income previously included as a result of the mark-to-market election). Distributions paid on the common shares will be treated as discussed above under "Taxation of Dividends".

A mark-to-market election will continue to be in effect for all taxable years in which the Bank is a PFIC and the common shares are treated as marketable stock, and may not be revoked without the consent of the IRS. If the US shareholder makes a mark-to-market election with respect to its common shares, it will be treated as having a new holding period in its common shares beginning on the first day of the first taxable year beginning after the last taxable year for which the mark-to-market election applies. The application of the mark-to-market rules to an investment in a PFIC with a subsidiary that is also a PFIC is not entirely clear; however, there is a significant risk that some or all of such an investment will be subject to the special rules described above that apply if a mark-to-market election is not made, even if a mark-to-market election is made with respect to the parent PFIC. In the event that the Bank is a PFIC, US shareholders are urged to consult their tax advisers regarding the availability of the mark-to-market election, and whether the election would be advisable in the holder's particular circumstances.

The PFIC rules outlined above would also not apply to a US shareholder if such holder were to elect to treat us as a qualified electing fund ("QEF"). An election to treat us as a QEF will not be available, however, if the Bank does not provide the information necessary to make such an election. The Bank will not provide US shareholders with the information necessary to make a QEF election, and thus, the QEF election will not be available with respect to the common shares.

Notwithstanding any election made with respect to the common shares, dividends received with respect to the common shares will not constitute "qualified dividend income" if we are a PFIC (or are treated as a PFIC with respect to the relevant US shareholder) in either the taxable year of the distribution or the preceding taxable year. Dividends that do not constitute qualified dividend income are not eligible for taxation at the reduced tax rate available to certain non-corporate holders described above in "Taxation of Dividends". Instead, such dividends would be subject to tax at ordinary income rates.

If a US shareholder owns common shares during any taxable year in which we are a PFIC, the US shareholder generally must file annual tax returns (including on Form 8621), for each taxable year that the US shareholder owns the common shares, unless its ownership satisfies a *de minimis* test.

Taxation of Dividends

Subject to the preceding discussion under "Risk Factors" under the heading "— Passive Foreign Investment Company Considerations", a US shareholder must include in its gross income as dividends the gross amount of any distribution paid by the Bank to the extent that it is paid out of the Bank's current or accumulated earnings and profits as determined for US federal income tax purposes. Distributions in excess of current and accumulated earnings and profits, as determined for US federal income tax purposes, will be treated as a non-taxable return of capital to the extent of the US shareholder's basis in the common shares of the Bank, causing a reduction in the US shareholder's adjusted basis in such common shares, and thereafter as capital gain. Because the Bank does not maintain calculations of its earnings and profits under US federal income tax principles, it is expected that distributions generally will be reported to US shareholders as dividends.

Dividends paid to certain non-corporate US shareholders by a "qualified foreign corporation" that constitute qualified dividend income are taxable to the shareholder at the preferential rates applicable to long-term capital gains provided that the shareholder holds the shares for more than 60 days during the 121-day period beginning 60 days before the ex-dividend date and meets other holding period requirements. For this purpose, common shares of the Bank will be treated as stock of a "qualified foreign corporation" if the Bank was not a PFIC for the taxable year in which the dividend was paid, or the preceding taxable year and if such common shares are listed on an established securities market in the United States, such as the NYSE. The common shares of the Bank are listed on the NYSE. Accordingly, subject to the preceding discussion under the heading "— Passive Foreign Investment Company Considerations", dividends the Bank pays with respect to the common shares will constitute qualified dividend income, assuming the holding period requirements are met.

The dividend will not be eligible for the dividends-received deduction allowed to US corporations in respect of dividends received from other US corporations.

Dividends generally will be treated as foreign source income for US foreign tax credit purposes. Under Section 904(h) of the IRC, however, dividends paid by a foreign corporation that is treated as 50% or more owned, by vote or value, by US persons for US federal income tax purposes may be treated as US source income (rather than foreign source income) for foreign tax credit purposes, to the extent the foreign corporation earns US source income. In general, therefore, the application of Section 904(h) of the IRC may adversely affect a US shareholder's ability to use foreign tax credits. As a result of the listing of the common shares of the Bank on the NYSE, the Bank may be treated as 50% or more owned by US persons for purposes of Section 904(h) of the IRC. US shareholders are strongly urged to consult their own tax advisers regarding the possible impact if Section 904(h) of the IRC should apply.

Taxation of Capital Gains

Subject to the preceding discussion under the heading "— Passive Foreign Investment Company Considerations", a US shareholder that sells or otherwise disposes of common shares of the Bank will recognize capital gain or loss for US federal income tax purposes equal to the difference between the amount that the US shareholder realizes and the US shareholder's tax basis in those common shares. Capital gain of a non-corporate US shareholder is generally taxed at preferential rates where the property is held for more than one year. The gain or loss will be US source income or loss for foreign tax credit limitation purposes. The deduction of capital losses is subject to limitations.

Medicare Tax on Net Investment Income

A US person that is an individual or estate, or a trust that does not fall into a special class of trusts that is exempt from such tax, is subject to a 3.8% tax (the "Medicare tax") on the lesser of (i) the US person's "net investment income" (or "undistributed net investment income" in the case of an estate or trust) for the relevant taxable year and (ii) the excess of the US person's modified adjusted gross income for the taxable year over a certain threshold (which in the case of individuals is between \$125,000 and \$250,000, depending on the individual's circumstances). A shareholder's net investment income generally includes its dividend income and its net gains from the disposition of shares, unless such dividends or net gains are derived in the ordinary course of the conduct of a trade or business (other than a trade or business that consists of certain passive or trading activities). If a shareholder is a US person that is an individual, estate or trust, the shareholder is urged to consult the shareholder's tax advisers regarding the applicability of the Medicare tax to the shareholder's income and gains in respect of the shareholder's investment in the Bank's common shares.

Information with Respect to Foreign Financial Assets

Owners of "specified foreign financial assets" with an aggregate value in excess of \$50,000 (and in some cases, a higher threshold) may be required to file an information report with respect to such assets with their tax returns. "Specified foreign financial assets" include any financial accounts maintained by foreign financial institutions, as well as any of the following, if they are held for investment and not held in accounts maintained by financial institutions: (i) stocks and securities issued by non-US persons, (ii) financial instruments and contracts that have non-US issuers or counterparties and (iii) interests in foreign entities. US shareholders are urged to consult their tax advisers regarding the application of this legislation to their ownership of the Bank's common shares.

Backup Withholding and Information Reporting

Information reporting requirements for a non-corporate US shareholder, on IRS Form 1099, will apply to (i) dividend payments or other taxable distributions made to such US shareholder within the United States, and (ii) the payment of proceeds to such US shareholder from the sale of the Bank's common shares effected at a US office of a broker.

Additionally, backup withholding may apply to such payments to a non-corporate US shareholder that (i) fails to provide an accurate taxpayer identification number, (ii) (in the case of dividend payments) is notified by the IRS that such US shareholder has failed to report all interest and dividends required to be shown on such US shareholder's federal income tax returns, or (iii) in certain circumstances, fails to comply with applicable certification requirements.

A US shareholder may obtain a refund of any amounts withheld under the backup withholding rules that exceed the shareholder's income tax liability by properly filing a refund claim with the IRS.

Payment of proceeds from the sale of shares effected at a foreign office of a broker generally will not be subject to information reporting or backup withholding. However, a sale effected at a foreign office of a broker could be subject to information reporting in the same manner as a sale within the United States, (and in certain cases may be subject to backup withholding as well) if (i) the broker has certain connections to the United States, or (ii) the sale has certain other specified connections with the United States.

Foreign Account Tax Compliance Act Withholding

Pursuant to the FATCA enacted in 2010, a 30% withholding tax will be imposed on certain payments to certain non-US financial institutions that fail to comply with certain information-reporting, account identification, withholding, certification and other FATCA-related requirements in respect of their direct and indirect United States shareholders and/or United States accountholders. To avoid becoming subject to FATCA withholding, we and other non-US financial institutions may be required to report information to the IRS regarding the holders of the common shares and to withhold on a portion of payments under the common shares to certain holders that fail to comply with the relevant information reporting requirements (or the holders of the common shares directly or indirectly through certain non-compliant intermediaries). Such withholding would not apply to payments made with respect to the Bank's common shares before January 1, 2019.

ENFORCEMENT OF CIVIL LIABILITIES

The Bank is incorporated under the laws of Bermuda. As a result, the rights of holders of the Bank's common shares will be governed by Bermuda law and the Butterfield Act and the Bank's bye-laws. The rights of shareholders under Bermuda law may differ from the rights of shareholders of companies incorporated in other jurisdictions. Some of our directors and some of the named experts referred to in this annual report are not residents of the United States, and a substantial portion of our assets are located outside the United States. As a result, it may be difficult for investors to effect service of process on those persons in the United States or to enforce in the United States judgments obtained in US courts against us or those persons based on the civil liability provisions of the US federal securities laws. However, we may be served with process in the United States with respect to actions against us arising out of or in connection with violations of US federal securities laws relating to offers and sales of common shares made hereby by serving C T Corporation System, 111 Eighth Avenue, New York, New York 10011, our US agent irrevocably appointed for that purpose.

It is doubtful whether courts in Bermuda will enforce judgments obtained in other jurisdictions, including the United States, against us or our directors or officers under the securities laws of those jurisdictions, or entertain actions in Bermuda against us or our directors or officers under the securities laws of other jurisdictions.

DISCLOSURE CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

As of the end of the period covered by this report, Butterfield carried out an evaluation, under the supervision and with the participation of Butterfield's management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of Butterfield's disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934 (the "Exchange Act"), to ensure that information required to be disclosed by Butterfield in reports that it files or submits under the Exchange Act, is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to Butterfield's management, including its Chief Executive Officer and Chief Financial Officer, as appropriate, to allow for timely decisions regarding required disclosure. Based upon that evaluation, Butterfield's Chief Executive Officer and Chief Financial Officer concluded that the design and operation of these disclosure controls and procedures were effective, in all material respects, as of the end of the period covered by this report.

Reports Regarding Internal Controls

Management's Annual Report on Internal Control over Financial Reporting and the Report of Independent Registered Public Accounting Firm are included on pages F-2 and F-3, respectively.

PRINCIPAL ACCOUNTANT FEES AND SERVICES

The following table sets forth for the fiscal years indicated the fees charged by our principal accountant and its associated entities for various services provided during those periods:

In millions of \$ Type of Services	Fiscal Year Ended		Description of Service
	December 31, 2018	December 31, 2017	
Audit services	7.4	5.9	(1)
Audit-related services	—	—	
Tax services	—	0.1	(2)
Other services	0.2	0.1	(3)
Total	7.6	6.1	

- (1) Professional services rendered for the audit and review of the consolidated financial statements of The Bank of N.T. Butterfield & Son Limited and statutory audits of the financial statements of The Bank of N.T. Butterfield & Son Limited and its subsidiaries, compliance with local regulations, issuance of and services related to a comfort letter to the underwriters in connection with our initial public offering and review of documents filed with the BMA and the SEC (including services provided by independent experts to the audit firms in connection with the audit).
- (2) Services that are normally performed by the independent accountants, ancillary to audit services.
- (3) The non-audit services required during the years disclosed above were subject to the Audit Committee's pre-approval process pursuant to paragraph (c) (7)(i)(C) of Rule 2-01 of Regulation S-X.

Preapproval Procedures

To ensure PwC's independence, all services provided by PwC have to be preapproved by the Audit Committee. A preapproval may be granted either for a specific mandate or in the form of a blanket preapproval authorizing a limited and well-defined type and amount of services. The Audit Committee reviews and approves a list of blanket preapprovals annually.

The Audit Committee has delegated preapproval authority to its Chairman up to a maximum of \$500,000 for any engagement, and the Group Chief Financial Officer and Chief Accountant submit all proposals for services by PwC to the Chairman of the Audit Committee, unless there is a blanket preapproval in place. The Audit Committee is informed of the approvals granted by its Chairman on a quarterly basis.

ISSUER PURCHASES OF EQUITY SECURITIES

The below details purchases made by or on behalf of the issuer or any "affiliated purchaser," as defined in §240.10b-18(a)(3), of shares or other units of any class of the issuer's equity securities that is registered by the issuer pursuant to section 12 of the Exchange Act (15 U.S.C. 78l) in the three months ending on December 31, 2018.

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

As previously reported, on February 15, 2018, the Board approved, with effect on April 1, 2018, the 2018 common share buy-back program, authorizing the purchase for treasury of up to 1.0 million common shares. On December 6, 2018, the Board approved, with effect from December 10, 2018 to February 29, 2020, a common share buy-back program, authorizing the purchase for treasury of up to 2.5 million common shares.

The following table summarizes our repurchases of our common shares for the three months ended December 31, 2018.

Type of Services	Total number of shares repurchased	Average price paid per share	Total number of cumulative shares repurchased	Maximum number of shares to be repurchased under the program
October	514,137	39.16	514,137	485,863
November	485,863	41.26	1,000,000	—
December	254,212	32.51	254,212	2,245,788

WHERE YOU CAN FIND MORE INFORMATION

As a foreign private issuer, we are also exempt from the requirements of Regulation FD (Fair Disclosure) which, generally, are meant to ensure that select groups of investors are not privy to specific information about an issuer before other investors. We are, however, still subject to the anti-fraud and anti-manipulation rules of the SEC, such as Rule 10b-5 under the Securities Act. Since many of the disclosure obligations required of us as a foreign private issuer are different than those required by other United States domestic reporting companies, the Bank's shareholders, potential shareholders and the investing public in general should not expect to receive information about us in the same amount, and at the same time, as information is received from, or provided by, other United States domestic reporting companies. We are liable for violations of the rules and regulations of the SEC which do apply to us as a foreign private issuer, see "Implications of Being a Foreign Private Issuer".

You may review and copy the registration statements, reports and other information we file at the SEC's Public Reference Room at 100 F Street, N.E., Washington, DC 20549. You may also request copies of these documents upon payment of a duplicating fee by writing to the SEC.

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Management's Annual Report on Internal Control over Financial Reporting

Management of The Bank of N.T. Butterfield & Son Limited ("Butterfield" or the "Bank") is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process designed by, or under the supervision of, the Bank's principal executive and principal financial officers, or persons performing similar functions, and effected by Butterfield's Board of Directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America.

Butterfield's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records, that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the Bank's assets; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the Bank are being made only in accordance with authorizations of Butterfield's management and directors; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Bank's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. Management has completed an assessment of the effectiveness of Butterfield's internal control over financial reporting as of December 31, 2018. In making the assessment, management used the "Internal Control - Integrated Framework (2013)" promulgated by the Committee of Sponsoring Organizations of the Treadway Commission.

On March 29, 2018, the Bank concluded the acquisition of Deutsche Bank's Global Trust Solutions ("GTS") business, excluding its US operations. GTS' total assets and total revenues represented approximately 0.3% and 1.3%, respectively of the Bank's total assets and total revenues as of and for the year ended December 31, 2018. As permitted under SEC guidance, the Bank has excluded GTS from the Bank's assessment scope for the effectiveness of internal control over financial reporting as of December 31, 2018 because it was acquired by the Bank in a purchase business combination during 2018.

Based upon the assessment performed, management concluded that as of December 31, 2018, Butterfield's internal control over financial reporting was effective. There have been no changes in Butterfield's internal control over financial reporting that occurred during the period covered by this report which have materially affected or are reasonably likely to materially affect Butterfield's internal control over financial reporting.

The effectiveness of the Bank's internal control over financial reporting as of December 31, 2018, has been audited by PricewaterhouseCoopers Ltd, an independent registered public accounting firm, as stated in their report on page F-3 of this annual report.

/s/ Michael Collins

Michael Collins

Chairman and Chief Executive Officer

/s/ Michael Schrum

Michael Schrum

Chief Financial Officer

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of
The Bank of N.T. Butterfield & Son Limited

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of The Bank of N.T. Butterfield & Son Limited and its subsidiaries (the “Company”) as of December 31, 2018 and 2017, and the related consolidated statements of operations, comprehensive income, changes in shareholders’ equity and cash flows for each of the three years in the period ended December 31, 2018, including the related notes (collectively referred to as the “consolidated financial statements”). We also have audited the Company’s internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company’s management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management’s Annual Report on Internal Control over Financial Reporting. Our responsibility is to express opinions on the Company’s consolidated financial statements and on the Company’s internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

As described in Management’s Annual Report on Internal Control over Financial Reporting, management has excluded Deutsche Bank’s Global Trust Solutions (“GTS”) business from its assessment of internal control over financial reporting as of December 31, 2018 because it was acquired by the Company in a purchase business combination during 2018. We have also excluded GTS from our audit of internal control over financial reporting. GTS’ total assets and total revenues excluded from management’s assessment and our audit of internal control over financial reporting represent approximately 0.3% and 1.3%, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2018.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers Ltd.
Hamilton, Bermuda
February 26, 2019

We have served as the Company's auditor since 1961.

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

	As at	
	December 31, 2018	December 31, 2017
Assets		
Cash and demand deposits with banks - Non-interest bearing	124,182	89,381
Demand deposits with banks - Interest bearing	487,588	340,256
Cash equivalents - Interest bearing	1,442,113	1,105,501
Cash due from banks	2,053,883	1,535,138
Securities purchased under agreement to resell	27,341	178,769
Short-term investments	52,336	249,984
Investment in securities		
Trading	6,495	6,824
Available-for-sale	2,182,749	3,317,440
Held-to-maturity (fair value: \$2,036,214 (2017: \$1,377,354))	2,066,120	1,381,955
Total investment in securities	4,255,364	4,706,219
Loans		
Loans	4,068,991	3,812,329
Allowance for credit losses	(25,102)	(35,467)
Loans, net of allowance for credit losses	4,043,889	3,776,862
Premises, equipment and computer software	158,060	164,790
Accrued interest	20,870	24,915
Goodwill	23,991	21,529
Intangible assets	50,751	39,066
Equity method investments	14,660	14,099
Other real estate owned	5,346	9,127
Other assets	66,687	58,739
Total assets	10,773,178	10,779,237
Liabilities		
Customer deposits		
Bermuda		
Non-interest bearing	1,378,539	1,840,201
Interest bearing	3,117,063	3,412,623
Non-Bermuda		
Non-interest bearing	732,957	639,525
Interest bearing	4,189,860	3,631,643
Total customer deposits	9,418,419	9,523,992
Bank deposits		
Bermuda	8,100	442
Non-Bermuda	25,722	12,024
Total deposits	9,452,241	9,536,458
Employee benefit plans	117,203	128,798
Accrued interest	5,072	2,376
Pending payable for investments purchased	—	51,913
Other liabilities	172,997	119,811
Total other liabilities	295,272	302,898
Long-term debt	143,322	117,000
Total liabilities	9,890,835	9,956,356
Commitments, contingencies and guarantees (Note 12)		
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: 55,359,218 (2017: 54,692,630)	554	547
Additional paid-in capital	1,171,435	1,155,542
Accumulated deficit	(92,676)	(204,156)
Less: treasury common shares, at cost: 1,254,212 (2017: nil)	(48,443)	—
Accumulated other comprehensive loss	(148,527)	(129,052)
Total shareholders' equity	882,343	822,881
Total liabilities and shareholders' equity	10,773,178	10,779,237

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

/s/ Michael Collins

Michael Collins

Chairman of the Board

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

	Year ended		
	December 31, 2018	December 31, 2017	December 31, 2016
Non-interest income			
Asset management	25,603	24,711	21,106
Banking	45,010	43,772	39,342
Foreign exchange revenue	32,895	32,222	30,606
Trust	51,004	44,936	44,060
Custody and other administration services	9,262	8,149	8,883
Other non-interest income	4,912	4,035	3,476
Total non-interest income	168,686	157,825	147,473
Interest income			
Interest and fees on loans	218,495	187,020	188,000
<i>Investments (none of the investment securities are intrinsically tax-exempt)</i>			
Trading	—	—	1,725
Available-for-sale	68,936	65,299	53,184
Held-to-maturity	55,327	36,132	22,261
Deposits with banks	24,830	17,178	9,759
Total interest income	367,588	305,629	274,929
Interest expense			
Deposits	17,617	10,931	11,831
Long-term debt	6,949	4,954	4,500
Securities sold under repurchase agreements	33	—	118
Total interest expense	24,599	15,885	16,449
Net interest income before provision for credit losses	342,989	289,744	258,480
Provision for credit recoveries (losses)	6,991	5,837	(4,399)
Net interest income after provision for credit losses	349,980	295,581	254,081
Net trading gains (losses)	(329)	511	715
Net realized gains (losses) on available-for-sale investments	1,100	4,186	1,546
Net gains (losses) on other real estate owned	(322)	(2,383)	(440)
Net other gains (losses)	(1,304)	(1,045)	(807)
Total other gains (losses)	(855)	1,269	1,014
Total net revenue	517,811	454,675	402,568
Non-interest expense			
Salaries and other employee benefits	159,778	145,138	140,246
Technology and communications	60,280	53,999	57,441
Professional and outside services	26,034	27,181	18,851
Property	21,825	19,878	21,043
Indirect taxes	19,485	18,050	16,352
Non-service employee benefits expense	5,570	8,090	(279)
Marketing	6,116	5,739	4,513
Amortization of intangible assets	5,091	4,210	4,514
Restructuring costs	—	1,772	6,266
Other expenses	17,164	16,279	16,952
Total non-interest expense	321,343	300,336	285,899
Net income before income taxes	196,468	154,339	116,669
Income tax expense	(1,284)	(1,087)	(727)
Net income	195,184	153,252	115,942
Cash dividends declared on preference shares	—	—	(13,979)
Preference shares guarantee fee	—	—	(1,676)
Premium paid on repurchase of preference shares	—	—	(41,913)
Net income attributable to common shareholders	195,184	153,252	58,374
Earnings per common share			
Basic earnings per share	3.55	2.82	1.20
Diluted earnings per share	3.50	2.76	1.18

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
 (In thousands of US dollars)

	Year ended		
	December 31, 2018	December 31, 2017	December 31, 2016
Net income	195,184	153,252	115,942
Other comprehensive income (loss), net of taxes			
Net change in unrealized gains and losses on translation of net investment in foreign operations	(2,317)	2,603	(6,507)
Accretion of net unrealized (gains) losses on held-to-maturity investments transferred from available-for-sale investments	43	140	(71)
Net change in unrealized gains and losses on available-for-sale investments	(27,893)	6,943	(21,181)
Employee benefit plans adjustments	10,692	5,942	(26,424)
Other comprehensive income (loss), net of taxes	(19,475)	15,628	(54,183)
Total comprehensive income	175,709	168,880	61,759

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

	Year ended					
	December 31, 2018		December 31, 2017		December 31, 2016	
	Number of shares	In thousands of US dollars	Number of shares	In thousands of US dollars	Number of shares	In thousands of US dollars
Common share capital issued and outstanding						
Balance at beginning of year	54,692,630	547	53,284,872	533	47,293,253	473
Retirement of shares	—	—	—	—	(2,393)	—
Issuance of common shares	666,588	7	1,407,758	14	5,994,012	60
Balance at end of year	55,359,218	554	54,692,630	547	53,284,872	533
Preference shares						
Balance at beginning of year	—	—	—	—	182,863	2
Redemption of preference shares	—	—	—	—	(182,863)	(2)
Balance at end of year	—	—	—	—	—	—
Additional paid-in capital						
Balance at beginning of year		1,155,542		1,142,608		1,225,344
Share-based compensation		11,664		8,110		14,072
Share-based settlements		918		289		(10,626)
Premium paid on repurchase of preference shares		—		—		(41,913)
Redemption of preference shares		—		—		(170,206)
Retirement of common shares		—		—		(45)
Repurchase of warrant		—		—		(100)
Cost of issuance of common shares		—		22		(5,458)
Issuance of common shares, net of underwriting discounts and commissions		3,311		4,514		131,540
Sale of treasury common shares		—		(1)		—
Balance at end of year		1,171,435		1,155,542		1,142,608
Accumulated deficit						
Balance at beginning of year		(204,156)		(287,677)		(368,618)
Net income for period		195,184		153,252		115,942
Common share cash dividends declared and paid, \$1.52 per share (2017: \$1.28 per share; 2016: \$0.40 per share)		(83,704)		(69,731)		(19,346)
Cash dividends declared on preference shares, nil per share (2017: nil per share; 2016: \$80.00 per share)		—		—		(13,979)
Preference shares guarantee fee		—		—		(1,676)
Balance at end of year		(92,676)		(204,156)		(287,677)
Treasury common shares						
Balance at beginning of year	—	—	2,066	(42)	924,031	(16,350)
Purchase of treasury common shares	1,254,212	(48,443)	—	—	97,053	(1,588)
Sale of treasury common shares	—	—	(380)	13	—	—
Share-based settlements	—	—	(1,686)	29	(1,019,016)	17,896
Fractional share payout	—	—	—	—	(2)	—
Balance at end of year	1,254,212	(48,443)	—	—	2,066	(42)
Accumulated other comprehensive income (loss)						
Balance at beginning of year		(129,052)		(144,680)		(90,497)
Other comprehensive income (loss), net of taxes		(19,475)		15,628		(54,183)
Balance at end of year		(148,527)		(129,052)		(144,680)
Total shareholders' equity		882,343		822,881		710,742

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
(In thousands of US dollars)

	Year ended		
	December 31, 2018	December 31, 2017	December 31, 2016
Cash flows from operating activities			
Net income	195,184	153,252	115,942
Adjustments to reconcile net income to operating cash flows			
Depreciation and amortization	46,476	50,398	52,261
Provision for credit (recovery) losses	(6,991)	(5,837)	4,399
Share-based payments and settlements	12,582	8,410	14,423
Net realized (gains) losses on available-for-sale investments	(1,100)	(4,186)	(1,546)
(Gain) loss on sale of premises and equipment	—	—	(37)
Net (gains) losses on other real estate owned	322	2,383	440
(Increase) decrease in carrying value of equity method investments	(1,118)	(1,028)	(1,137)
Dividends received from equity method investments	556	412	441
Fair value adjustments of a contingent payment	—	—	895
Changes in operating assets and liabilities			
(Increase) decrease in accrued interest receivable	3,838	(1,761)	(6,054)
(Increase) decrease in other assets	(7,813)	25,600	(6,694)
Increase (decrease) in accrued interest payable	2,774	82	(284)
Increase (decrease) in employee benefit plans and other liabilities	51,635	14,396	5,587
Cash provided by (used in) operating activities	296,345	242,121	178,636
Cash flows from investing activities			
(Increase) decrease in securities purchased under agreement to resell	151,428	(29,956)	(148,813)
Net (increase) decrease in short-term investments other than restricted cash	188,115	277,788	(122,323)
Net change in trading investments	329	(511)	314,986
Available-for-sale investments: proceeds from sale	854,160	213,047	60,548
Available-for-sale investments: proceeds from maturities and pay downs	480,765	524,971	576,892
Available-for-sale investments: purchases	(242,087)	(730,765)	(1,884,554)
Held-to-maturity investments: proceeds from maturities and pay downs	166,406	113,573	73,725
Held-to-maturity investments: purchases	(903,958)	(385,813)	(360,959)
Net (increase) decrease in loans	(321,944)	(130,107)	321,722
Additions to premises, equipment and computer software	(18,529)	(19,218)	(9,804)
Proceeds from sale of other real estate owned	5,896	2,689	5,528
Purchase of intangible assets	(1,308)	—	—
Net cash disbursed for business acquisitions	(20,722)	—	(21,778)
Cash provided by (used in) investing activities	338,551	(164,302)	(1,194,830)

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
(In thousands of US dollars)

	Year ended		
	December 31, 2018	December 31, 2017	December 31, 2016
Cash flows from financing activities			
Net increase (decrease) in demand and term deposit liabilities	(22,543)	(621,105)	1,056,029
Proceeds from issuance of common shares, net of underwriting discounts and commissions	—	13	131,600
Cost of issuance of common shares	—	—	(5,458)
Proceeds from loans sold under agreement to repurchase	—	—	5,152
Cost of repurchase of loans under agreement to repurchase	—	—	(5,152)
Issuance of subordinated capital, net of underwriting fees	73,218	—	—
Repayment of long-term debt	(47,000)	—	—
Common shares repurchased	(48,443)	—	(1,633)
Preference shares repurchased	—	—	(212,121)
Warrant repurchased	—	—	(100)
Proceeds from stock option exercises	3,318	4,546	6,919
Cash dividends paid on common shares	(83,704)	(69,731)	(19,346)
Cash dividends paid on preference shares	—	—	(14,629)
Preference shares guarantee fee paid	—	—	(1,676)
Cash provided by (used in) financing activities	(125,154)	(686,277)	939,585
Net effect of exchange rates on cash, cash equivalent and restricted cash	2,646	46,645	(105,245)
Net increase (decrease) in cash, cash equivalent and restricted cash	512,388	(561,813)	(181,854)
Cash, cash equivalent and restricted cash: beginning of year	1,557,732	2,119,545	2,301,399
Cash, cash equivalent and restricted cash: end of year	2,070,120	1,557,732	2,119,545
Components of cash, cash equivalent and restricted cash at end of year			
Cash due from banks	2,053,883	1,535,138	2,101,651
Restricted cash included in short-term investments on the consolidated balance sheets	16,237	22,594	17,894
Total cash, cash equivalent and restricted cash at end of year	2,070,120	1,557,732	2,119,545
Supplemental disclosure of cash flow information			
Cash interest paid	27,374	15,968	16,165
Cash income tax paid	544	696	391
Non-cash items			
Transfer to other real estate owned	2,437	—	8,961
Transfer of available-for-sale investments to held-to-maturity investments	—	—	74,731

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
(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.

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

Note 2: Significant accounting policies

A. Basis of Presentation and Use of Estimates and Assumptions

The accounting and financial reporting policies of the Bank and its subsidiaries conform to generally accepted accounting principles in the United States of America ("GAAP"). The preparation of consolidated financial statements in accordance with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the year, and actual results could differ from those estimates.

Critical accounting estimates are those that require management to make subjective or complex judgments about the effect of matters that are inherently uncertain and may change in subsequent periods. Changes that may be required in the underlying assumptions or estimates in these areas could have a material impact on the future financial condition and results of operations. Management believes that the most critical accounting policies upon which the financial condition depends, and which involve the most complex or subjective decisions or assessments, are as follows:

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

Beginning on January 1, 2016, the Bank's financial statements for periods presented are reported in United States ("US") dollars (previously in Bermuda dollars) to increase comparability of the Bank's financial position and results with market peers. Assets, liabilities, revenues and expenses denominated in Bermuda dollars are translated to US dollars at par and consequently, no amounts presented in the financial statements have changed as a result of this change in reporting currency.

B. Basis of Consolidation

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries (collectively the "Bank"), and those variable interest entities ("VIEs") where the Company is the primary beneficiary. Intercompany accounts and transactions have been eliminated. VIEs are entities that, by design, either (1) lack sufficient equity to permit the entity to finance its activities without additional subordinated financial support from other parties, or (2) have equity investors that do not have the ability to make significant decisions relating to the entity's operations through voting rights, or do not have the obligation to absorb the expected losses, or do not have the right to receive the residual returns of the entity.

The Bank is deemed to have a controlling financial interest and is the primary beneficiary of a VIE if it has both the power to direct the activities of the VIE that most significantly impact the VIE economic performance and an obligation to absorb losses or the right to receive benefits that could potentially be significant to the VIE. The determination of whether the Bank meets the criteria to be considered the primary beneficiary of a VIE requires a periodic evaluation of all transactions (such as investments, loans and fee arrangements) with the entity. The Bank performs on-going reassessments of: (1) whether entities previously evaluated under the majority voting-interest framework have become VIEs, based on certain events, and are therefore subject to the VIE consolidation framework; and (2) whether changes in the facts and circumstances regarding the Bank's involvement with a VIE cause the Bank's consolidation conclusion to change.

Certain Bank sponsored asset management funds are structured as limited partnerships or limited companies (collectively the "funds"). The funds have various investment strategies (including but not limited to fixed income, equities and fund of funds) and are financed by non-affiliated investors. A subsidiary of the Bank is either the general partner or investment manager to the funds but does not have any significant variable interests in these entities. For those funds where the non-affiliated investors have the ability to remove the subsidiary of the Bank as the general partner or investment manager without cause (i.e. kick out rights), based on a simple majority vote, or the non-affiliated investors have rights to participate in important decisions, the Bank does not consolidate such voting interest entities. In cases where the non-affiliated investors do not have substantive kickout or participating rights, the Bank evaluates the funds as VIEs and consolidates if it is the general partner or investment manager and has a potentially significant interest.

During the three years ended December 31, 2018, 2017 and 2016, the Bank had no interests in VIEs where the Bank was considered the primary beneficiary, nor did the Bank have any significant variable interests in a VIE where the Bank was not considered the primary beneficiary. For the variable interests the Bank holds in entities which are not considered VIEs, the Bank utilized the majority voting interest framework. The Bank consolidates these entities where it holds, directly or indirectly, more than 50% of the voting rights or where it exercises control.

Entities where the Bank holds 20% to 50% of the voting rights and/or has the ability to exercise significant influence, other than investments in designated VIEs, are accounted for under the equity method, and the pro rata share of their income (loss) is included in other non-interest income.

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

C. Foreign Currency Translation

Assets, liabilities, revenues and expenses denominated in Bermuda dollars are translated to United States ("US") dollars at par. Assets and liabilities of the parent company arising from other foreign currency transactions are translated into US dollars at the rates of exchange prevailing at the balance sheet date. The resulting gains or losses are included in foreign exchange revenue in the consolidated statements of operations.

The assets and liabilities of foreign currency-based subsidiaries are translated at the rate of exchange prevailing on the balance sheet date, while associated revenues and expenses are translated to US dollars at the average rates of exchange prevailing throughout the year. Unrealized translation gains or losses on investments in foreign currency-based subsidiaries are recorded as a separate component of Shareholders' equity within accumulated other comprehensive loss ("AOCL"). Gains and losses on foreign currency-based subsidiaries are recorded in the consolidated statements of operations when the Bank ceases to have a controlling financial interest in a foreign currency-based subsidiary.

D. Assets Held in Trust or Custody

Securities and properties (other than cash and deposits held with the Bank and its subsidiaries) held in trust, custody, agency or fiduciary capacity for customers are not included in the consolidated balance sheets because the Bank is not the beneficiary of these assets.

E. Cash Due from Banks

Cash due from banks include cash on hand, cash items in the process of collection, amounts due from correspondent banks and highly liquid investments that are readily convertible to known amounts of cash and which are subject to an insignificant risk of change in fair value. Such investments are those with less than three months' maturity from the date of acquisition and include unrestricted term deposits, certificates of deposit and treasury bills.

F. Securities Purchased Under Agreement to Resell

Securities purchased under agreement to resell are treated as collateralized lending transactions. The obligation to resell is recorded at the value of the cash paid on purchase adjusted for the amortization of the difference between the purchase price and the agreed resell price. The amortization of this amount is recorded as interest income.

G. Short-Term Investments

Short-term investments have maturities of less than one year from the date of acquisition, are only subject to an insignificant risk of change in fair value and comprise (1) restricted term and demand deposits, and (2) unrestricted term deposits, certificate of deposits and treasury bills with a maturity greater than three months from the date of acquisition.

H. Investments

Investments securities are classified as trading, available-for-sale ("AFS") or held-to-maturity ("HTM").

Investments are classified as trading when management has the intent to sell these investments either for profit or to invest the cash received by taking customer deposits in foreign currencies. Debt and equity securities classified as trading investments are carried at fair value in the consolidated balance sheets, with unrealized gains and losses included in the consolidated statements of operations as net realized / unrealized gains (losses) on trading investments. Investments are classified primarily as AFS when used to manage the Bank's exposure to interest rate and liquidity movements, as well as to make strategic longer-term investments. AFS investments are carried at fair value in the consolidated balance sheets with unrealized gains and losses reported as net increase or decrease to accumulated other comprehensive loss ("AOCL"). Investments that the Bank has the positive intent and ability to hold to maturity are classified as HTM and are carried at amortized cost in the consolidated balance sheets. Unrecognized gains and losses on HTM securities are disclosed in the notes to the consolidated financial statements.

The specific identification method is used to determine realized gains and losses on trading and AFS investments, which are included in net realized gains and losses on AFS investments, in the consolidated statements of operations.

Dividend and interest income, including amortization of premiums and discounts, on securities for which cash flows are not considered uncertain are included in interest income in the consolidated statements of operations. For securities with uncertain cash flows, the investments are accounted for under the cost recovery method, whereby all principal and coupon payments received are applied as a reduction of the amortized cost and carrying amount. Accrual of income is suspended in respect of debt securities that are in default, or from which it is unlikely that future interest payments will be received as scheduled.

Contained within other assets are investments in private equity for which the Bank does not have sufficient rights or ownership interests to follow the equity method of accounting. Unquoted equity investments which are held directly by the Bank and which do not have readily determinable fair values are recorded at cost and reviewed for impairment if indicators of impairment exist.

Equity method investments which include investments whereby the Bank has the ability to influence, but not control, the financial or operating policies of such entities, are accounted for using the equity method of accounting.

The Bank has reclassified dividends received from affiliates from investing activities to operating activities in the consolidated statements of cash flows.

Recognition of other-than-temporary impairments

For debt securities, management considers a decline in fair value to be other-than-temporary when it does not expect to recover the entire amortized cost basis of the security. Investments in debt securities in unrealized loss positions are analyzed as part of management's ongoing assessment of other-than-temporary impairment ("OTTI"). When management intends to sell such securities or it is more likely than not that the Bank will be required to sell the securities before recovering the amortized cost, it recognizes an impairment loss equal to the full difference between the amortized cost basis and the fair value of those securities. When management does not intend to sell or it is more likely than not that the Bank will hold such securities until recovering the amortized cost, management determines whether any credit losses exist to identify any OTTI.

Under certain circumstances, management will perform a qualitative determination and consider a variety of factors, including the length of time and extent to which the fair value has been less than cost; adverse conditions specifically related to the industry, geographic area or financial condition of the issuer or underlying collateral of a security; payment structure of the security; changes to the rating of the security by a rating agency; the volatility of the fair value changes; and changes in fair value of the security after the balance sheet date. Alternatively, management estimates cash flows over the remaining lives of the underlying security to assess whether credit losses exist.

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

In situations where there is a credit loss, only the amount of impairment relating to credit losses on AFS and HTM investments is recognized in net income. For AFS investments, the decrease in fair value relating to factors other than credit losses is recognized in AOCL. Cash flow estimates take into account expectations of relevant market and economic data as of the end of the reporting period, including, for example, underlying loan-level data, and structural features of securitization, such as subordination, excess spread, over collateralization or other forms of credit enhancement. The degree of judgment involved in determining the recoverable value of an investment security is dependent upon the availability of observable market prices or observable market parameters. When observable market prices and parameters do not exist, judgment is necessary to estimate recoverable value which gives rise to added uncertainty in the assessment. The assessment takes into consideration factors such as interest rate changes, movements in credit spreads, default rate assumptions, prepayment assumptions, type and quality of collateral, and market sentiment.

Management's fair valuations may include inputs and assumptions that are less observable or require greater estimation, thereby resulting in values which may be greater or lower than the actual value at which the investments may be ultimately sold or the ultimate cash flows that may be recovered. If the assumptions on which management based its fair valuations change, the Bank may experience additional OTTI or realized losses or gains, and the period-to-period changes in value could vary significantly.

I. Loans

Loans are reported as the principal amount outstanding, net of allowance for credit losses, unearned income, fair value adjustments arising from hedge accounting and net deferred loan fees. Interest income is recognized over the term of the loan using the effective interest method, or on a basis approximating a level rate of return over the term of the loan, except for loans classified as non-accrual. Prepayments are treated as a reduction of principal outstanding which is recognized upon receipt of payment. Prepayment penalties, if applicable under the terms of the specific loan agreement, are recognized also upon receipt of payment.

Acquired loans

Acquired loans are recorded at fair value at the date of acquisition. No allowance for credit losses is recorded on the acquisition date as the fair value of the acquired assets incorporates assumptions regarding credit risk. Acquired loans with evidence of credit quality deterioration for which it is probable that the Bank will not receive all contractually required payments receivable are accounted for as purchased credit-impaired loans. Generally, acquired loans that meet the Bank's definition for non-accrual status are considered to be credit-impaired.

The excess of the cash flows expected to be collected on purchased credit-impaired loans, measured as of the acquisition date, over the estimated fair value is referred to as the accretible yield and is recognized in interest income over the remaining life of the loan using an effective yield methodology. The difference between contractually required payments as of the acquisition date and the cash flows expected to be collected is referred to as the non-accretible difference which is included as a reduction of the carrying amount of the purchased credit-impaired loans.

The Bank evaluates at each balance sheet date the estimated cash flows and corresponding carrying value of purchased credit-impaired loans in the same manner as for the measurement of impaired loans, as is described below. The Bank evaluates at each balance sheet date whether the carrying value of its purchased credit-impaired loans has decreased and if so, recognizes an allowance for credit losses in its consolidated statements of operations. For any increases in cash flows expected to be collected, the Bank adjusts any prior recorded allowance for purchased credit-impaired loans first, and then the amount of accretible yield recognized on a prospective basis over the purchased credit-impaired loan's remaining life. Purchased credit-impaired loans are not considered non-performing and continue to have an accretible yield as long as there is a reasonable expectation about the timing and amount of cash flows expected to be collected.

Impaired loans

A loan is considered to be impaired when, based on current information and events, the Bank determines that it will not be able to collect all amounts due according to the original loan contract, including scheduled interest payments. Impaired loans include all non-accruing loans and all loans modified in a troubled debt restructuring ("TDR") even if full collectability is expected following the restructuring.

When a loan is identified as impaired, the impairment is measured based on the present value of expected future cash flows, discounted at the loan's effective interest rate, except when the sole (remaining) source of repayment for the loan is the operation or liquidation of the collateral. In these cases the current fair value of the collateral, less selling costs, is used instead of discounted cash flows.

If the Bank determines that the expected realizable value of the impaired loan is less than the recorded investment in the loan (net of previous charge-offs, deferred loan fees or costs and unamortized premium or discount), impairment is recognized through an allowance estimate. If the Bank determines that part of the allowance is uncollectible, that amount is charged off.

Non-accrual

Commercial, commercial real estate and consumer loans (excluding credit card consumer loans) are placed on non-accrual status generally if:

- in the opinion of management, full payment of principal or interest is in doubt; or
- principal or interest is 90 days past due.

Residential mortgages are placed on non-accrual status immediately if:

- in the opinion of management, full payment of principal or interest is in doubt; or
- when principal or interest is 90 days past due, unless the loan is well secured and any ongoing collection efforts are reasonably expected to result in repayment of all amounts due under the contractual terms of the loan.

Interest income on non-accrual loans is recognized only to the extent it is received in cash. Cash received on non-accrual loans where there is no doubt regarding full repayment (no impairment recognized in the form of a specific allowance) is first applied as repayment of the past due principal amount of the loan and secondly to past due interest and fees.

Where there is doubt regarding the ultimate full repayment of the non-accrual loan (impairment recognized in the form of a specific allowance), all cash received is applied to reduce the principal amount of the loan. Interest income on these loans is recognized only after the entire balance receivable is recovered and interest is actually received.

Loans are returned to accrual status when:

- none of the principal or accrued interest is past due (with certain exceptions as noted below) and the Bank expects repayment of the remaining contractual obligation; or
- when the loan becomes well secured and in the process of collection.

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

Loans modified in a troubled debt restructuring ("TDR")

A modification of a loan constitutes a TDR when a borrower is experiencing financial difficulty and the modification constitutes a concession from originally agreed terms. If a restructuring is considered a TDR, the Bank is required to make certain disclosures in the notes of the consolidated financial statements and individually evaluate the restructured loan for impairment. The Bank employs various types of concessions when modifying a loan that it would not otherwise consider which may include extension of repayment periods, interest rate reductions, principal or interest forgiveness, forbearance, and other actions intended to minimize economic loss and to avoid foreclosure or repossession of collateral.

Commercial and industrial loans modified in a TDR often involve temporary interest-only payments, term extensions, and converting revolving credit lines to term loans. Additional collateral, a co-borrower, or a guarantor is often requested. Commercial mortgage and construction loans modified in a TDR often involve extending the maturity date at an interest rate lower than the current market rate for new debt with similar risk, or substituting or adding a new borrower or guarantor. Construction loans modified in a TDR may also involve extending the interest-only payment period.

Residential mortgage modifications generally involve a short-term forbearance period after which the missed payments are added to the end of the loan term, thereby extending the maturity date. Interest continues to accrue on the missed payments and as a result, the effective yield on the mortgage remains unchanged. As the forbearance period usually involves an insignificant payment delay they typically do not meet the reporting criteria for a TDR.

Automobile loans modified in a TDR are primarily composed of loans where the Bank has lowered monthly payments by extending the term.

When a loan undergoes a TDR, the determination of the loan's accrual versus non-accrual status following the modification depends on several factors. As with the risk rating process, the accrual status decision for such a loan is a separate and distinct process from the loan's TDR analysis and determination. Management considers the following in determining the accrual status of restructured loans:

- If the loan was appropriately on accrual status prior to the restructuring, the borrower has demonstrated performance under the previous terms, and the Bank's credit evaluation shows the borrower's capacity to continue to perform under the restructured terms (both principal and interest payments), it is likely that the appropriate conclusion is for the loan to remain on accrual at the time of the restructuring. This evaluation must include consideration of the borrower's sustained historical repayment performance for a reasonable period prior to the date on which the loan was restructured. A sustained period of repayment performance generally would be a minimum of six months and would involve payments of cash or cash equivalents; or
- If the loan was on non-accrual status before the restructuring, but the Bank's credit evaluation shows the borrower's capacity to meet the restructured terms, the loan would likely remain as non-accrual until the borrower has demonstrated a reasonable period of sustained repayment performance. As noted above, this period generally would be at least six months (thereby providing reasonable assurance as to the ultimate collection of principal and interest in full under the modified terms). Sustained performance before the restructuring may be taken into account.

Loans that have been modified in a TDR are restored to accrual status only when interest and principal payments are brought current for a continuous period of six months under the modified terms. However, performance prior to the modification, or significant events that coincide with the modification, are included in assessing whether the borrower can meet the new terms and may result in the loan being returned to accrual status at the time of loan modification or after a shorter performance period. If the borrower's ability to meet the revised payment schedule is uncertain, the loan remains on non-accrual status.

A loan that is modified in a TDR prior to becoming impaired will be left on accrual status if full collectability in accordance with the restructured terms is expected. The Bank works with its customers in these difficult economic times and may enter into a TDR for loans that are in default, or at risk of defaulting, even if the loan is not impaired.

A loan that had previously been modified in a TDR and is subsequently refinanced under current underwriting standards at a market rate with no concessionary terms is accounted for as a new loan and is no longer reported as a TDR.

Delinquencies

The entire balance of an account is contractually delinquent if the minimum payment of principal or interest is not received by the specified due date. Delinquency is reported on loans that are more than 30 days past due.

Charge-offs

The Bank recognizes charge-offs when it determines that loans are uncollectible, and this generally occurs when all commercially reasonable means of recovering the loan balance have been exhausted.

Commercial and consumer loans are either fully or partially charged-off down to the fair value of collateral securing the loans when:

- management judges the loan to be uncollectible;
- repayment is expected to be protracted beyond reasonable time frames;
- the asset has been classified as a loss by either the Bank's internal loan review process or third party appraisers; or
- the customer has filed bankruptcy and the loss becomes evident owing to a lack of assets or cash flow.

The outstanding balance of commercial and consumer real estate secured loans and residential mortgages that are in excess of the estimated property value, less costs to sell, is charged-off once there is reasonable assurance that such excess outstanding balance is not recoverable.

Credit card consumer loans that are contractually 180 days past due and other consumer loans with an outstanding balance under \$100,000 that are contractually 180 days past due are generally written off and reported as charge-offs.

J. Allowance for Credit Losses

The Bank maintains an allowance for credit losses, which in management's opinion is adequate to absorb all estimated credit-related losses that are incurred in its lending and off-balance sheet credit-related arrangements at the balance sheet date. The allowance for credit losses consists of specific allowances and a general allowance as follows:

Specific allowances

Specific allowances are determined on an exposure-by-exposure basis and reflect the associated estimated credit loss. The specific allowance for credit loss is computed as the difference between the recorded investment in the loan and the present value of expected future cash flows from the loan. The effective rate of return on the loan is used for discounting the cash flows. However, when foreclosure of a collateral-dependent loan is probable, the Bank measures impairment based on the fair value of the collateral. The Bank considers estimated costs to sell, on a discounted basis, in the measurement of impairment if those costs are expected to reduce the cash flows available to repay or otherwise satisfy the loan. If the measurement of an impaired loan is less than the recorded investment in the loan, then the Bank recognizes impairment by creating an allowance with a corresponding charge to provision for credit losses.

For all commercial and commercial real estate TDRs, the Bank conducts further analysis to determine the probable amount of loss and establishes a specific allowance for the loan, if appropriate. The Bank estimates the impairment amount by comparing the loan's carrying amount to the estimated present value of its future cash flows or the fair value of its underlying collateral. For collateral-dependent impaired commercial and commercial real estate loans, the excess of the Company's recorded investment in the loan over the fair value of the collateral, less cost to sell, is charged off to the specific allowance.

For consumer and residential mortgage TDRs that are not collateral-dependent, allowances are developed using the present value of expected future cash flows, compared to the recorded investment in the loans. Expected re-default factors are considered in this analysis. The fair value of collateral is periodically monitored subsequent to the modification.

General allowances

The allowance for credit losses attributed to the remaining portfolio is established through various analyzes that estimate the incurred loss at the balance sheet date inherent in the lending and off-balance sheet credit-related arrangements portfolios. These analyzes may consider historical default rates, geographic, industry, and other environmental factors. Management may also consider overall portfolio indicators including trends in internally risk rated exposures, cash-basis loans, historical and forecasted write-offs, and a review of industry, geographic and portfolio concentrations, including current developments within those segments. In addition, management may consider the current business strategy and credit process, including limit setting and compliance, credit approvals, loan underwriting criteria and loan workout procedures.

Each portfolio of smaller balance, homogeneous loans, including consumer installment, revolving credit, and most other consumer loans, is collectively evaluated for impairment. The allowance for credit losses attributed to these loans is established via a process that estimates the probable losses inherent and incurred in the portfolio, based upon various analyzes. Management may consider overall portfolio indicators including historical credit losses; delinquent (defined as loans that are more than 30 days past due), non-performing, and classified loans; trends in volumes and terms of loans; an evaluation of overall credit quality; the credit process, including lending policies and procedures; and economic, geographical, product, and other environmental factors.

K. Business Combinations, Goodwill and Intangible Assets

All business combinations are accounted for using the acquisition method. Identifiable intangible assets (mostly customer relationships) are recognized separately from goodwill and are initially valued at fair value using discounted cash flow calculations and other recognized valuation techniques. Goodwill represents the excess of the fair value of the consideration paid for the acquisition of a business over the fair value of the net assets acquired. Contingent purchase consideration is measured at its fair value and recorded on the purchase date. Any subsequent changes in the fair value of a contingent consideration liability will be recorded through the consolidated statements of operations.

Goodwill is tested annually for impairment at the reporting unit level, or more frequently if events or circumstances indicate there may be impairment. If the carrying amount of a reporting unit, including the allocated goodwill, exceeds its fair value, goodwill impairment is measured as the excess of the carrying amount of the reporting unit's allocated goodwill over the implied fair value of the goodwill. Other acquired intangible assets with finite lives are amortized on a straight-line basis over their estimated useful lives, not exceeding 15 years. Intangible assets' estimated lives are re-evaluated annually and an impairment test is carried out if certain indicators of impairment exist.

L. Premises, Equipment and Computer Software

Land is carried at cost. Buildings, equipment and computer software, including leasehold improvements, are carried at cost less accumulated depreciation. The Bank generally computes depreciation using the straight-line method over the estimated useful life of an asset, which is 50 years for buildings, and three to 10 years for other equipment. For leasehold improvements the Bank uses the straight-line method over the lesser of the remaining term of the leased facility or the estimated economic life of the improvement. The Bank capitalizes certain costs, including interest cost incurred during the development phase, associated with the acquisition or development of internal use software. Once the software is ready for its intended use, these costs are amortized on a straight-line basis over the software's expected useful life, which is between five and 10 years.

Management reviews the recoverability of the carrying amount of premises, equipment and computer software when indicators of impairment exist and an impairment charge is recorded when the carrying amount of the reviewed asset is deemed not recoverable by future expected cash flows to be derived from the use and disposition of the asset. If there is a disposition out of premises, equipment and computer software, a gain is recorded if the difference of the proceeds on disposition is in excess of the assets carrying value. Otherwise, a loss is recorded. If there is an abandonment out of premises, equipment and computer software, the full carrying value of the asset is recognized as a loss.

M. Other Real Estate Owned

Other real estate owned ("OREO") comprises real estate property held for sale and commercial and residential real estate properties acquired in partial or total satisfaction of loans acquired through foreclosure proceedings, acceptance of a deed-in-lieu of foreclosure or by taking possession of assets that were used as loan collateral. These properties are initially recorded at fair value less estimated costs to sell the property. If the recorded investment in the loan exceeds the property's fair value at the time of acquisition, a charge-off is recorded against the specific allowance. If the carrying value of the real estate exceeds the property's fair value at the time of reclassification, an impairment charge is recorded in the consolidated statements of operations. Subsequent decreases in the property's fair value below the new cost basis are recorded through the use of a valuation allowance. Subsequent increases in the fair value of a property may be used to reduce the allowance but not below zero. Any operating expenses of the property are recognized through charges to non-interest expense.

N. Derivatives

All derivatives are recognized on the consolidated balance sheets at their fair value. On the date that the Bank enters into a derivative contract, it designates the derivative as either: a hedge of the fair value of a recognized asset or liability (a fair value hedge); a hedge of a forecasted transaction or the variability of cash flows that are to be received or paid in connection with a recognized asset or liability (a cash flow hedge); a hedge of an exposure to foreign currency risk of a net investment in a foreign operation (a net investment hedge); or, an instrument that is held for trading or non-hedging purposes (a trading or non-hedging derivative instrument).

All instruments utilized as a hedging instrument in a fair value hedge or cash flow hedge must have one or more underlying notional amounts, no or a minimal net initial investment and a provision for net settlement in the contract to meet the definition of a derivative instrument. Instruments utilized as a hedging instrument in a hedge of a net investment in foreign operations may be derivative instruments or non-derivatives.

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The changes in the fair value of a derivative that is designated and qualifies as a fair value hedge, along with changes in the fair value of the hedged asset or liability that are attributable to the hedged risk, are recorded in current year earnings.

The changes in the fair value of a derivative that is designated and qualifies as a cash flow hedge, to the extent that the hedge is effective, are recorded in other comprehensive loss ("OCL") and the ineffective portion is recorded in current year earnings. That is, ineffectiveness from a derivative that overcompensates for changes in the hedged cash flows is recorded in earnings. However, the ineffectiveness from a derivative that under compensates is not recorded in earnings.

The changes in the fair value of a derivative that is designated and qualifies as a foreign currency hedge is recorded in either current year earnings or OCL, depending on whether the hedging relationship satisfies the criteria for a fair value or cash flow hedge. If, however, a derivative is used as a hedge of a net investment in a foreign operation, the changes in the derivative's fair value, to the extent that the derivative is effective as a hedge, are recorded in the cumulative translation adjustment ("CTA") account within OCL.

Changes in the fair value of trading and non-hedging derivative instruments are reported in current year earnings.

The Bank formally documents all relationships between hedging instruments and hedged items, as well as its risk management objectives and strategies for undertaking various hedge transactions. This process includes linking all derivatives that are designated as fair value, cash flow, or foreign currency hedges to specific assets and liabilities on the consolidated balance sheets or specific firm commitments or forecasted transactions.

The Bank also formally assesses whether the derivatives that are used in hedging transactions have been highly effective in offsetting changes in the fair value or cash flows of hedged items and whether those derivatives may be expected to remain highly effective in future periods.

For those hedge relationships that are terminated, hedge designations that are elected to be removed, forecasted transactions that are no longer expected to occur, or the hedge relationship ceases to be highly effective, the hedge accounting treatment described in the paragraphs above is no longer applied and the end-user derivative is terminated or transferred to the trading designation. For fair value hedges, any changes to the carrying value of the hedged item prior to the discontinuance remain as part of the basis of the asset or liability. When a cash flow hedge is discontinued, the net derivative gain (loss) remains in AOCL unless it is probable that the forecasted transaction will not occur in the originally specified time period.

O. Securities Sold Under Agreements to Repurchase

Securities sold under agreements to repurchase (securities financing agreements) are treated as collateralized financing transactions. The obligation to repurchase is recorded at the value of the cash received on sale adjusted for the amortization of the difference between the sale price and the agreed repurchase price. The amortization of this amount is recorded as an interest expense.

P. Collateral

The Bank pledges assets as collateral as required for various transactions involving security repurchase agreements, deposit products and derivative financial instruments. Assets that have been pledged as collateral, including those that can be sold or repledged by the secured party, continue to be reported on the Bank's consolidated balance sheets under the same line items as non-pledged assets of the same type.

Q. Employee Benefit Plans

The Bank maintains trustee pension plans for substantially all employees as either non-contributory defined benefit plans or defined contribution plans. Benefits under the defined benefit plans are based primarily on the employee's years of credited service and average annual salary during the final years of employment as defined in the plans. The Bank also provides post-retirement medical benefits for certain qualifying active and retired Bermuda-based employees.

Expense for the defined benefit pension plans and the post-retirement medical benefits plan is composed of (a) the actuarially determined benefits for the current year's service, (b) imputed interest on the actuarially determined liability of the plan, (c) in the case of the defined benefit pension plans, the expected investment return on the fair value of plan assets and (d) amortization of certain items over the expected average remaining service life of employees in the case of the active defined benefit pension plans, estimated average remaining life expectancy of the inactive participants in the case of the inactive defined benefit pension plans and the expected average remaining service life to full eligibility age of employees covered by the plan in the case of the post-retirement medical benefits plan. The items amortized are amounts arising as a result of experience gains and losses, changes in assumptions, plan amendments and the change in the net pension asset or post-retirement medical benefits liability arising on adoption of revised accounting standards.

For each of the defined benefit pension plans and for the post-retirement medical benefits plan, the assets and liabilities recognized for accounting purposes are reported in other assets and employee benefit plans respectively. The actuarial gains and losses, transition obligation and prior service costs of the defined pension plans and post-retirement medical benefits plan are recognized in OCL net of tax and amortized to net income over the average service period for the active defined benefit pension plans and post-retirement medical benefits plan and average remaining life expectancy for the inactive defined benefit pension plans.

For the defined contribution pension plans, the Bank and participating employees provide an annual contribution based on each participating employee's pensionable earnings. Amounts paid are expensed in the period.

R. Share-Based Compensation

The Bank engages in equity settled share-based payment transactions in respect of services received from eligible employees. The fair value of the services received is measured by reference to the fair value of the shares or share options granted on the date of the grant. The cost of the employee services received in respect of the shares or share options granted is recognized in the consolidated statements of operations over the shorter of the vesting or service period.

The fair value of the options granted is determined using option pricing models, which take into account the exercise price of the option, the current share price, the risk-free interest rate, expected dividend rate, the expected volatility of the share price over the life of the option and other relevant factors. The fair value of unvested share awards is deemed to be the closing price of the publicly traded Bank shares on grant date. The fair value of time vesting conditions are taken into account by adjusting the number of shares or share options included in the measurement of the cost of employee services so that ultimately, the amount recognized in the consolidated statements of operations reflects the number of vested shares or share options. The Bank recognizes compensation cost for awards with performance conditions if and when the Bank concludes that it is probable that the performance condition will be achieved, net of an estimate of pre-vesting forfeitures (e.g., due to termination of employment prior to vesting).

S. Revenue Recognition

Trust, custody and other administration services fees include fees for private and institutional trust, executorship, and custody services. Asset management fees include fees for investment management, investment advice and brokerage services. Fees are recognized as revenue over the period of the relationship or when the Bank has rendered all services to the clients and is entitled to collect the fee from the client, as long as there are no contingencies associated with the fees.

Banking services fees primarily include fees for letters of credit and other financial guarantees, compensating balances, overdraft facilities and other financial services-related products as well as credit card fees. Letters of credit and other financial guarantees fees are recognized as revenue over the period in which the related guarantee is outstanding. Credit card fees are comprised of merchant discounts, late fees and membership fees, net of interchange and rewards costs. Credit card fees are recognized in the period in which the service is provided. All other fees are recognized as revenue in the period in which the service is provided.

Foreign exchange revenue includes fees earned on currency exchange transactions which are recognized when such transactions occur, as well as gains and losses recognized when translating financial instruments held or due in currencies other than the local functional currency at the rates of exchange prevailing at the balance sheet date.

Loan interest income includes the amortization of deferred non-refundable loan origination and commitment fees. These fees are recognized as an adjustment of yield over the life of the related loan. Loan origination and commitment fees are offset by their related direct costs and only the net amounts are deferred and amortized into interest income.

Dividend and interest income, including amortization of premiums and discounts, on securities for which cash flows are not considered uncertain are included in interest income in the consolidated statements of operations. Loans placed on non-accrual status and investments with uncertain cash flows are accounted for under the cost recovery method, whereby all principal, dividends, interest and coupon payments received are applied as a reduction of the amortized cost and carrying amount.

T. Fair Values

Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The Bank determines the fair values of assets and liabilities based on the fair value hierarchy which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The relevant accounting standard describes three levels of inputs that may be used to measure fair value. Investments classified as trading and AFS, and derivative assets and liabilities are recognized in the consolidated balance sheets at fair value.

Level 1, 2 and 3 valuation inputs

Management classifies items that are recognized at fair value on a recurring basis based on the level of inputs used in their respective fair value determination as described below.

Fair value inputs are considered Level 1 when based on unadjusted quoted prices in active markets for identical assets.

Fair value inputs are considered Level 2 when based on inputs other than quoted prices that are observable for the asset or liability either directly or indirectly, including inputs in markets that are not considered to be active.

Fair value inputs are considered Level 3 when based on internally developed models using significant unobservable assumptions involving management's estimations or non-binding bid quotes from brokers.

The following methods and assumptions were used in the determination of the fair value of financial instruments:

Cash due from banks

The carrying amount of cash and demand deposits with banks, being short-term in nature, is deemed to approximate fair value.

Cash equivalents include unrestricted term deposits, certificates of deposits and Treasury bills with a maturity of less than three months from the date of acquisition and the carrying value at cost is considered to approximate fair value because they are short term in nature, bear interest rates that approximate market rates, and generally have negligible credit risk.

Short-term investments

Short-term investments comprise restricted term and demand deposits and unrestricted term deposits, certificates of deposit and treasury bills with less than one year but greater than three months' maturity from the date of acquisition. The carrying value at cost is considered to approximate fair value because they are short term in nature, bear interest rates that approximate market rates, and generally have negligible credit risk.

Trading investments and defined benefit pension plan equity securities and mutual funds

These include equities and mutual funds. The fair value of listed equity securities is based upon quoted market values. Investments in actively traded mutual funds are based on their published net asset values. See "AFS and HTM investments and defined benefit pension plan fixed income securities" below for valuation techniques and inputs of fixed income securities.

AFS and HTM investments and defined benefit pension plan fixed income securities

The fair values for AFS investments are generally sourced from third parties. The fair value of fixed income securities is based upon quoted market values where available, "evaluated bid" prices provided by third party pricing services ("pricing services") where quoted market values are not available, or by reference to broker or underwriter bid indications where pricing services do not provide coverage for a particular security. To the extent the Bank believes current trading conditions represent distressed transactions, the Bank may elect to utilize internally generated models. The pricing services typically use market approaches for valuations using primarily Level 2 inputs (in the vast majority of valuations), or some form of discounted cash flow analysis.

Pricing services indicate that they will only produce an estimate of fair value if there is objectively verifiable information available to produce a valuation. Standard inputs to the valuations provided by the pricing services listed in approximate order of priority for use when available include: reported trades, benchmark yields, broker/dealer quotes, issuer spreads, two-sided markets, benchmark securities, bids, offers, and reference data. The pricing services may prioritize inputs differently on any given day for any security, and not all inputs listed are available for use in the evaluation process on any given day for each security evaluation. However, the pricing services also monitor market indicators and industry and economic events. When these inputs are not available, pricing services identify "buckets" of similar securities (allocated by asset class types, sectors, sub-sectors, contractual cash flows/structure, and credit rating characteristics) and apply some form of matrix or other modeled pricing to determine an appropriate security value which represents their best estimate as to what a buyer in the marketplace would pay for a security in a current sale.

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It is common industry practice to utilize pricing services as a source for determining the fair values of investments where the pricing services are able to obtain sufficient market corroborating information to allow them to produce a valuation at a reporting date. In addition, in the majority of cases, although a value may be obtained from a particular pricing service for a security or class of similar securities, these values are corroborated against values provided by other pricing services. While the Bank receives values for the majority of the investment securities it holds from pricing services, it is ultimately management's responsibility to determine whether the values received and recorded in the financial statements are representative of appropriate fair value measurements.

Broker/dealer quotations are used to value investments with fixed maturities where prices are unavailable from pricing services due to factors specific to the security such as limited liquidity, lack of current transactions, or trades only taking place in privately negotiated transactions. These are considered Level 3 valuations, as significant inputs utilized by brokers may be difficult to corroborate with observable market data, or sufficient information regarding the specific inputs utilized by the broker was not available to support a Level 2 classification.

For disclosure purposes, held-to-maturity investments are fair valued using the same methods described above.

Loans

The majority of loans are variable rate and re-price in response to changes in market rates and hence management estimates that the fair value of loans is not significantly different than their carrying amount. For significant fixed-rate loan exposures, fair value is estimated by discounting the future cash flows, using the current rates at which similar loans would be made to borrowers with similar credit ratings and for the same remaining maturities, of such loans. Management includes the effects of specific provisions raised against individual loans, which factors in a loan's credit quality, as well as accrued interest in determining the fair value of loans.

Accrued interest

The carrying amounts of accrued interest receivable and payable are assumed to approximate their fair values given their short-term nature.

OREO

OREO assets are carried at the lower of cost or fair value less estimated costs to sell. The determination of fair value, which aims at estimating the realizable value of the properties, is based either on third-party appraisals, when available, or on internal valuation models. Appraisals of OREO properties are updated on an annual basis. Where the fair value of the related property is based on an unadjusted appraised value, the OREO is generally classified as Level 2. Where significant adjustments are made to the appraised value, or based on an internally generated valuation model, the OREO is generally classified as Level 3.

Deposits

The fair value of fixed-rate deposits has been estimated by discounting the contractual cash flows, using market interest rates offered at the balance sheet date for deposits of similar terms. The carrying amount of deposits with no stated maturity date is deemed to equate to the fair value.

Long-term debt

The fair value of the long-term debt has been estimated by discounting the contractual cash flows, using current market interest rates.

Derivatives

Derivative contracts can be exchange traded or over-the-counter ("OTC") derivative contracts and may include forward, swap and option contracts relating to interest rates or foreign currencies. Exchange-traded derivatives typically fall within Level 1 of the fair value hierarchy depending on whether they are deemed to be actively traded or not. OTC derivatives are valued using market transactions and other market evidence whenever possible, including market-based inputs to models, model calibration to market clearing transactions, broker or dealer quotations or alternative pricing sources where an understanding of the inputs utilized in arriving at the valuations is obtained.

Where models are used, the selection of a particular model to value an OTC derivative depends upon the contractual terms and specific risks inherent in the instrument as well as the availability of pricing information in the market. The Bank generally uses similar models to value similar instruments. Valuation models require a variety of inputs, including contractual terms, market prices, yield curves, credit curves, measures of volatility, prepayment rates and correlations of such inputs. For OTC derivatives that trade in liquid markets, such as generic forwards, interest rate swaps and options, model inputs can generally be verified and model selection does not involve significant management judgment.

Goodwill

The fair value of reporting units for which goodwill is recognized is determined when an impairment assessment is performed by discounting estimated future cash flows using discount rates reflecting valuation-date market conditions and risks specific to the reporting unit.

U. Impairment or Disposal of Long-Lived Assets

Impairment losses are recognized when the carrying amount of a long-lived asset exceeds the sum of the undiscounted cash flows expected from its use and disposal. The impairment recognized is measured as the amount by which the carrying amount of the asset exceeds its fair value. Long-lived assets that are to be disposed of other than by sale are classified and accounted for as held for use until the date of disposal or abandonment. Assets that meet certain criteria are classified as held for sale and are measured at the lower of their carrying amounts or fair value less estimated costs to sell.

V. Credit-Related Arrangements

In the normal course of business, the Bank enters into various commitments to meet the credit requirements of its customers. Such commitments, which are not included in the consolidated balance sheet, include:

- commitments to extend credit, which represent undertakings to make credit available in the form of loans or other financing for specific amounts and maturities, subject to certain conditions;
- standby letters of credit, which represent irrevocable obligations to make payments to third parties in the event that the customer is unable to meet its financial obligations; and,
- documentary and commercial letters of credit, related primarily to the import of goods by customers, which represent agreements to honor drafts presented by third parties upon completion of specific activities.

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These credit arrangements are subject to the Bank's normal credit standards and collateral is obtained where appropriate. The contractual amounts for these commitments set out in the table in Note 12 represent the maximum payments the Bank would have to make should the contracts be fully drawn, the counterparty default, and any collateral held prove to be of no value. As many of these arrangements will expire or terminate without being drawn upon or are fully collateralized, the contractual amounts do not necessarily represent future cash requirements. The Bank does not carry any liability for these obligations.

W. Income Taxes

The Bank uses the asset and liability method of accounting for income taxes. Under this method, deferred income taxes reflect the net tax effect of temporary differences between the consolidated financial statements' carrying amounts of assets and liabilities and their respective tax bases. Accordingly, a deferred income tax asset or liability is determined for each temporary difference based on the enacted tax rates to be in effect on the expected reversal date of the temporary difference. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in income in the period that includes the enactment date.

The Bank records net deferred tax assets to the extent the Bank believes these assets will more likely than not be realized. Net deferred income tax assets or liabilities accumulated as a result of temporary differences are included in other assets or other liabilities, respectively. A valuation allowance is established to reduce deferred income tax assets to the amount more likely than not to be realized. In making such a determination, the Bank considers all available positive and negative evidence, including future reversals of existing taxable temporary differences, projected future taxable income, tax-planning strategies, and results of recent operations. In the event the Bank were to determine that it would be able to realize the deferred income tax assets in the future in excess of their net recorded amount, the Bank would make an adjustment to the deferred tax asset valuation allowance, which would reduce the provision for income taxes.

The Bank records uncertain tax positions on the basis of a two-step process whereby (1) the Bank determines whether it is more likely than not that the tax positions will be sustained based on the technical merits of the position and (2) where those tax positions that meet the more-likely-than-not recognition threshold, the Bank recognizes the largest amount of tax benefit that is greater than 50 percent likely to be realized upon ultimate settlement with the related tax authority.

Income taxes on the consolidated statements of operations include the current and deferred portions of the income taxes. The Bank recognizes accrued interest and penalties related to income taxes in operating expenses. Income taxes applicable to items charged or credited directly to shareholders' equity are included in such items.

X. Consolidated Statements of Cash Flows

For the purposes of the consolidated statements of cash flows, cash due from banks include cash on hand, cash items in the process of collection, amounts due from correspondent banks and highly liquid investments that are readily convertible to known amounts of cash and which are subject to an insignificant risk of change in fair value, and restricted cash included in short-term investments on the consolidated balance sheets.

Y. Earnings Per Share

Earnings per share have been calculated using the weighted average number of common shares outstanding during the year (see also Note 20). Dividends declared on preference shares and related guarantee fees are deducted from net income to obtain net income available to common shareholders. In periods when basic earnings per share is positive, the dilutive effect of share-based compensation plans is 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 common shares, using the quarterly average market price of the Bank's shares for the period.

Z. New Accounting Pronouncements

The following accounting developments were issued during the year ended December 31, 2018 or are accounting standards pending adoption:

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

In July 2018, the FASB published Accounting Standards Update No. 2018-11 Codification Improvements to Topic 842, Leases Targeted Improvements. The first amendment in this update provides entities with an additional (and optional) transition method to initially apply the new leases standard at the adoption date and recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. An entity's reporting for the comparative periods presented in the financial statements in which it adopts the new leases standard will continue to be in accordance with current GAAP (Topic 840, Leases). The second amendment in this update provides lessors with a practical expedient, by class of underlying asset, to not separate non-lease components from the associated lease component and, instead, to account for those components as a single component if the non-lease components otherwise would be accounted for under the new revenue guidance (Topic 606) and if required conditions are met. For entities that have not adopted Topic 842 before the issuance of this update, the effective date and transition requirements for the amendments in this update related to separating components of a contract are the same as the effective date and transition requirements in update 2016-02. The Bank has determined that standard 2016-02 will have an effect for the Bank. The Bank will adopt ASU 2016-02 and ASU 2018-11 effective January 1, 2019. Based on the lease portfolio as of December 31, 2018, the Bank anticipates recording right of use lease assets and lease liabilities of approximately \$23 million on its consolidated balance sheets, with no material impact to its consolidated statements of operations. The Bank will apply the optional transition method from ASU 2018-11 and apply the new lease standard as of January 1, 2019 with comparative periods presented under current GAAP. The Bank does not expect a material adjustment to opening retained earnings upon adoption.

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

In August 2018, the FASB published Accounting Standards Update No. 2018-14 Compensation-Retirement Benefits-Defined Benefit Plans-General (Subtopic 715-20) which includes amendments that remove disclosures that no longer are considered cost beneficial, clarify the specific requirements of disclosures, and add disclosure requirements identified as relevant. This update is effective for public business entities for fiscal years beginning after December 15, 2020. Early adoption is permitted. The Bank has determined that this standard will have an effect on certain year-end disclosures in the Employee benefit plans note and has early adopted it for the year ending December 31, 2018.

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(In thousands of US dollars, unless otherwise stated)

Note 3: Cash due from banks

	December 31, 2018			December 31, 2017		
	Bermuda	Non-Bermuda	Total	Bermuda	Non-Bermuda	Total
Non-interest bearing						
Cash and demand deposits with banks	21,677	102,505	124,182	24,189	65,192	89,381
Interest bearing¹						
Demand deposits with banks	335,841	151,747	487,588	215,363	124,893	340,256
Cash equivalents	364,714	1,077,399	1,442,113	330,247	775,254	1,105,501
Sub-total - Interest bearing	700,555	1,229,146	1,929,701	545,610	900,147	1,445,757
Total cash due from banks	722,232	1,331,651	2,053,883	569,799	965,339	1,535,138

¹ Interest bearing cash due from banks includes certain demand deposits with banks as at December 31, 2018 in the amount of \$204.2 million (December 31, 2017: \$203.3 million) that are earning interest at a negligible rate.

Note 4: Short-term investments

	December 31, 2018			December 31, 2017		
	Bermuda	Non-Bermuda	Total	Bermuda	Non-Bermuda	Total
Unrestricted						
Maturing within three months	—	25,459	25,459	67,528	71,986	139,514
Maturing between three to six months	—	9,641	9,641	19,841	67,035	86,876
Total unrestricted short-term investments	—	35,100	35,100	87,369	139,021	226,390
Affected by drawing restrictions related to minimum reserve and derivative margin requirements						
Non-interest earning demand deposits	—	2,401	2,401	—	—	—
Interest earning demand and term deposits	13,836	999	14,835	22,053	1,541	23,594
Total restricted short-term investments	13,836	3,400	17,236	22,053	1,541	23,594
Total short-term investments	13,836	38,500	52,336	109,422	140,562	249,984

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Note 5: Investment in securities

Amortized Cost, Carrying Amount and Fair Value

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

	December 31, 2018				December 31, 2017			
	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
Trading								
Mutual funds	5,724	1,176	(405)	6,495	5,724	1,616	(516)	6,824
Total trading	5,724	1,176	(405)	6,495	5,724	1,616	(516)	6,824
Available-for-sale								
US government and federal agencies	1,820,808	3,355	(37,656)	1,786,507	2,720,581	8,924	(20,401)	2,709,104
Non-US governments debt securities	25,804	19	(398)	25,425	26,516	118	(386)	26,248
Corporate debt securities	80,177	—	(1,464)	78,713	243,999	153	(780)	243,372
Asset-backed securities - Student loans	13,290	—	(664)	12,626	13,290	—	(797)	12,493
Commercial mortgage-backed securities	125,806	6	(2,603)	123,209	142,740	56	(1,296)	141,500
Residential mortgage-backed securities	160,492	—	(4,223)	156,269	186,049	309	(1,635)	184,723
Total available-for-sale	2,226,377	3,380	(47,008)	2,182,749	3,333,175	9,560	(25,295)	3,317,440
Held-to-maturity¹								
US government and federal agencies	2,066,120	5,012	(34,918)	2,036,214	1,381,955	4,813	(9,414)	1,377,354
Total held-to-maturity	2,066,120	5,012	(34,918)	2,036,214	1,381,955	4,813	(9,414)	1,377,354

¹ For the years ended December 31, 2018, 2017 and 2016, non-credit impairments recognized in accumulated other comprehensive loss ("AOCL") for HTM investments were nil.

Investments with Unrealized Loss Positions

The Bank does not believe that the AFS and HTM investment securities that were in an unrealized loss position as of December 31, 2018 (and December 31, 2017), which were composed of 198 securities representing 75% of the AFS and HTM portfolios' fair value (December 31, 2017: 161 and 59%, respectively), represent an OTTI. Total gross unrealized losses were 2.6% of the fair value of affected securities (December 31, 2017: 1.3%) and were attributable primarily to changes in market interest rates, relative to when the investment securities were purchased, and not due to the credit quality of the investment securities. The following describes the processes for identifying credit impairment in security types with the most significant unrealized losses as shown in the preceding tables.

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

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

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

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

Investments in **Commercial mortgage-backed securities** relate to 11 senior securities rated AAA or AA+ that possess significant subordination, a form of credit enhancement expressed hereafter as the percentage of pool losses that can occur before the senior securities held by the Bank will incur its first dollar of principal loss. No credit losses were recognized as for eight of these securities the weighted average credit support and the weighted average loan-to-value ratios ("LTV") range from 25% - 38% and 46% - 72%, respectively. In respect of the three remaining securities, two are fully defeased with the other having an LTV of less than 30%.

Investments in **Residential mortgage-backed securities** relate to 17 securities which are rated AAA or AA+ and possess similar significant credit enhancement as described above. No credit losses were recognized on these securities as the weighted average credit support and the weighted average LTV ratios range from 6% - 21% and 53% - 65%, respectively. Current credit support is significantly greater than any delinquencies experienced on the underlying mortgages.

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In the following tables, debt securities with unrealized losses that are not deemed to be OTTI are categorized as being in a loss position for "less than 12 months" or "12 months or more" based on the point in time that the fair value most recently declined below the amortized cost basis. In 2018, the classification of certain securities was revised from "less than 12 months" to "12 months or more". The 2017 classification presented below was revised to properly present the disclosure accordingly.

	<u>Less than 12 months</u>		<u>12 months or more</u>		Total fair value	Total gross unrealized losses
	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses		
December 31, 2018						
Available-for-sale securities with unrealized losses						
US government and federal agencies	372,283	(1,586)	1,027,638	(36,070)	1,399,921	(37,656)
Non-US governments debt securities	—	—	22,360	(398)	22,360	(398)
Corporate debt securities	14,914	(114)	63,799	(1,350)	78,713	(1,464)
Asset-backed securities - Student loans	—	—	12,626	(664)	12,626	(664)
Commercial mortgage-backed securities	812	—	117,379	(2,603)	118,191	(2,603)
Residential mortgage-backed securities	49,804	(1,313)	106,465	(2,910)	156,269	(4,223)
Total available-for-sale securities with unrealized losses	437,813	(3,013)	1,350,267	(43,995)	1,788,080	(47,008)
Held-to-maturity securities with unrealized losses						
US government and federal agencies	647,484	(11,468)	724,974	(23,450)	1,372,458	(34,918)
December 31, 2017						
Available-for-sale securities with unrealized losses						
US government and federal agencies	467,958	(2,461)	1,043,601	(17,940)	1,511,559	(20,401)
Non-US governments debt securities	—	—	22,360	(386)	22,360	(386)
Corporate debt securities	76,016	(225)	49,964	(555)	125,980	(780)
Asset-backed securities - Student loans	—	—	12,493	(797)	12,493	(797)
Commercial mortgage-backed securities	98,822	(709)	36,766	(587)	135,588	(1,296)
Residential mortgage-backed securities	71,604	(486)	56,287	(1,149)	127,891	(1,635)
Total available-for-sale securities with unrealized losses	714,400	(3,881)	1,221,471	(21,414)	1,935,871	(25,295)
Held-to-maturity securities with unrealized losses						
US government and federal agencies	549,532	(2,862)	288,830	(6,552)	838,362	(9,414)

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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.

December 31, 2018	Remaining term to maturity					No specific or single maturity	Carrying amount
	Within 3 months	3 to 12 months	1 to 5 years	5 to 10 years	Over 10 years		
Trading							
Mutual funds	—	—	—	—	—	6,495	6,495
Available-for-sale							
US government and federal agencies	—	—	34,423	—	—	1,752,084	1,786,507
Non-US governments debt securities	—	3,064	22,361	—	—	—	25,425
Corporate debt securities	—	14,924	63,789	—	—	—	78,713
Asset-backed securities - Student loans	—	—	—	—	—	12,626	12,626
Commercial mortgage-backed securities	—	—	—	—	—	123,209	123,209
Residential mortgage-backed securities	—	—	—	—	—	156,269	156,269
Total available-for-sale	—	17,988	120,573	—	—	2,044,188	2,182,749
Held-to-maturity							
US government and federal agencies	—	—	—	—	—	2,066,120	2,066,120
Total investments	—	17,988	120,573	—	—	4,116,803	4,255,364
Total by currency							
US dollars	—	17,988	120,573	—	—	4,116,484	4,255,045
Other	—	—	—	—	—	319	319
Total investments	—	17,988	120,573	—	—	4,116,803	4,255,364

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.

Pledged Investments	December 31, 2018		December 31, 2017	
	Amortized cost	Fair value	Amortized cost	Fair value
Available-for-sale	42,531	42,400	149,999	150,900
Held-to-maturity	70,818	69,030	202,303	201,523

Sale Proceeds and Realized Gains and Losses of AFS Securities

	Year ended December 31, 2018		
	Sale proceeds	Gross realized gains	Gross realized (losses)
US government and federal agencies	812,720	1,599	(1,263)
Corporate debt securities	24,975	—	(87)
Commercial mortgage-backed securities	15,260	—	(354)
Pass-through note	1,205	1,205	—
Total	854,160	2,804	(1,704)

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	Year ended		
	December 31, 2017		
	Sale proceeds	Gross realized gains	Gross realized (losses)
Corporate debt securities	202,700	1,684	—
Commercial mortgage-backed securities	7,785	—	(60)
Pass-through note	2,562	2,562	—
Total	213,047	4,246	(60)

	Year ended		
	December 31, 2016		
	Sale proceeds	Gross realized gains	Gross realized (losses)
US government and federal agencies	59,939	1,013	(76)
Pass-through note	609	609	—
Total	60,548	1,622	(76)

Taxability of Interest Income

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

Note 6: Loans

The "Bermuda" and "Non-Bermuda" classifications purpose is to reflect management segment reporting as described in Note 15: Segmented information.

The principal means of securing residential mortgages, personal, credit card and business loans are entitlements over assets and guarantees. Mortgage loans are generally repayable over periods of up to thirty years and personal, business and government loans are generally repayable over terms not exceeding five years. Amounts owing on credit cards are revolving and typically a minimum amount is due within 30 days from billing. The effective yield on total loans as at December 31, 2018 is 5.53% (December 31, 2017: 5.09%).

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	December 31, 2018			December 31, 2017		
	Bermuda	Non-Bermuda	Total	Bermuda	Non-Bermuda	Total
Commercial loans						
Government	92,994	12,670	105,664	139,987	13,414	153,401
Commercial and industrial	291,470	222,393	513,863	197,251	173,701	370,952
Commercial overdrafts	16,342	16,752	33,094	18,649	2,874	21,523
Total gross commercial loans	400,806	251,815	652,621	355,887	189,989	545,876
Less specific allowance for credit losses	(2,766)	(1,687)	(4,453)	(2,866)	—	(2,866)
Net commercial loans	398,040	250,128	648,168	353,021	189,989	543,010
Commercial real estate loans						
Commercial mortgage	304,519	192,456	496,975	346,094	189,741	535,835
Construction	29,760	48,909	78,669	24,500	23,743	48,243
Total gross commercial real estate loans	334,279	241,365	575,644	370,594	213,484	584,078
Less specific allowance for credit losses	(600)	—	(600)	(550)	(33)	(583)
Net commercial real estate loans	333,679	241,365	575,044	370,044	213,451	583,495
Consumer loans						
Automobile financing	13,249	6,975	20,224	13,113	6,182	19,295
Credit card	60,466	23,623	84,089	57,777	21,228	79,005
Overdrafts	10,511	2,375	12,886	5,490	2,871	8,361
Other consumer	28,415	35,076	63,491	29,818	51,196	81,014
Total gross consumer loans	112,641	68,049	180,690	106,198	81,477	187,675
Less specific allowance for credit losses	(274)	—	(274)	(274)	—	(274)
Net consumer loans	112,367	68,049	180,416	105,924	81,477	187,401
Residential mortgage loans						
Residential mortgage loans	1,121,288	1,538,748	2,660,036	1,156,134	1,338,566	2,494,700
Less specific allowance for credit losses	(8,575)	(1,013)	(9,588)	(8,681)	(1,220)	(9,901)
Net residential mortgage loans	1,112,713	1,537,735	2,650,448	1,147,453	1,337,346	2,484,799
Total gross loans						
Total gross loans	1,969,014	2,099,977	4,068,991	1,988,813	1,823,516	3,812,329
Less specific allowance for credit losses	(12,215)	(2,700)	(14,915)	(12,371)	(1,253)	(13,624)
Less general allowance for credit losses	(7,098)	(3,089)	(10,187)	(16,339)	(5,504)	(21,843)
Net loans	1,949,701	2,094,188	4,043,889	1,960,103	1,816,759	3,776,862

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

The following tables summarize the past due status of the loans as at December 31, 2018 and December 31, 2017. 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.

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

December 31, 2017	30 - 59 days	60 - 89 days	More than 90 days	Total past due loans	Total current	Total loans
Commercial loans						
Government	—	—	—	—	153,401	153,401
Commercial and industrial	—	1,005	7,481	8,486	362,466	370,952
Commercial overdrafts	—	—	1	1	21,522	21,523
Total commercial loans	—	1,005	7,482	8,487	537,389	545,876
Commercial real estate loans						
Commercial mortgage	392	—	4,781	5,173	530,662	535,835
Construction	—	—	—	—	48,243	48,243
Total commercial real estate loans	392	—	4,781	5,173	578,905	584,078
Consumer loans						
Automobile financing	7	12	226	245	19,050	19,295
Credit card	422	177	170	769	78,236	79,005
Overdrafts	—	—	4	4	8,357	8,361
Other consumer	797	329	441	1,567	79,447	81,014
Total consumer loans	1,226	518	841	2,585	185,090	187,675
Residential mortgage loans	19,121	10,142	35,658	64,921	2,429,779	2,494,700
Total gross loans	20,739	11,665	48,762	81,166	3,731,163	3,812,329

Loans' Credit Quality

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

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

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

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

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

December 31, 2018	Pass	Special mention	Substandard	Non-accrual	Total gross recorded investments
Commercial loans					
Government	101,914	—	—	3,750	105,664
Commercial and industrial	501,241	4,097	1,146	7,379	513,863
Commercial overdrafts	29,896	2,705	491	2	33,094
Total commercial loans	633,051	6,802	1,637	11,131	652,621
Commercial real estate loans					
Commercial mortgage	444,397	45,390	3,126	4,062	496,975
Construction	78,669	—	—	—	78,669
Total commercial real estate loans	523,066	45,390	3,126	4,062	575,644
Consumer loans					
Automobile financing	19,927	119	16	162	20,224
Credit card	83,963	—	126	—	84,089
Overdrafts	12,650	232	—	4	12,886
Other consumer	60,766	1,869	10	846	63,491
Total consumer loans	177,306	2,220	152	1,012	180,690
Residential mortgage loans	2,501,814	47,039	78,697	32,486	2,660,036
Total gross recorded loans	3,835,237	101,451	83,612	48,691	4,068,991
December 31, 2017	Pass	Special mention	Substandard	Non-accrual	Total gross recorded investments
Commercial loans					
Government	149,651	—	3,750	—	153,401
Commercial and industrial	357,298	4,864	1,309	7,481	370,952
Commercial overdrafts	17,558	3,569	395	1	21,523
Total commercial loans	524,507	8,433	5,454	7,482	545,876
Commercial real estate loans					
Commercial mortgage	464,283	63,663	3,108	4,781	535,835
Construction	48,243	—	—	—	48,243
Total commercial real estate loans	512,526	63,663	3,108	4,781	584,078
Consumer loans					
Automobile financing	18,816	232	21	226	19,295
Credit card	78,835	—	170	—	79,005
Overdrafts	8,263	94	—	4	8,361
Other consumer	79,080	1,419	31	484	81,014
Total consumer loans	184,994	1,745	222	714	187,675
Residential mortgage loans	2,351,845	35,996	75,985	30,874	2,494,700
Total gross recorded loans	3,573,872	109,837	84,769	43,851	3,812,329

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Evaluation of Loans For Impairment

	December 31, 2018		December 31, 2017	
	Individually evaluated	Collectively evaluated	Individually evaluated	Collectively evaluated
Commercial	12,096	640,525	8,487	537,389
Commercial real estate	7,188	568,456	7,889	576,189
Consumer	1,023	179,667	1,138	186,537
Residential mortgage	102,127	2,557,909	99,652	2,395,048
Total gross loans	122,434	3,946,557	117,166	3,695,163

Changes in General and Specific Allowances For Credit Losses

	Year ended December 31, 2018				
	Commercial	Commercial real estate	Consumer	Residential mortgage	Total
Allowances at beginning of year	6,309	10,360	888	17,910	35,467
Provision taken (released)	865	(6,290)	211	(1,777)	(6,991)
Recoveries	14	28	656	201	899
Charge-offs	(275)	—	(953)	(2,931)	(4,159)
Other	—	(6)	—	(108)	(114)
Allowances at end of year	6,913	4,092	802	13,295	25,102
Allowances at end of year: individually evaluated for impairment	4,453	600	274	9,588	14,915
Allowances at end of year: collectively evaluated for impairment	2,460	3,492	528	3,707	10,187

	Year ended December 31, 2017				
	Commercial	Commercial real estate	Consumer	Residential mortgage	Total
Allowances at beginning of year	3,377	16,224	965	23,681	44,247
Provision taken (released)	2,853	(5,895)	1,059	(3,854)	(5,837)
Recoveries	106	—	730	483	1,319
Charge-offs	(34)	(1)	(1,869)	(2,475)	(4,379)
Other	7	32	3	75	117
Allowances at end of year	6,309	10,360	888	17,910	35,467
Allowances at end of year: individually evaluated for impairment	2,866	583	274	9,901	13,624
Allowances at end of year: collectively evaluated for impairment	3,443	9,777	614	8,009	21,843

	Year ended December 31, 2016				
	Commercial	Commercial real estate	Consumer	Residential mortgage	Total
Allowances at beginning of year	8,723	6,512	2,763	31,304	49,302
Provision taken (released)	(5,265)	14,459	(1,076)	(3,719)	4,399
Recoveries	97	12	1,264	70	1,443
Charge-offs	(138)	(4,520)	(1,916)	(3,837)	(10,411)
Other	(40)	(239)	(70)	(137)	(486)
Allowances at end of year	3,377	16,224	965	23,681	44,247
Allowances at end of year: individually evaluated for impairment	577	750	278	10,133	11,738
Allowances at end of year: collectively evaluated for impairment	2,800	15,474	687	13,548	32,509

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

Non-Performing Loans (excluding purchased credit-impaired loans)	December 31, 2018			December 31, 2017		
	Non-accrual	Past due more than 90 days and accruing	Total non-performing loans	Non-accrual	Past due more than 90 days and accruing	Total non-performing loans
Commercial loans						
Government	3,750	—	3,750	—	—	—
Commercial and industrial	7,379	—	7,379	7,481	—	7,481
Commercial overdrafts	2	—	2	1	—	1
Total commercial loans	11,131	—	11,131	7,482	—	7,482
Commercial real estate loans						
Commercial mortgage	4,062	—	4,062	4,781	—	4,781
Consumer loans						
Automobile financing	162	—	162	226	—	226
Credit card	—	126	126	—	170	170
Overdrafts	4	—	4	4	—	4
Other consumer	846	—	846	484	—	484
Total consumer loans	1,012	126	1,138	714	170	884
Residential mortgage loans	32,486	6,332	38,818	30,874	4,186	35,060
Total non-performing loans	48,691	6,458	55,149	43,851	4,356	48,207

Impaired Loans (excluding purchased credit-impaired loans)

A loan is considered to be impaired when, based on current information and events, the Bank determines that it will not be able to collect all amounts due according to the original loan contract, including scheduled interest payments. Impaired loans include all non-accrual loans and all loans modified in a troubled debt restructuring ("TDR") even if full collectability is expected following the restructuring. During the year ended December 31, 2018, the amount of gross interest income that would have been recorded had impaired loans been current was \$2.1 million (December 31, 2017: \$2.1 million; December 31, 2016: \$2.7 million).

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

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

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

December 31, 2017	Impaired loans with an allowance			Gross recorded investment of impaired loans without an allowance	Total impaired loans		
	Gross recorded investment	Specific allowance	Net loans		Gross recorded investment	Specific allowance	Net loans
Commercial loans							
Commercial and industrial	7,475	(2,866)	4,609	1,011	8,486	(2,866)	5,620
Commercial overdrafts	—	—	—	1	1	—	1
Total commercial loans	7,475	(2,866)	4,609	1,012	8,487	(2,866)	5,621
Commercial real estate loans							
Commercial mortgage	1,585	(583)	1,002	6,304	7,889	(583)	7,306
Consumer loans							
Automobile financing	138	(75)	63	88	226	(75)	151
Overdrafts	—	—	—	4	4	—	4
Other consumer	199	(199)	—	285	484	(199)	285
Total consumer loans	337	(274)	63	377	714	(274)	440
Residential mortgage loans	53,698	(9,630)	44,068	42,055	95,753	(9,630)	86,123
Total impaired loans	63,095	(13,353)	49,742	49,748	112,843	(13,353)	99,490

Specific allowance excludes \$0.3 million recognized relating to purchased credit-impaired loans.

Average Impaired Loan Balances and Related Recognized Interest Income

	December 31, 2018		December 31, 2017		December 31, 2016	
	Average gross recorded investment	Interest income recognized ¹	Average gross recorded investment	Interest income recognized ¹	Average gross recorded investment	Interest income recognized ¹
Commercial loans						
Government	3,750	—	—	—	—	—
Commercial and industrial	8,415	68	5,057	63	1,661	64
Commercial overdrafts	2	—	2	—	14	—
Total commercial loans	12,167	68	5,059	63	1,675	64
Commercial real estate loans						
Commercial mortgage	7,539	287	7,778	222	15,496	237
Consumer loans						
Automobile financing	194	—	256	—	192	—
Overdrafts	4	—	11	—	14	—
Other consumer	665	—	598	—	1,043	—
Total consumer loans	863	—	865	—	1,249	—
Residential mortgage loans	97,378	4,568	89,063	4,378	81,901	2,201
Total impaired loans	117,947	4,923	102,765	4,663	100,321	2,502

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

Loans Modified in a TDR

As at December 31, 2018, the Bank had two loans which were formerly residential mortgages that were modified in a TDR during the preceding 12 months that subsequently defaulted (i.e., 90 days or more past due following a modification) with a recorded investment of \$0.8 million. As at December 31, 2017, the Bank had no loans that were modified in a TDR during the preceding 12 months that subsequently defaulted. As at December 31, 2016, one loan which was formerly a residential mortgage was modified in a TDR during the preceding 12 months that subsequently defaulted with a recorded investment of \$0.9 million.

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

TDRs entered into during the year

	Year ended December 31, 2018			
	Number of contracts	Pre-modification recorded investment	Modification: interest capitalization	Post-modification recorded investment
Residential mortgage loans	19	7,864	846	8,710
Total loans modified in a TDR	19	7,864	846	8,710

	Year ended December 31, 2017			
	Number of contracts	Pre-modification recorded investment	Modification: interest capitalization	Post-modification recorded investment
Commercial real estate loans	2	1,544	—	1,544
Residential mortgage loans	42	24,588	1,345	25,933
Total loans modified in a TDR	44	26,132	1,345	27,477

	Year ended December 31, 2016			
	Number of contracts	Pre-modification recorded investment	Modification: interest capitalization	Post-modification recorded investment
Residential mortgage loans	21	12,543	81	12,624
Total loans modified in a TDR	21	12,543	81	12,624

	December 31, 2018		December 31, 2017	
	Accrual	Non-accrual	Accrual	Non-accrual
TDRs outstanding				
Commercial loans	965	—	1,005	—
Commercial real estate loans	3,127	1,336	3,108	1,471
Residential mortgage loans	66,516	8,154	64,879	5,623
Total TDRs outstanding	70,608	9,490	68,992	7,094

Purchased Credit-Impaired Loans

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

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

	Year ended December 31, 2017			
	Contractual principal	Non-accretable difference	Accretable difference	Carrying amount
Balance at beginning of year	8,016	(1,617)	(811)	5,588
Advances and increases in cash flows expected to be collected	36	48	(48)	36
Reductions resulting from repayments	(1,581)	307	148	(1,126)
Reductions resulting from changes in allowances for credit losses	—	(99)	—	(99)
Reductions resulting from charge-offs	(470)	122	—	(348)
Balance at end of year	6,001	(1,239)	(711)	4,051

The Bank of N.T. Butterfield & Son Limited
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Year ended

December 31, 2016

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

Note 7: Credit risk concentrations

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

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

Business sector	December 31, 2018			December 31, 2017		
	Loans	Off-balance sheet	Total credit exposure	Loans	Off-balance sheet	Total credit exposure
Banks and financial services	611,404	415,124	1,026,528	459,132	390,278	849,410
Commercial and merchandising	316,349	182,440	498,789	261,560	193,583	455,143
Governments	104,857	—	104,857	153,952	85,807	239,759
Individuals	2,339,854	89,931	2,429,785	2,274,632	114,215	2,388,847
Primary industry and manufacturing	120,088	1,003	121,091	59,532	9,567	69,099
Real estate	395,086	1,547	396,633	439,595	2,225	441,820
Hospitality industry	160,680	3,497	164,177	144,808	73	144,881
Transport and communication	5,758	75	5,833	5,494	—	5,494
Sub-total	4,054,076	693,617	4,747,693	3,798,705	795,748	4,594,453
General allowance	(10,187)	—	(10,187)	(21,843)	—	(21,843)
Total	4,043,889	693,617	4,737,506	3,776,862	795,748	4,572,610

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

Geographic region	December 31, 2018				December 31, 2017			
	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	145,675	—	—	145,675	113,920	—	—	113,920
Bermuda	36,827	2,133,859	333,845	2,504,531	14,512	2,132,918	418,850	2,566,280
Canada	759,437	—	—	759,437	386,322	—	—	386,322
Cayman	18,138	730,418	222,189	970,745	67,942	669,767	229,731	967,440
Guernsey	6	290,578	22,619	313,203	3	292,806	41,648	334,457
Japan	14,271	—	—	14,271	12,852	—	—	12,852
Jersey	—	9,083	449	9,532	—	—	—	—
New Zealand	1,082	—	—	1,082	7,951	—	—	7,951
Norway	8,750	—	—	8,750	25,440	—	—	25,440
Saint Lucia	—	90,000	—	90,000	—	120,000	—	120,000
Switzerland	6,637	—	—	6,637	5,743	—	—	5,743
The Bahamas	1,534	14,367	—	15,901	1,652	17,451	—	19,103
United Kingdom	725,634	783,708	114,515	1,623,857	775,853	562,013	105,519	1,443,385
United States	411,248	—	—	411,248	544,703	—	—	544,703
Other	4,321	2,063	—	6,384	6,998	3,750	—	10,748
Sub-total	2,133,560	4,054,076	693,617	6,881,253	1,963,891	3,798,705	795,748	6,558,344
General allowance	—	(10,187)	—	(10,187)	—	(21,843)	—	(21,843)
Total	2,133,560	4,043,889	693,617	6,871,066	1,963,891	3,776,862	795,748	6,536,501

Note 8: Premises, equipment and computer software

Category	December 31, 2018			December 31, 2017		
	Cost	Accumulated depreciation	Net carrying value	Cost	Accumulated depreciation	Net carrying value
Land	8,612	—	8,612	9,008	—	9,008
Buildings	144,196	(61,853)	82,343	139,534	(59,110)	80,424
Equipment	21,323	(15,490)	5,833	20,000	(15,997)	4,003
Computer hardware and software in use	177,017	(121,652)	55,365	165,251	(102,449)	62,802
Computer software in development	5,907	—	5,907	8,553	—	8,553
Total	357,055	(198,995)	158,060	342,346	(177,556)	164,790

Depreciation charged to operating expenses	Year ended		
	December 31, 2018	December 31, 2017	December 31, 2016
Buildings (included in Property expense)	4,283	3,781	4,058
Equipment (included in Property expense)	1,413	1,336	1,462
Computer hardware and software (included in Technology and communication expense)	20,441	18,382	18,757
Total depreciation charged to operating expenses	26,137	23,499	24,277

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Note 9: Goodwill and other intangible assets

Goodwill

	Segment			Total
	Cayman	Channel Islands and the UK	Other	
Balance at December 31, 2015	—	23,462	—	23,462
Foreign exchange translation adjustment	—	(3,840)	—	(3,840)
Balance at December 31, 2016	—	19,622	—	19,622
Foreign exchange translation adjustment	—	1,907	—	1,907
Balance at December 31, 2017	—	21,529	—	21,529
Acquisitions during the year	551	1,231	2,086	3,868
Foreign exchange translation adjustment	—	(1,333)	(73)	(1,406)
Balance at December 31, 2018	551	21,427	2,013	23,991

Customer Relationship Intangible Assets

Business segment	December 31, 2018			December 31, 2017		
	Cost	Accumulated amortization	Net carrying amount	Cost	Accumulated amortization	Net carrying amount
Bermuda	29,785	(11,733)	18,052	29,785	(9,748)	20,037
Cayman	17,728	(4,571)	13,157	12,324	(3,557)	8,767
Channel Islands and the UK	65,698	(51,210)	14,488	58,420	(48,158)	10,262
Other	5,563	(509)	5,054	—	—	—
Total	118,774	(68,023)	50,751	100,529	(61,463)	39,066

Customer relationships are initially valued based on the present value of net cash flows expected to be derived solely from the recurring customer base existing as at the date of acquisition. Customer relationship intangible assets may or may not arise from contracts.

During the year ended December 31, 2018, the Bank acquired \$18.2 million new customer intangible assets with an estimated useful life of 15 years, of which \$16.9 million was acquired through a business acquisition (see Note 26 Business combinations) and \$1.3 million via asset acquisitions (December 31, 2017: nil, December 31, 2016: \$21.4 million). The amortization expense amounted to \$5.1 million (December 31, 2017: \$4.2 million, December 31, 2016: \$4.5 million) and the foreign exchange translation adjustment decreased the net carrying amount by \$1.5 million (December 31, 2017: decreased by \$1.0 million, December 31, 2016: decreased by \$2.3 million). The estimated aggregate amortization expense for each of the succeeding five years is \$5.4 million.

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(In thousands of US dollars, unless otherwise stated)

Note 10: Customer deposits and deposits from banks

By Maturity

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

December 31, 2017	Demand		Total demand deposits	Term				Total term deposits	Total deposits
	Non-interest bearing	Interest bearing		Within 3 months	3 to 6 months	6 to 12 months	After 12 months		
Customers									
Bermuda									
Demand or less than \$100k ¹	1,840,201	2,578,411	4,418,612	13,983	4,267	8,640	13,984	40,874	4,459,486
Term - \$100k or more	N/A	N/A	—	646,751	33,495	75,235	37,857	793,338	793,338
Total Bermuda	1,840,201	2,578,411	4,418,612	660,734	37,762	83,875	51,841	834,212	5,252,824
Non-Bermuda									
Demand or less than \$100k ¹	639,525	2,755,517	3,395,042	19,147	5,202	4,762	781	29,892	3,424,934
Term and \$100k or more	N/A	N/A	—	657,134	88,650	94,245	6,205	846,234	846,234
Total non-Bermuda	639,525	2,755,517	3,395,042	676,281	93,852	99,007	6,986	876,126	4,271,168
Total customer deposits	2,479,726	5,333,928	7,813,654	1,337,015	131,614	182,882	58,827	1,710,338	9,523,992
Banks									
Bermuda									
Demand or less than \$100k	442	—	442	—	—	—	—	—	442
Non-Bermuda									
Demand or less than \$100k	—	7,704	7,704	—	—	—	—	—	7,704
Term and \$100k or more	N/A	N/A	—	4,220	—	100	—	4,320	4,320
Total non-Bermuda	—	7,704	7,704	4,220	—	100	—	4,320	12,024
Total bank deposits	442	7,704	8,146	4,220	—	100	—	4,320	12,466
Total deposits	2,480,168	5,341,632	7,821,800	1,341,235	131,614	182,982	58,827	1,714,658	9,536,458

¹ The weighted-average interest rate on interest-bearing demand deposits as at December 31, 2018 is 0.13% (December 31, 2017: 0.02%).

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(In thousands of US dollars, unless otherwise stated)

By Type and Segment	December 31, 2018			December 31, 2017		
	Payable on demand	Payable on a fixed date	Total	Payable on demand	Payable on a fixed date	Total
Bermuda						
Customers	3,537,510	958,092	4,495,602	4,418,649	834,211	5,252,860
Banks	8,100	—	8,100	442	—	442
Cayman						
Customers	2,847,793	472,442	3,320,235	2,529,499	405,215	2,934,714
Banks	17,564	6,757	24,321	7,704	4,320	12,024
Channel Islands and the UK						
Customers	1,064,540	538,042	1,602,582	865,506	470,912	1,336,418
Banks	1,401	—	1,401	—	—	—
Total Customers	7,449,843	1,968,576	9,418,419	7,813,654	1,710,338	9,523,992
Total Banks	27,065	6,757	33,822	8,146	4,320	12,466
Total deposits	7,476,908	1,975,333	9,452,241	7,821,800	1,714,658	9,536,458

Note 11: Employee benefit plans

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

Bermuda Defined Benefit and Post-Retirement Medical Benefit Plan

The Bank amortizes prior service credit resulting from plan amendments that occurred when plan members were active employees, on a linear basis over the expected average remaining service period (to full eligibility) of active members expected to receive benefits under the plan. Such remaining service periods are as follows: 3.1 years for the 2010 plan amendments and 4.6 years for the 2011 plan amendments. Plan amendments occurring in 2014 resulted in the recognition of new prior service cost on December 31, 2014 on a plan for which substantially all members are now inactive and, in accordance with US GAAP, the Bank has elected to amortize this new prior service cost on a linear basis over 21 years, which is the average remaining life expectancy of members eligible for benefits under the plan at the time of the amendments.

Guernsey Defined Benefit Pension Plan

Effective October 2014, all the participants of the Guernsey defined benefit pension plan became inactive and in accordance with US GAAP, the net actuarial loss of the Guernsey defined benefit pension plan will be amortized over the then estimated average remaining life expectancy of the inactive participants of 39 years. Prior to all of the Guernsey participants being inactive, the net actuarial loss of the Guernsey defined benefit pension plan was amortized to net income over the estimated average remaining service period for active members of 15 years.

United Kingdom Defined Benefit Pension Plan

The United Kingdom defined benefit pension plan closed to new members effective April 1, 2002 and subsequently closed to further accrual of new benefits effective October 1, 2012. During the years ended December 31, 2017 and 2018, the pension plan settled in cash the liability of several plan members and an insurance policy was purchased in the name of the trustees of the plan to match the liabilities of remaining members who were pensioners as at March 31, 2016.

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The following table presents the financial position of the Bank's defined benefit pension plans and the Bank's post-retirement medical benefit plan, which is unfunded. The Bank measures the benefit obligations and plan assets annually on each December 31 and therefore, the most recent measurement date is December 31, 2018.

	December 31, 2018		December 31, 2017		December 31, 2016	
	Pension plans	Post-retirement medical benefit plan	Pension plans	Post-retirement medical benefit plan	Pension plans	Post-retirement medical benefit plan
Accumulated benefit obligation at end of year	148,966	117,203	179,613	127,687	178,068	126,334
Change in projected benefit obligation						
Projected benefit obligation at beginning of year	179,613	127,687	178,068	126,334	166,815	119,107
Service cost	—	63	—	64	—	118
Interest cost	4,971	4,305	5,361	4,703	5,781	4,792
Benefits paid	(17,274)	(3,263)	(13,444)	(2,118)	(10,477)	(3,594)
Prior service cost	212	—	—	—	—	—
Settlement and curtailment of liability	(1,825)	—	(6,108)	—	—	—
Actuarial (gain) loss	(12,423)	(11,589)	7,384	(1,296)	30,953	5,911
Foreign exchange translation adjustment	(4,308)	—	8,352	—	(15,004)	—
Projected benefit obligation at end of year	148,966	117,203	179,613	127,687	178,068	126,334
Change in plan assets						
Fair value of plan assets at beginning of year	185,495	—	172,206	—	179,961	—
Actual return on plan assets	(11,618)	—	14,801	—	18,615	—
Employer contribution	3,653	3,263	8,448	2,118	678	3,594
Plan settlement	(1,608)	—	(5,123)	—	—	—
Benefits paid	(17,274)	(3,263)	(13,444)	(2,118)	(10,477)	(3,594)
Foreign exchange translation adjustment	(4,497)	—	8,607	—	(16,571)	—
Fair value of plan assets at end of year	154,151	—	185,495	—	172,206	—
Amounts recognized in the consolidated balance sheets consist of:						
Prepaid benefit cost included in other assets	5,185	—	6,993	—	7,771	—
Accrued pension benefit cost included in employee benefit plans liability	—	(117,203)	(1,111)	(127,687)	(13,633)	(126,334)
Surplus (deficit) of plan assets over projected benefit obligation at measurement date	5,185	(117,203)	5,882	(127,687)	(5,862)	(126,334)

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	Year ended					
	December 31, 2018		December 31, 2017		December 31, 2016	
	Pension plans	Post- retirement medical benefit plan	Pension plans	Post- retirement medical benefit plan	Pension plans	Post- retirement medical benefit plan
Amounts recognized in accumulated other comprehensive loss consist of:						
Net actuarial gain (loss), excluding deferred taxes	(65,506)	(12,946)	(62,521)	(27,150)	(64,852)	(31,959)
Net prior service credit (cost)	(202)	(6,397)	—	(6,436)	—	(5,678)
Deferred income taxes assets (liabilities)	816	—	1,180	—	1,620	—
Net amount recognized in accumulated other comprehensive loss	(64,892)	(19,343)	(61,341)	(33,586)	(63,232)	(37,637)

Annual Benefit Expense

Expense component	Line item in the consolidated statements of operations						
Service cost	Salaries and other employee benefits	—	63	—	64	—	118
Interest cost	Non-service employee benefits expense	4,971	4,305	5,361	4,703	5,781	4,792
Expected return on plan assets	Non-service employee benefits expense	(8,720)	—	(8,199)	—	(8,943)	—
Amortization of net actuarial (gains) losses	Non-service employee benefits expense	2,106	2,615	2,238	3,514	1,702	2,731
Amortization of prior service (credit) loss	Non-service employee benefits expense	—	39	—	(759)	—	(6,343)
(Gain) loss on settlement	Net other gains (losses) / Non-service employee benefits expense	1,757	—	1,232	—	—	—
Defined benefit (income) expense		114	7,022	632	7,522	(1,460)	1,298
Defined contribution expense		7,442	—	6,521	—	6,606	—
Total benefit (income) expense		7,556	7,022	7,153	7,522	5,146	1,298

The components of 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.

Other Changes Recognized in Other Comprehensive Income (Loss)

Net gain (loss) arising during the year	(5,987)	11,589	1,472	1,296	(19,956)	(5,911)
Prior service credit (cost) arising during the year	(212)	—	—	—	—	—
Amortization of net actuarial (gains) losses	2,106	2,615	2,247	3,514	1,702	2,731
Amortization of prior service (credit) cost	—	39	—	(759)	—	(6,343)
Change in deferred taxes	(298)	—	(595)	—	1,315	—
Foreign exchange adjustment	840	—	(1,233)	—	38	—
Total changes recognized in other comprehensive income (loss)	(3,551)	14,243	1,891	4,051	(16,901)	(9,523)

To develop the expected long-term rate of return on the plan assets assumption for each plan, the Bank considered the historical returns and the future expectations for returns for each asset class, as well as the target asset allocations of the assets. The weighted average discount rate used to determine benefit obligations at the end of the year is derived from interest rates on high quality corporate bonds with maturities that match the expected benefit payments.

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Actuarial Assumptions

	Year ended					
	December 31, 2018		December 31, 2017		December 31, 2016	
	Pension plans	Post-retirement medical benefit plan	Pension plans	Post-retirement medical benefit plan	Pension plans	Post-retirement medical benefit plan
Actuarial assumptions used to determine annual benefit expense						
Weighted average discount rate	3.05%	3.73%	3.40%	4.37%	3.90%	4.70%
Weighted average rate of compensation increases ¹	2.50%	N/A	2.50%	N/A	2.30%	N/A
Weighted average expected long-term rate of return on plan assets	4.70%	N/A	4.75%	N/A	5.30%	N/A
Weighted average annual medical cost increase rate (sensitivity shown below)	N/A	7.7% to 4.5% in 2035	N/A	7.8% to 4.5% in 2035	N/A	8.0% to 4.5% in 2035
Actuarial assumptions used to determine benefit obligations at end of year						
Weighted average discount rate	3.65%	4.40%	3.05%	3.73%	3.40%	4.37%
Weighted average rate of compensation increases ¹	2.50%	N/A	2.40%	N/A	2.50%	N/A
Weighted average annual medical cost increase rate (sensitivity shown below)	N/A	7.5% to 4.5% in 2035	N/A	7.7% to 4.5% in 2035	N/A	7.8% to 4.5% in 2035

¹ Only the United Kingdom subsidiary plan is impacted by potential future compensation increases.

Investments Policies and Strategies

The pension plans' assets are managed according to each plan's investment policy statement, which outlines the purpose of the plan, statement of objectives and guidelines and investment policy. The asset allocation is diversified and any use of derivatives is limited to hedging purposes only.

	December 31, 2018		December 31, 2017	
	Actual allocation	Target allocation	Actual allocation	Target allocation
Weighted average actual and target asset allocations of the pension plans by asset category				
Debt securities (including debt mutual funds)	33%	47%	34%	48%
Equity securities (including equity mutual funds)	55%	37%	52%	47%
Other	12%	16%	14%	5%
Total	100%	100%	100%	100%

Fair Value Measurements of Pension Plans' Assets

The following table presents the fair value of plans' assets by category and level of inputs used in their respective fair value determination as described in Note 2: Significant accounting policies, except the level 3 security, for which the valuation determination is described following the below table:

	December 31, 2018				December 31, 2017			
	Fair value determination				Fair value determination			
	Level 1	Level 2	Level 3	Total fair value	Level 1	Level 2	Level 3	Total fair value
US government and federal agencies	—	10,221	—	10,221	—	11,318	—	11,318
Non-US governments debt securities	—	1,039	—	1,039	—	12,139	—	12,139
Corporate debt securities	—	39,589	—	39,589	—	39,072	—	39,072
Equity securities and mutual funds	925	83,638	—	84,563	1,096	95,294	—	96,390
Other	—	1,779	16,960	18,739	—	10,917	15,659	26,576
Total fair value of plans' assets	925	136,266	16,960	154,151	1,096	168,740	15,659	185,495

The Level 3 assets consist of insured annuity policies covering the full pension benefits of certain plan members. The fair value of these policies is deemed equal to the actuarial value of the projected benefit obligation for the insured benefits. At December 31, 2018, 32.6% (December 31, 2017: 28.2%) of the assets of the pension plans were mutual funds and equity securities managed or administered by wholly-owned subsidiaries of the Bank. At December 31, 2018, 0.6% (December 31, 2017: 0.6%) of the plans' assets were invested in common shares of the Bank.

The investments of the pension funds are diversified across a range of asset classes and are diversified within each asset class. The assets are generally actively managed with the goal of adding some incremental value through security selection and asset allocation.

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Estimated 2019 Bank contribution to and estimated benefit payments for the next ten years under the pension and post-retirement medical benefit plans are as follows:

	Pension plans	Post-retirement medical benefit plan
Estimated Bank contributions for the full year ending December 31, 2019	2,500	4,757
Estimated benefit payments by year:		
2019	6,600	4,757
2020	6,600	5,076
2021	6,600	5,415
2022	6,600	5,743
2023	6,500	6,073
2024-2028	31,200	34,865

Note 12: Credit related arrangements, repurchase agreements and commitments

Commitments

As at December 31, 2018, the Bank was committed to expenditures under contract for information technology services sourcing and leases of \$39.2 million and \$27.2 million, respectively (December 31, 2017: \$56.9 million and \$16.5 million, respectively). Rental expense for premises leased on a long-term basis for the year ended December 31, 2018 amounted to \$5.6 million (December 31, 2017: \$4.9 million, December 31, 2016: \$5.1 million). The leases under contract as of both December 31, 2018 and December 31, 2017 are all non-cancellable operating type leases primarily for the lease of office space. The Bank funded its expenditures with its own resources and plans to fund those currently in progress with its own resources, which may be obtained through cash on hand, cash flows from operations and issuances of debt and equity securities.

The following table summarizes the Bank's commitments for sourcing, long-term leases and other agreements:

Year ending December 31	Sourcing	Leases	Other	Total
2019	14,721	5,448	7,990	28,159
2020	13,353	5,524	2,214	21,091
2021	11,112	4,696	1,634	17,442
2022	—	4,317	727	5,044
2023	—	3,609	719	4,328
2024 & thereafter	—	3,583	719	4,302
Total commitments	39,186	27,177	14,003	80,366

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

The Bank has a facility by one of its custodians, whereby the Bank may offer up to US\$200 million of standby letters of credit to its customers on a fully secured basis. Under the standard terms of the facility, the custodian has the right to set-off against securities held of 110% of the utilized facility. At December 31, 2018, \$137.4 million (December 31, 2017: \$77.0 million) of standby letters of credit were issued under this facility.

Outstanding unfunded commitments to extend credit	December 31, 2018	December 31, 2017
Commitments to extend credit	445,215	602,740
Documentary and commercial letters of credit	561	1,263
Total unfunded commitments to extend credit	445,776	604,003

Credit-Related Arrangements

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

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

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Outstanding financial guarantees	December 31, 2018			December 31, 2017		
	Gross	Collateral	Net	Gross	Collateral	Net
Standby letters of credit	245,156	237,051	8,105	186,408	178,158	8,250
Letters of guarantee	2,685	2,599	86	5,337	5,251	86
Total	247,841	239,650	8,191	191,745	183,409	8,336

Repurchase agreements

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

As at December 31, 2018, the Bank had 2 open positions (December 31, 2017: 23) 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 \$27.3 million (December 31, 2017: \$178.8 million) and are included in securities purchased under agreement to resell on the consolidated balance sheets. As at December 31, 2018, there were no positions (December 31, 2017: no positions) which were offset on the balance sheet to arrive at the carrying value, and there was no collateral amount which was available to offset against the future settlement amount.

Legal Proceedings

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

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

Management believes that as of December 31, 2018, a provision of \$5.5 million (December 31, 2017: \$5.5 million), which has been recorded, is appropriate. As the investigation remains ongoing at this time, the timing and terms of the final resolution, including any fines or penalties, remain uncertain and the financial impact to the Bank could exceed the amount of the provision. In this regard, we note that the US authorities have not approved or commented on the adequacy or reasonableness of the estimate. The provision is included on the consolidated balance sheets under other liabilities and on the consolidated statements of operations under other expenses.

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Note 13: Exit cost obligations

During December 2015, the Bank agreed to commence an orderly wind-down of the deposit taking and investment management businesses in the United Kingdom jurisdiction in the Channel Islands and the UK segment as reflected in management segment reporting described in Note 15: Segmented information. In making this determination, the Bank considered the increasing regulatory pressure along with periods of negative profitability and made the determination that an orderly wind-down of the deposit taking and investment management businesses in the United Kingdom was prudent for Butterfield as a group. The orderly wind-down was largely completed by the end of 2016 with the change in business operations to mortgage lending services and the change in name from Butterfield Bank (UK) Limited to Butterfield Mortgages Limited. The amounts expensed shown in the following table are all included in the consolidated statements of operations as restructuring costs under non-interest expenses.

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

	Expense recognized by year				Amounts paid by year		Exit cost liability	
	Year ended December 31, 2018	Years 2017, 2016 and 2015	Costs to be recognized in the future	Total exit costs expected to be incurred	Year ended December 31, 2018	Years 2017, 2016 and 2015	As at December 31, 2018	As at December 31, 2017
Staff redundancy expenses	—	3,680	—	3,680	—	3,680	—	—
Professional services	—	4,388	—	4,388	—	4,388	—	—
Lease termination expenses	—	649	—	649	—	649	—	—
Other expenses	—	1,504	—	1,504	—	1,504	—	—
Total	—	10,221	—	10,221	—	10,221	—	—

Note 14: Loan interest income

	Year ended		
	December 31, 2018	December 31, 2017	December 31, 2016
Contractual interest			
Contractual interest earned on mortgages	136,984	125,980	122,541
Contractual interest earned on other loans	76,924	57,591	62,788
Subtotal contractual interest earned	213,908	183,571	185,329
Amortization			
Amortization of fair value hedge	(501)	(722)	(1,120)
Amortization of loan origination fees (net of amortized costs)	5,088	4,171	3,791
Total loan interest income	218,495	187,020	188,000
Balance of unamortized fair value hedge included in loans as at year end	1,992	2,493	3,215
Balance of unamortized loan fees included in loans as at year end	10,010	9,364	6,313

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Note 15: Segmented information

The Bank is managed by the CEO on a geographic basis. In 2017, the Bank presented six segments which included Bermuda, Cayman, Guernsey, Switzerland, The Bahamas and the United Kingdom. In 2018, the Bank reassessed the segment reporting as a result of acquisitions which were announced in 2017 and early 2018 and concluded on the following three geographic segments: Bermuda, Cayman, and Channel Islands and the UK. The Other segment is composed of several non-reportable operating segments that have been aggregated in accordance with US GAAP. Each region has a managing director who reports to the CEO. The CEO and the region managing director have final authority over resource allocation decisions and performance assessment. The Bank also revised the presentation of total assets by segment to exclude the effect of investment in subsidiaries from the total assets in each segment. The 2016 and 2017 classifications presented below were revised to conform the presentation for all periods to the current period's presentation.

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

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

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

The **Cayman** segment provides a comprehensive range of retail, commercial and private banking services. Retail services are offered to individuals and small to medium-sized businesses through three branch locations and through internet banking, mobile banking, ATMs and debit cards. Retail services include deposit services, consumer and mortgage lending, credit cards and property/auto insurance. Commercial banking includes commercial lending and mortgages, cash management, payroll services, remote banking and letters of credit. Treasury services include money market and foreign exchange activities. Cayman's wealth management offering comprises investment management, advisory and brokerage services and Butterfield Trust (Cayman) Limited, which provides trust, estate and company management.

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

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

Total Assets by Segment	December 31, 2018	December 31, 2017
Bermuda	5,387,347	6,053,546
Cayman	3,705,468	3,242,343
Channel Islands and the UK	1,966,547	1,586,134
Other	30,035	13,859
Total assets before inter-segment eliminations	11,089,397	10,895,882
Less: inter-segment eliminations	(316,219)	(116,645)
Total	10,773,178	10,779,237

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2018	Net interest income									
	Year ended December 31	Customer	Inter-segment	Provision for credit losses	Non-interest income	Revenue before gains and losses	Gains and losses	Total net revenue	Total expenses	Net income
	Bermuda	202,901	2,383	6,823	87,352	299,459	(20)	299,439	202,318	97,121
	Cayman	102,793	416	1,297	47,781	152,287	349	152,636	60,666	91,970
	Channel Islands and the UK	37,276	(2,799)	(1,129)	26,824	60,172	(1,185)	58,987	50,353	8,634
	Other	19	—	—	15,157	15,176	1	15,177	17,718	(2,541)
	Total before eliminations	342,989	—	6,991	177,114	527,094	(855)	526,239	331,055	195,184
	Inter-segment eliminations	—	—	—	(8,428)	(8,428)	—	(8,428)	(8,428)	—
	Total	342,989	—	6,991	168,686	518,666	(855)	517,811	322,627	195,184

2017	Net interest income									
	Year ended December 31	Customer	Inter-segment	Provision for credit losses	Non-interest income	Revenue before gains and losses	Gains and losses	Total net revenue	Total expenses	Net income
	Bermuda	178,600	1,324	4,618	81,416	265,958	2,785	268,743	192,293	76,450
	Cayman	86,074	3	1,033	46,004	133,114	(28)	133,086	59,400	73,686
	Channel Islands and the UK	24,978	(1,367)	186	24,445	48,242	(1,488)	46,754	43,758	2,996
	Other	92	40	—	11,424	11,556	—	11,556	11,436	120
	Total before eliminations	289,744	—	5,837	163,289	458,870	1,269	460,139	306,887	153,252
	Inter-segment eliminations	—	—	—	(5,464)	(5,464)	—	(5,464)	(5,464)	—
	Total	289,744	—	5,837	157,825	453,406	1,269	454,675	301,423	153,252

2016	Net interest income									
	Year ended December 31	Customer	Inter-segment	Provision for credit losses	Non-interest income	Revenue before gains and losses	Gains and losses	Total net revenue	Total expenses	Net income
	Bermuda	160,466	1,642	(7,263)	71,765	226,610	1,412	228,022	164,581	63,441
	Cayman	79,644	388	2,135	41,364	123,531	(532)	122,999	60,613	62,386
	Channel Islands and the UK	18,283	(2,060)	729	28,155	45,107	134	45,241	55,387	(10,146)
	Other	87	30	—	9,194	9,311	—	9,311	9,050	261
	Total before eliminations	258,480	—	(4,399)	150,478	404,559	1,014	405,573	289,631	115,942
	Inter-segment eliminations	—	—	—	(3,005)	(3,005)	—	(3,005)	(3,005)	—
	Total	258,480	—	(4,399)	147,473	401,554	1,014	402,568	286,626	115,942

Note 16: Derivative instruments and risk management

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

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

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

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

Notional Amounts

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

Fair Value

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

Risk Management Derivatives

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

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

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

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

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

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

For foreign-currency-denominated debt instruments that are designated as hedges of net investments in foreign operations, the translation gain or loss that is recorded in AOCL is based on the spot exchange rate between the reporting currency of the Bank and the functional currency of the respective subsidiary. See Note 23: Accumulated other comprehensive loss for details on the amount recognized into AOCL during the current period from translation gain or loss.

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

Client service derivatives

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

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

December 31, 2018	Derivative instrument	Number of contracts	Notional amounts	Gross positive fair value	Gross negative fair value	Net fair value
Risk management derivatives						
Derivatives not formally designated as hedging instruments	Currency swaps	8	238,810	269	(601)	(332)
Client services derivatives	Spot and forward foreign exchange	288	2,064,762	13,331	(12,671)	660
Total derivative instruments			2,303,572	13,600	(13,272)	328
<hr/>						
December 31, 2017	Derivative instrument	Number of contracts	Notional amounts	Gross positive fair value	Gross negative fair value	Net fair value
Risk management derivatives						
Derivatives not formally designated as hedging instruments	Currency swaps	8	183,719	726	(2,754)	(2,028)
Client services derivatives	Spot and forward foreign exchange	120	2,130,224	10,595	(9,911)	684
Total derivative instruments			2,313,943	11,321	(12,665)	(1,344)

In addition to the above, as at December 31, 2018 foreign denominated deposits of £124.5 million (December 31, 2017: £84.5 million), CHF 0.4 million (December 31, 2017: CHF 0.4 million), and SGD 4.0 million (December 31, 2017: nil) were designated as a hedge of foreign exchange risk associated with the net investment in foreign operations.

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

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

December 31, 2018	Gross fair value recognized	Less: offset applied under master netting agreements	Net fair value presented in the consolidated balance sheets	Less: positions not offset in the consolidated balance sheets		Net exposures
				Gross fair value of derivatives	Cash collateral received / paid	
Derivative assets						
Spot and forward foreign exchange and currency swaps	13,600	(2,036)	11,564	—	(3,216)	8,348
Derivative liabilities						
Spot and forward foreign exchange and currency swaps	13,272	(2,036)	11,236	—	(1,861)	9,375
Net positive fair value			328			
<hr/>						
December 31, 2017	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	11,321	(2,197)	9,124	—	(6,196)	2,928
Derivative liabilities						
Spot and forward foreign exchange and currency swaps	12,665	(2,197)	10,468	—	—	10,468
Net negative fair value			(1,344)			

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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. During 2016, management revised the following disclosures to segregate the gains and losses attributable to the specific types of derivatives.

Derivative instrument	Consolidated statements of operations line item	Year ended		
		December 31, 2018	December 31, 2017	December 31, 2016
Spot and forward foreign exchange	Foreign exchange revenue	(25)	541	(322)
Currency swaps, not designated as hedge	Foreign exchange revenue	1,697	(4,916)	2,710
Currency swaps - net investment hedge	Foreign exchange revenue	—	(11,334)	(1,091)
Total net gains (losses) recognized in net income		1,672	(15,709)	1,297

Derivative instrument	Consolidated statements of comprehensive income line item	Year ended		
		December 31, 2018	December 31, 2017	December 31, 2016
Currency swaps - net investment hedge	Net change in unrealized gains and (losses) on translation of net investment in foreign operations	—	(4,410)	12,713
Total net gains (losses) recognized in comprehensive income		—	(4,410)	12,713

Note 17: 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: Significant accounting policies.

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

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

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

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

There were no transfers between Level 1 and Level 2 or Level 2 and Level 3 during the year ended December 31, 2018 and the year ended December 31, 2017.

	December 31, 2018			Total carrying amount / fair value	December 31, 2017			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								
Trading investments								
Mutual funds	6,176	319	—	6,495	6,616	208	—	6,824
Total trading	6,176	319	—	6,495	6,616	208	—	6,824
Available-for-sale investments								
US government and federal agencies	—	1,786,507	—	1,786,507	—	2,709,104	—	2,709,104
Non-US governments debt securities	—	25,425	—	25,425	—	26,248	—	26,248
Corporate debt securities	—	78,713	—	78,713	—	243,372	—	243,372
Asset-backed securities - Student loans	—	—	12,626	12,626	—	—	12,493	12,493
Commercial mortgage-backed securities	—	123,209	—	123,209	—	141,500	—	141,500
Residential mortgage-backed securities	—	156,269	—	156,269	—	184,723	—	184,723
Total available-for-sale	—	2,170,123	12,626	2,182,749	—	3,304,947	12,493	3,317,440
Other assets - Derivatives	—	11,564	—	11,564	—	9,124	—	9,124
Financial liabilities								
Other liabilities - Derivatives	—	11,236	—	11,236	—	10,468	—	10,468

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Level 3 Reconciliation

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

	December 31, 2018	December 31, 2017	December 31, 2016
	Available- for-sale investments	Available- for-sale investments	Available- for-sale investments
Carrying amount at beginning of year	12,493	12,493	12,161
Realized and unrealized gains (losses) recognized in other comprehensive income	133	—	332
Carrying amount at end of year	12,626	12,493	12,493

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

	Level	December 31, 2018			December 31, 2017		
		Carrying amount	Fair value	Appreciation / (depreciation)	Carrying amount	Fair value	Appreciation / (depreciation)
Financial assets							
Cash due from banks	Level 1	2,053,883	2,053,883	—	1,535,138	1,535,138	—
Securities purchased under agreement to resell	Level 2	27,341	27,341	—	178,769	178,769	—
Short-term investments	Level 1	52,336	52,336	—	249,984	249,984	—
Investments held-to-maturity	Level 2	2,066,120	2,036,214	(29,906)	1,381,955	1,377,354	(4,601)
Loans, net of allowance for credit losses	Level 2	4,043,889	4,047,262	3,373	3,776,862	3,770,450	(6,412)
Other real estate owned ¹	Level 2	5,346	5,346	—	9,127	9,127	—
Financial liabilities							
Customer deposits							
Demand deposits	Level 2	7,449,843	7,449,843	—	7,813,654	7,813,654	—
Term deposits	Level 2	1,968,576	1,970,004	(1,428)	1,710,338	1,710,223	115
Deposits from banks	Level 2	33,822	33,822	—	12,466	12,466	—
Long-term debt	Level 2	143,322	146,261	(2,939)	117,000	118,321	(1,321)

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 18: Interest rate risk

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

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

December 31, 2017	Earlier of contractual maturity or repricing date						Total
(in \$ millions)	Within 3 months	3 to 6 months	6 to 12 months	1 to 5 years	After 5 years	Non-interest bearing funds	Total
Assets							
Cash due from banks	1,446	—	—	—	—	89	1,535
Securities purchased under agreement to resell	179	—	—	—	—	—	179
Short-term investments	163	87	—	—	—	—	250
Investments	1,464	62	15	390	2,768	7	4,706
Loans	3,457	44	34	194	44	4	3,777
Other assets	—	—	—	—	—	332	332
Total assets	6,709	193	49	584	2,812	432	10,779
Liabilities and shareholders' equity							
Shareholders' equity	—	—	—	—	—	823	823
Demand deposits	5,342	—	—	—	—	2,480	7,822
Term deposits	1,340	132	183	59	—	—	1,714
Other liabilities	—	—	—	—	—	303	303
Long-term debt	92	25	—	—	—	—	117
Total liabilities and shareholders' equity	6,774	157	183	59	—	3,606	10,779
Interest rate sensitivity gap	(65)	36	(134)	525	2,812	(3,174)	—
Cumulative interest rate sensitivity gap	(65)	(29)	(163)	362	3,174	—	—

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Note 19: Long-term debt

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

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

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

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

No interest was capitalized during the years ended December 31, 2018, 2017 and 2016.

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 December 31, 2018. The interest payments are calculated until contractual maturity using the current LIBOR rates.

Long-term debt	Earliest date redeemable at the Bank's option	Contractual maturity date	Interest rate until date redeemable	Interest rate from earliest date redeemable to contractual maturity	Principal Outstanding	Interest payments until contractual maturity		
						Within 1 year	1 to 5 years	After 5 years
Bermuda								
2005 issuance - Series B	July 2, 2015	July 2, 2020	5.11%	3 months US\$ LIBOR + 1.695%	45,000	2,054	1,542	—
2008 issuance - Series B	May 27, 2018	May 27, 2023	8.44%	3 months US\$ LIBOR + 4.929%	25,000	1,961	6,861	—
2018 issuance	June 1, 2023	June 1, 2028	5.25%	3 months US\$ LIBOR + 2.255%	75,000	3,938	15,711	17,340
Total					145,000	7,953	24,114	17,340
Unamortized debt issuance costs					(1,678)			
Long-term debt less unamortized debt issuance costs					143,322			

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Note 20: Earnings per share

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

During the year ended December 31, 2018, options to purchase an average of 0.3 million (2017: 0.9 million, 2016: 2.6 million) common shares were outstanding. During the year ended December 31, 2018, the average number of outstanding awards of unvested common shares was 0.9 million (2017: 0.9 million, 2016: 0.8 million). Only awards for which the sum of 1) the expense that will be recognized in the future (i.e., the unrecognized expense) and 2) its exercise price, if any, was lower than the average market price of the Bank's common shares were considered dilutive and, therefore, included in the computation of diluted earnings per share. An award's unrecognized expense is also considered to be the proceeds the employees would need to pay to purchase accelerated vesting of the awards. For purposes of calculating dilution, such proceeds are assumed to be used by the Bank to buy back common shares at the average market price. The weighted-average number of outstanding awards, net of the assumed weighted-average number of common shares bought back, is included in the number of diluted participating shares.

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

	Year ended		
	December 31, 2018	December 31, 2017	December 31, 2016
Net income	195,184	153,252	115,942
Less: Preference dividends declared and guarantee fee	—	—	(15,655)
Less: Premium on preference share buyback and redemption	—	—	(41,913)
Net income attributable for common shareholders	195,184	153,252	58,374
Basic Earnings Per Share			
Weighted average number of common shares issued	55,159	54,296	49,128
Weighted average number of common shares held as treasury stock	(213)	—	(506)
Weighted average number of common shares (in thousands)	54,946	54,296	48,622
Basic Earnings Per Share	3.55	2.82	1.20
Diluted Earnings Per Share			
Weighted average number of common shares	54,946	54,296	48,622
Net dilution impact related to options to purchase common shares	223	561	607
Net dilution impact related to awards of unvested common shares	576	594	382
Weighted average number of diluted common shares (in thousands)	55,745	55,451	49,611
Diluted Earnings Per Share	3.50	2.76	1.18

Note 21: Share-based payments

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

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

Stock Option Awards

1997 Stock Option Plan

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

2010 Plan

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

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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 Options

Year ended December 31, 2018	Number of shares transferable upon exercise (thousands)			Weighted average exercise price (\$)		Weighted average remaining life (years)		Aggregate intrinsic value (\$ thousands)
	1997 Stock Option Plan	2010 Stock Option Plan	Total	1997 Stock Option Plan	2010 Stock Option Plan	1997 Stock Option Plan	2010 Stock Option Plan	
Outstanding at beginning of year	58	476	534	113.46	11.73			
Exercised	—	(287)	(287)	—	11.56			10,172
Forfeitures and cancellations	(33)	—	(33)	150.46	—			
Outstanding at end of year	25	189	214	64.51	11.98	0.20	1.67	3,665
Vested and exercisable at end of year	25	189	214	64.51	11.98	0.20	1.67	

Year ended December 31, 2017	Number of shares transferable upon exercise (thousands)			Weighted average exercise price (\$)		Weighted average remaining life (years)		Aggregate intrinsic value (\$ thousands)
	1997 Stock Option Plan	2010 Stock Option Plan	Total	1997 Stock Option Plan	2010 Stock Option Plan	1997 Stock Option Plan	2010 Stock Option Plan	
Outstanding at beginning of year	116	1,950	2,066	132.13	11.57			
Exercised	—	(1,474)	(1,474)	—	11.51			32,333
Forfeitures and cancellations	(58)	—	(58)	151.20	—			
Outstanding at end of year	58	476	534	113.46	11.73	0.63	2.48	11,700
Vested and exercisable at end of year	58	476	534	113.46	11.73	0.63	2.48	

Year ended December 31, 2016	Number of shares transferable upon exercise (thousands)			Weighted average exercise price (\$)		Weighted average remaining life (years)		Aggregate intrinsic value (\$ thousands)
	1997 Stock Option Plan	2010 Stock Option Plan	Total	1997 Stock Option Plan	2010 Stock Option Plan	1997 Stock Option Plan	2010 Stock Option Plan	
Outstanding at beginning of year	218	2,608	2,826	135.19	11.60			
Exercised	—	(625)	(625)	—	11.68			8,938
Forfeitures and cancellations	(102)	(5)	(107)	138.79	11.50			
Resignations	—	(28)	(28)	—	11.50			
Outstanding at end of year	116	1,950	2,066	132.13	11.57	1.18	3.42	38,489
Vested and exercisable at end of year	116	1,950	2,066	132.13	11.57	1.18	3.42	

Share-Based Plans

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

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

The grant date weighted average fair value of unvested share awards granted in the years ended December 31, 2018, 2017 and 2016 was \$39.25, \$31.13 and \$19.34 respectively. The Bank expects to settle these awards by issuing new shares.

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Employee Deferred Incentive Plan (“EDIP”)

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

Executive Long-Term Incentive Share Plan (“ELTIP”) - Years 2013 - 2018

The 2018 ELTIP was approved on February 13, 2018. Under the Bank’s ELTIP plans for the years 2013 through 2018, performance shares as well as time-vested shares were awarded to executive management. The performance shares will generally vest upon the achievement of certain performance targets in the three-year period from the effective grant date. The time-vested shares will generally vest over the three-year period from the effective grant date.

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

	Year ended					
	December 31, 2018		December 31, 2017		December 31, 2016	
	EDIP	ELTIP	EDIP	ELTIP	EDIP	ELTIP
Outstanding at beginning of year	244	679	215	640	226	606
Granted	130	241	132	236	115	360
Vested (fair value in 2018: \$16.0 million, 2017: \$10.2 million, 2016: \$7.0 million)	(138)	(220)	(102)	(196)	(118)	(302)
Resignations	(2)	(3)	(1)	(1)	(8)	(24)
Outstanding at end of year	234	697	244	679	215	640

Share-based Compensation Cost Recognized in Net Income

	Year ended								
	December 31, 2018			December 31, 2017			December 31, 2016		
	Stock option plans	EDIP and ELTIP	Total	Stock option plans	EDIP and ELTIP	Total	Stock option plans	EDIP and ELTIP	Total
Cost recognized in net income	—	11,664	11,664	—	8,110	8,110	8,697	5,375	14,072

Unrecognized Share-based Compensation Cost

	December 31, 2018				December 31, 2017			
	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	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	4,442	1.73	3,453	1.85				
ELTIP								
Time vesting shares	1,746	1.03	3,302	1.89				
Performance vesting shares	7,880	1.85	5,010	1.78				
Total unrecognized expense	14,068		11,765					

Note 22: Share buy-back plans

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

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

Common Share Buy-Back Program

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

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

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

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Common share buy-backs	Year ended December 31					
	2018	2017	2016	2015	2014	Total
Acquired number of shares (to the nearest 1)	1,254,212	—	97,053	250,371	856,734	2,458,370
Average cost per common share	38.62	—	16.36	19.42	19.86	29.25
Total cost (in US dollars)	48,442,768	—	1,588,189	4,862,248	17,018,412	71,911,617

Note 23: Accumulated other comprehensive loss

December 31, 2018	Unrealized (losses) on translation of net investment in foreign operations	HTM investments	Unrealized gains (losses) on AFS investments	Employee benefit plans			Total AOCL
				Pension	Post-retirement healthcare	Subtotal - employee benefits plans	
Balance at beginning of year	(17,549)	(839)	(15,737)	(61,341)	(33,586)	(94,927)	(129,052)
Other comprehensive income (loss), net of taxes	(2,317)	43	(27,893)	(3,551)	14,243	10,692	(19,475)
Balance at end of year	(19,866)	(796)	(43,630)	(64,892)	(19,343)	(84,235)	(148,527)

December 31, 2017	Unrealized (losses) on translation of net investment in foreign operations	HTM investments	Unrealized gains (losses) on AFS investments	Employee benefit plans			Total AOCL
				Pension	Post-retirement healthcare	Subtotal - employee benefits plans	
Balance at beginning of year	(20,152)	(979)	(22,680)	(63,232)	(37,637)	(100,869)	(144,680)
Other comprehensive income (loss), net of taxes	2,603	140	6,943	1,891	4,051	5,942	15,628
Balance at end of year	(17,549)	(839)	(15,737)	(61,341)	(33,586)	(94,927)	(129,052)

December 31, 2016	Unrealized (losses) on translation of net investment in foreign operations	HTM investments	Unrealized gains (losses) on AFS investments	Employee benefit plans			Total AOCL
				Pension	Post-retirement healthcare	Subtotal - employee benefits plans	
Balance at beginning of year	(13,645)	(2,350)	(57)	(46,331)	(28,114)	(74,445)	(90,497)
Transfer of AFS investments to HTM investments	—	1,442	(1,442)	—	—	—	—
Other comprehensive income (loss), net of taxes	(6,507)	(71)	(21,181)	(16,901)	(9,523)	(26,424)	(54,183)
Balance at end of year	(20,152)	(979)	(22,680)	(63,232)	(37,637)	(100,869)	(144,680)

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Net Change of AOCL Components	Line item in the consolidated statements of operations, if any	Year ended		
		December 31, 2018	December 31, 2017	December 31, 2016
Net unrealized gains (losses) on translation of net investment in foreign operations adjustments				
Foreign currency translation adjustments	N/A	(13,764)	12,568	(25,691)
Gains (loss) on net investment hedge	N/A	11,447	(9,965)	19,184
Net change		(2,317)	2,603	(6,507)
Held-to-maturity investment adjustments				
Net unamortized gains (losses) transferred from AFS	N/A	—	—	1,442
Amortization of net gains (losses) to net income	Interest income on investments	43	140	(71)
Net change		43	140	1,371
Available-for-sale investment adjustments				
Gross unrealized gains (losses)	N/A	(26,793)	11,129	(19,635)
Net unrealized (gains) losses transferred to HTM	N/A	—	—	(1,442)
Transfer of realized (gains) losses to net income	Net realized gains (losses) on AFS investments	(1,100)	(4,186)	(1,546)
Net change		(27,893)	6,943	(22,623)
Employee benefit plans adjustments				
Defined benefit pension plan				
Net actuarial gain (loss)	N/A	(7,541)	1,472	(19,956)
Net loss (gain) on settlement reclassified to net income	Net other gains (losses)	1,554	—	—
Prior service credit (cost) arising during the year	N/A	(212)	—	—
Amortization of net actuarial (gains) losses	Non-service employee benefits expense	2,106	2,247	1,702
Change in deferred taxes	N/A	(298)	(595)	1,315
Foreign currency translation adjustments of related balances	N/A	840	(1,233)	38
Net change		(3,551)	1,891	(16,901)
Post-retirement healthcare plan				
Net actuarial gain (loss)	N/A	11,589	1,296	(5,911)
Amortization of net actuarial (gains) losses	Non-service employee benefits expense	2,615	3,514	2,731
Amortization of prior service (credit) cost	Non-service employee benefits expense	39	(759)	(6,343)
Net change		14,243	4,051	(9,523)
Other comprehensive income (loss), net of taxes		(19,475)	15,628	(54,183)

Note 24: Capital structure

Authorized Capital

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

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

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

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

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

Preference Shares

On June 22, 2009, the Bank issued 200,000 Government guaranteed, 8.00% non-cumulative perpetual limited voting preference shares (the "preference shares"). The issuance price was US\$1,000 per share.

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

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

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

Dividends Declared

During the year ended December 31, 2018, the Bank paid cash dividends of \$1.52 (December 31, 2017: \$1.28, December 31, 2016: \$0.40) for each common share as of the related record dates. Subsequent to year-end, the Bank declared a fourth interim dividend of \$0.44 per common share to be paid to shareholders of record on March 4, 2019. During the year ended December 31, 2016, the Bank declared the full 8.00% cash dividends on preference shares. As the preference shares were completely redeemed on December 15, 2016, there were nil cash dividends on preference shares for the years ended December 31, 2017 and 2018.

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

Regulatory Capital

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

The Bank is fully compliant with all regulatory capital requirements and maintains capital ratios in excess of regulatory minimums as at December 31, 2018 and December 31, 2017. The following table sets forth the Bank's capital adequacy in accordance with the Basel III framework:

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	December 31, 2018		December 31, 2017	
	Actual	Regulatory minimum	Actual	Regulatory minimum
Capital				
CET 1 capital	846,043	N/A	772,311	N/A
Tier 1 capital	846,043	N/A	772,311	N/A
Tier 2 capital	121,521	N/A	74,010	N/A
Total capital	967,564	N/A	846,321	N/A
Risk Weighted Assets	4,321,354	N/A	4,254,178	N/A
Leverage Ratio Exposure Measure	11,139,677	N/A	11,195,173	N/A
Capital Ratios (%)				
CET 1 capital	19.6%	9.4%	18.2%	8.8%
Tier 1 capital	19.6%	10.9%	18.2%	10.3%
Total capital	22.4%	15.6%	19.9%	14.9%
Leverage ratio	7.6%	5.0%	6.9%	5.0%

Note 25: Income taxes

The Bank is incorporated in Bermuda, and pursuant to Bermuda law is not taxed on either income or capital gains. The Bank's subsidiaries in the Cayman Islands and The Bahamas are not subject to any taxes in their respective jurisdictions on either income or capital gains under current law applicable in the respective jurisdictions. The Bank's subsidiaries in Canada, the United Kingdom, Guernsey, Jersey, Switzerland, Singapore and Mauritius are subject to the tax laws of those jurisdictions.

For the years ended December 31, 2018, 2017, and 2016, the Bank did not record any unrecognized tax benefits or expenses and has no uncertain tax positions as at December 31, 2018, 2017, and 2016.

The Bank records income taxes based on the enacted tax laws and rates applicable in the relevant jurisdictions for the years ended December 31, 2018, 2017, and 2016. For the years ended December 31, 2018, 2017, and 2016, the Bank did not incur any interest or pay any penalties.

	Year ended		
	December 31, 2018	December 31, 2017	December 31, 2016
Income taxes in consolidated statements of operations			
Current tax expense	721	856	727
Deferred tax expense	563	231	—
Total tax expense	1,284	1,087	727

Reconciliation between the Effective Income Tax Rate and the Statutory Income Tax Rate

	Year ended					
	December 31, 2018		December 31, 2017		December 31, 2016	
	\$	%	\$	%	\$	%
Income tax expense in international offices taxed at different rates	876	0.4%	232	0.2%	(2,104)	(1.8)%
Change in valuation allowance	—	—%	597	0.4%	87	0.1 %
Prior year tax adjustments	(79)	—%	(55)	—%	(71)	(0.1)%
Other - net	487	0.2%	313	0.2%	2,815	2.4 %
Income tax expense (benefit) at effective tax rate	1,284	0.7%	1,087	0.7%	727	0.6 %

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	December 31, 2018	December 31, 2017
Deferred income taxes		
Deferred income tax asset		
Tax loss carried forward	6,261	6,868
Pension liability	789	1,152
Fixed assets	(746)	(223)
Allowance for compensated absence	14	15
Deferred income tax asset before valuation allowance	6,318	7,812
Less: valuation allowance	(5,955)	(6,723)
Net deferred income tax assets	363	1,089
Deferred income tax liability		
Other	(5)	—
Net deferred income tax assets	358	1,089

Management assesses the available positive and negative evidence to estimate if sufficient future taxable income will be generated to use the existing deferred tax assets. A significant piece of objective negative evidence evaluated was the cumulative loss incurred in the UK segment over the years ended December 31, 2018 and 2017. Such objective evidence limits the ability to consider other subjective evidence such as projections for future growth.

On the basis of this evaluation, as of December 31, 2018, a valuation allowance of \$6.0 million (December 31, 2017: \$6.7 million) has been recognized to record only the portion of the deferred tax asset that more likely than not will be realized. The amount of the deferred tax asset considered realizable, however, could be adjusted if estimates of future taxable income during the carry-forward period are reduced or increased, or if objective negative evidence in the form of cumulative losses is no longer present and additional weight may be given to subjective evidence such as our projections for growth. This valuation allowance relates specifically to our UK jurisdiction.

The Bank has net taxable loss carry forwards related to the Bank's international operations of approximately \$34.4 million (December 31, 2017: \$33.6 million), which have an indefinite life.

Note 26: Business combinations

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

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

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

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

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

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

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

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

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The following selected unaudited pro forma financial information has been provided to present a summary of the combined results of the Bank and the acquired operations from HSBC Bermuda, assuming the transaction had been effected on January 1, 2015. The unaudited pro forma data is for informational purposes only and does not necessarily represent results that would have occurred if the transaction had taken place on the basis assumed above. The pro forma have been prepared based on the actual results realized by the Bank from operating the acquired activities, when such activities were not yet inextricably merged into the Bank's operations.

	Year ended December 31, 2016
Unaudited pro forma financial information	
Total net revenue	407,453
Total non-interest operating expense	289,019
Pro forma net income post business combination	118,434

Deutsche Bank's Global Trust Solutions Acquisition

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

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

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

The assets acquired consist mainly of: customer relationships intangible assets, goodwill and accounts receivable. The liabilities assumed consist mainly of deferred revenues and accounts payable. Goodwill is made up of expected cash flows to be derived from new business and expected synergies resulting from leveraging existing support services and infrastructure within the Bank. The goodwill acquisitions are allocated to reportable segments as per Note 9: Goodwill and other intangible assets.

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

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

Ongoing Asset Acquisition

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

Note 27: Related party transactions

Financing Transactions

Certain directors and executives of the Bank, companies in which they are principal owners and/or members of the board, and trusts in which they are involved, have loans with the Bank. Loans to directors were made in the ordinary course of business at normal credit terms, including interest rate and collateral requirements. Loans to executives may be eligible to preferential rates. As at December 31, 2018, related party director and executive loan balances were \$97.2 million (December 31, 2017: \$30.6 million). During the year ended December 31, 2018, new issuance of loans to related parties were \$77.3 million and repayments and change in directorships were \$11.0 million (year ended December 31, 2017: \$31.7 million and \$8.9 million, respectively; year ended December 31, 2016: \$27.6 million and \$25.1 million, respectively). During the year ended December 31, 2017, a director resigned from the Board resulting in \$4.3 million in loans being reclassified out of related-party loans. All of these loans were considered performing loans as at December 31, 2018 and December 31, 2017. For the year ended December 31, 2018, the Bank has recognized \$4.5 million (December 31, 2017: \$1.1 million; December 31, 2016: \$0.4 million) of loan interest revenue in the consolidated statement of operations relating to directors and executives, companies in which they are principal owners and/or members of the board and trusts in which they are involved.

Certain directors and executives of the Bank, companies in which they are principal owners, and trusts in which they are involved, have deposits with the Bank. As at December 31, 2018, related party director and executive deposit balances were \$17.2 million (December 31, 2017: \$23.5 million).

Certain affiliates of the Bank have loans and deposits with the Bank. The loans were made and the deposits are maintained in the ordinary course of business on normal commercial terms. At December 31, 2018, affiliates had loan balances of \$10.2 million (December 31, 2017: \$10.5 million) and deposit balances of \$0.4 million (December 31, 2017: \$0.6 million). For the year ended December 31, 2018, the Bank has recognized \$1.8 million (December 31, 2017: \$1.9 million; December 31, 2016: \$2.2 million) of non-interest expenses and \$0.6 million (December 31, 2017: \$0.6 million; December 31, 2016: \$0.6 million) of loan interest revenue in the consolidated statement of operations relating to affiliates which the Bank holds investments in.

Capital Transaction

Up to February 28, 2017, investment partnerships associated with The Carlyle Group held approximately 14% of the Bank's equity voting power along with the right to designate two persons for nomination for election by the shareholders as members of the Bank's Board of Directors. On February 28, 2017, as a result of a secondary public offering, the Carlyle Group sold their holdings in the Bank, and as a result, the investment agreement between the Bank and the Carlyle Group was terminated.

Financial Transactions With Related Parties

The Bank holds seed investments in several Butterfield mutual funds, which are managed by a wholly-owned subsidiary of the Bank. As at December 31, 2018, these investments have a fair value of \$6.2 million with an unrealized gain of \$1.2 million (December 31, 2017: \$6.6 million and \$1.6 million, respectively) and were included in trading investments at their fair value. As at December 31, 2018, several Butterfield mutual funds which are managed by a wholly owned subsidiary of the Bank, had loan balances of \$1.8 million (December 31, 2017: nil) and deposit balances of \$36.7 million (December 31, 2017: \$0.2 million). During the year ended December 31, 2018, the Bank earned \$9.4 million (December 31, 2017: \$7.7 million; December 31, 2016: \$5.7 million) in asset management revenue from funds managed by a wholly-owned subsidiary of the Bank. During the year ended December 31, 2018, the Bank earned \$1.4 million (December 31, 2017: \$1.0 million; December 31, 2016: \$1.0 million) in custody and other administration services revenue from funds managed by a wholly-owned subsidiary of the Bank and directors and executives, companies in which they are principal owners and/or members of the board and trusts in which they are involved. During the year ended December 31, 2018, the Bank earned \$0.9 million (December 31, 2017: \$0.1 million; December 31, 2016: \$0.1 million) in other income from other related parties.

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

Note 28: Condensed financial statements of the parent company only

Condensed financial statements of the Bank of N.T. Butterfield & Son Limited (the ultimate parent company) without consolidation of its subsidiaries were as follows:

The Bank of N.T. Butterfield & Son Limited (parent company only)

Condensed Balance Sheets

(In thousands of US dollars)

	As at	
	December 31, 2018	December 31, 2017
Assets		
Cash and demand deposits with banks - Non-interest-bearing	21,677	23,774
Demand deposits with banks - Interest-bearing	316,872	192,099
Cash equivalents - Interest-bearing	364,714	389,120
Cash due from banks	703,263	604,993
Securities purchased under agreement to resell	27,341	178,769
Short-term investments	13,736	109,322
Investment in securities		
Trading	6,495	6,824
Available-for-sale	1,345,408	2,234,979
Held-to-maturity (fair value: \$1,076,979 (2017: \$695,758))	1,088,564	697,531
Total investment in securities	2,440,467	2,939,334
Net assets of subsidiaries - Banks	415,227	373,576
Net assets of subsidiaries - Non-banks	24,195	2,543
Loans to third parties, net of allowance for credit losses	1,949,701	1,960,103
Loans to subsidiaries - Banks	12,754	13,517
Loans to subsidiaries - Non-banks	56,020	57,833
Accrued interest	12,824	12,149
Other assets, including premises, equipment and computer software, equity method investments, receivables from subsidiaries and other real estate owned	203,599	203,518
Total assets	5,859,127	6,455,657
Liabilities		
Customer deposits		
Non-interest bearing	1,378,539	1,840,201
Interest bearing	3,117,063	3,412,622
Total customer deposits	4,495,602	5,252,823
Bank deposits	154,101	12,252
Total deposits	4,649,703	5,265,075
Employee benefit plans	117,203	127,687
Accrued interest	2,908	1,171
Pending payable for investments purchased	—	51,913
Other liabilities, including payables to subsidiaries	63,648	69,930
Total other liabilities	183,759	250,701
Long-term debt	143,322	117,000
Total liabilities	4,976,784	5,632,776
Total shareholders' equity	882,343	822,881
Total liabilities and shareholders' equity	5,859,127	6,455,657

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

The Bank of N.T. Butterfield & Son Limited (parent company only)

Condensed Statements of Operations

(In thousands of US dollars)

	Year ended		
	December 31, 2018	December 31, 2017	December 31, 2016
Non-interest income			
Banking	23,506	22,836	21,984
Foreign exchange revenue	11,727	11,623	11,174
Other non-interest income	6,330	4,570	3,516
Dividends from subsidiaries - Banks	60,000	50,000	40,000
Dividends from subsidiaries - Non-banks	19,095	16,060	6,600
Total non-interest income	120,658	105,089	83,274
Interest income			
Loans	133,124	118,092	123,370
Investments	73,698	61,928	44,745
Deposits with banks	12,932	10,661	6,293
Total interest income	219,754	190,681	174,408
Interest expense			
Deposits	6,709	5,011	6,882
Long-term debt	6,949	4,955	4,500
Securities sold under repurchase agreements	33	—	118
Total interest expense	13,691	9,966	11,500
Net interest income before provision for credit losses	206,063	180,715	162,908
Provision for credit gains (losses)	6,823	4,618	(7,263)
Net interest income after provision for credit losses	212,886	185,333	155,645
Net trading gains (losses)	(329)	511	330
Net realized gains (losses) on available-for-sale investments	758	4,241	1,222
Net gains (losses) on other real estate owned	(323)	(2,416)	(287)
Net other gains (losses)	—	258	(325)
Total other gains (losses)	106	2,594	940
Total net revenue	333,650	293,016	239,859
Non-interest expense			
Salaries and other employee benefits	75,949	72,440	68,712
Technology and communications	36,466	33,051	34,033
Professional and outside services	22,696	20,685	9,379
Property	6,693	6,438	5,983
Indirect taxes	14,669	12,900	10,562
Marketing	3,034	3,384	2,138
Non-service employee benefits expense	6,427	7,854	1,058
Amortization of intangible assets	169	169	113
Restructuring costs	—	—	117
Other expenses	4,230	4,351	5,373
Total non-interest expense	170,333	161,272	137,468
Net income before equity in undistributed earnings of subsidiaries	163,317	131,744	102,391
Equity in undistributed earnings of subsidiaries	31,867	21,508	13,551
Net income	195,184	153,252	115,942
Other comprehensive income, net of tax	(19,475)	15,628	(54,183)
Total comprehensive income	175,709	168,880	61,759

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

The Bank of N.T. Butterfield & Son Limited (parent company only)

Condensed Statements of Cash Flows

(In thousands of US dollars)

	Year ended		
	December 31, 2018	December 31, 2017	December 31, 2016
Cash flows from operating activities			
Net income	195,184	153,252	115,942
Adjustments to reconcile net income to operating cash flows			
Depreciation and amortization	21,425	23,982	23,687
(Increase) decrease in carrying value of equity method investments	(1,033)	(1,152)	(949)
Share-based payments and settlements	12,582	8,410	14,423
Equity in undistributed earnings of subsidiaries	(31,867)	(21,508)	(13,551)
Net realized / unrealized (gains) losses on other real estate owned	323	2,416	287
Net realized (gains) losses on available-for-sale investments	(758)	(4,241)	(1,222)
Dividends received from equity method investment	376	307	319
Provision for credit losses	(6,823)	(4,618)	7,263
Changes in operating assets and liabilities			
(Increase) decrease in accrued interest receivable	(755)	2,886	(1,163)
(Increase) decrease in other assets	(11,160)	12,167	(20,312)
Increase (decrease) in accrued interest payable	1,737	(519)	160
Increase (decrease) in other liabilities and employee benefit plans	(2,523)	22,282	10,388
Cash provided by (used in) operating activities	176,708	193,664	135,272
Cash flows from investing activities			
(Increase) decrease in securities purchased under agreement to resell	151,428	(29,956)	(148,813)
Net (increase) decrease in short-term investments other than restricted cash	87,268	342,585	(330,144)
Net change in trading investments	329	(511)	(146)
Available-for-sale investments: proceeds from sale	681,656	205,257	25,489
Available-for-sale investments: proceeds from maturities and pay downs	340,114	324,907	341,835
Available-for-sale investments: purchases	(156,271)	(595,526)	(1,332,836)
Held-to-maturity investments: proceeds from maturities and pay downs	82,853	59,424	38,430
Held-to-maturity investments: purchases	(525,637)	(199,145)	(124,325)
Net (increase) decrease in loans to third parties	15,184	(46,391)	177,823
Net (increase) decrease in loans to bank subsidiaries	764	40,689	10,608
Net (increase) decrease in loans to non-bank subsidiaries	1,812	(2,713)	5,172
Additions to premises, equipment and computer software	(9,830)	(14,777)	(5,700)
Proceeds from sale of other real estate owned	5,896	1,795	3,061
Injection of capital in subsidiary	(64,029)	(12,802)	(6,945)
Return of capital from a subsidiary	8,244	12,376	—
Cash disbursed for business acquisition	—	—	(2,540)
Cash provided by (used in) investing activities	619,781	85,212	(1,349,031)

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

The Bank of N.T. Butterfield & Son Limited (parent company only)

Condensed Statements of Cash Flows

(In thousands of US dollars)

	Year ended		
	December 31, 2018	December 31, 2017	December 31, 2016
Cash flows from financing activities			
Net (increase) decrease in demand and term deposit liabilities	(603,925)	(811,322)	1,696,948
Issuance of subordinated capital	73,218	—	—
Repayment of long-term debt	(47,000)	—	—
Proceeds from issuance of common shares, net of underwriting discounts and commissions	—	13	131,600
Cost of issuance of common shares	—	—	(5,458)
Proceeds from loans sold under agreement to repurchase	—	—	5,152
Cost of repurchase of loans under agreement to repurchase	—	—	(5,152)
Common shares repurchased	(48,443)	—	(1,633)
Preference shares repurchased	—	—	(212,121)
Warrant repurchase	—	—	(100)
Proceeds from stock option exercises	3,318	4,546	6,919
Cash dividends paid on common and contingent value convertible preference shares	(83,704)	(69,731)	(19,346)
Cash dividends paid on preference shares	—	—	(14,629)
Preference shares guarantee fee paid	—	—	(1,676)
Cash provided by (used in) financing activities	(706,536)	(876,494)	1,580,504
Net increase (decrease) in cash, cash equivalent and restricted cash	89,953	(597,618)	366,745
Cash, cash equivalent and restricted cash: beginning of year	627,046	1,224,664	857,919
Cash, cash equivalent and restricted cash: end of year	716,999	627,046	1,224,664
Components of cash, cash equivalent and restricted cash at end of year			
Cash due from banks	703,263	604,993	1,206,770
Restricted cash included in short-term investments on the Consolidated Balance Sheets	13,736	22,053	17,894
Total cash, cash equivalent and restricted cash at end of year	716,999	627,046	1,224,664
Supplemental disclosure of cash flow information			
Cash interest paid	15,428	9,447	11,660
Non-cash item			
Transfer to other real estate owned	2,041	—	8,961

Note 29: Subsequent events

On February 18, 2019, the Board of Directors declared a fourth interim dividend of \$0.44 per common share to be paid on March 15, 2019 to shareholders of record on March 4, 2019.

Item 19. Exhibits

(a) The following documents are filed as exhibits hereto:

<u>Exhibit No.</u>	<u>Description</u>
<u>1.1</u>	Amended and Restated Bye-laws of The Bank of N.T. Butterfield & Son Limited
<u>1.2</u>	The N.T. Butterfield & Son Bank Act, 1904 (incorporated by reference to Exhibit 3.2 to the registrant's registration statement on Form F-1, filed on August 4, 2016)
<u>2</u>	Form of Specimen of Common Registered Share Certificate (incorporated by reference to Exhibit 4.1 to the registrant's registration statement on Form F-1/A, filed on August 30, 2016)
<u>4.1</u>	Amended and Restated Investment Agreement by and among The Bank of N.T. Butterfield & Son Limited, Carlyle Global Financial Services Partners, L.P., and CGFSP Coinvestment L.P., dated as of August 4, 2016 (incorporated by reference to Exhibit 10.1 to the registrant's registration statement on Form F-1, filed on August 4, 2016)
<u>4.2</u>	The Bank of N.T. Butterfield & Son Limited 2010 Omnibus Share Incentive Plan (incorporated by reference to Exhibit 10.2 to the registrant's registration statement on Form F-1, filed on August 4, 2016)
<u>4.3</u>	First Amendment to The Bank of N.T. Butterfield & Son Limited 2010 Omnibus Share Incentive Plan (incorporated by reference to Exhibit 99.1 to the registrant's registration statement on Form S-8, filed on October 27, 2016)
<u>4.4</u>	Subordinated Debt Securities Indenture between The Bank of N.T. Butterfield & Son Limited and The Bank of New York Mellon Trust Company, N.A., as Trustee, dated as of May 24, 2018 (incorporated by reference to Exhibit 4.1 to the registrant's report on Form 6-K filed on May 24, 2018)
<u>4.5</u>	First Supplemental Indenture, between The Bank of N.T. Butterfield & Son Limited and The Bank of New York Mellon Trust Company, N.A., as Trustee, dated as of May 24, 2018, to Subordinated Debt Securities Indenture, dated as of May 24, 2018 (incorporated by reference to Exhibit 4.2 to the registrant's report on Form 6-K filed on May 24, 2018)
<u>8</u>	List of Subsidiaries
<u>12.1</u>	Certification of the Chairman and Chief Executive Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) under the Securities Exchange Act of 1934
<u>12.2</u>	Certification of the Chief Financial Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) under the Securities Exchange Act of 1934
<u>13.1</u>	Certification of the Chairman and Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
100	The following materials from our annual report on Form 20-F for the year ended December 31, 2018 formatted in XBRL (eXtensible Business Reporting Language): (i) the Consolidated Financial Statements and (ii) the Notes to the Consolidated Financial Statements, tagged as blocks of text and in detail.

SIGNATURES

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

The Bank of N.T. Butterfield & Son Limited

By: /s/ Michael Collins
Name: Michael Collins
Title: Chairman and Chief Executive Officer
Date: February 26, 2019

Exhibit 1.1

AMENDED & RESTATED BYE-LAWS
OF
THE BANK OF N.T. BUTTERFIELD & SON LIMITED

Effective 6 September, 2016

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INTERPRETATION**1. Definitions**

- .1 In these Amended & Restated Bye-laws (these “Bye-laws”), the following words and expressions shall, where not inconsistent with the context, have the following meanings, respectively:

Auditor	the independent auditor of the Bank;
Bank	The Bank of N.T. Butterfield & Son Limited for which these Bye-laws are approved and confirmed;
Banks Act	the Banks and Deposit Companies Act 1999 as amended from time to time or any other legislation regulating banks in Bermuda generally which may be passed by the Parliament of Bermuda in substitution therefor or in addition thereto;
Bermuda Stock Exchange	the stock exchange operated and existing pursuant to the provisions of The Bermuda Stock Exchange Company Act 1992 and any successor body thereto upon which securities of the Bank are traded within Bermuda;
Board	the Board of Directors appointed or elected pursuant to these Bye-laws and acting by resolution in accordance with the Companies Act and these Bye-laws, or the Directors present at a meeting of Directors at which there is a quorum;
BSD	the Bermuda Securities Depository Service operated by the Bermuda Stock Exchange;
BSD Account Holder	any person that appears on the list of BSD Account Holders (in respect of shares in the Bank) provided to the Bank by the BSD from time to time. For the avoidance of any doubt, in determining whether or not any person is a BSD Account Holder the Bank shall be entitled to rely solely on such list without any obligation to make any further investigation or enquiry;
BSD Nominee	BSD Nominee Limited, or such other nominee appointed by the BSD for the purpose of acting as nominee company shareholder for the BSD;
BSD Regulations	the Bermuda Securities Depository Regulations made under Section 11 of the Bermuda Stock Exchange Company Act 1992;

Butterfield Act	The N.T. Butterfield & Son Act, 1904 as amended from time to time, or any other legislation setting forth the constitution of the Bank which may be passed by Parliament in substitution therefor which shall be deemed to constitute the Memorandum of Association of the Bank for the purposes of these Bye-laws;
Companies Act	the Companies Act 1981 as amended from time to time;
Director	a member of the Board;
Exchange	the stock exchange(s) upon which securities of the Bank are traded;
Member	a holder of Shares in the Bank;
Notice	written notice as further provided in these Bye-laws unless otherwise specifically stated;
Officer	any person appointed by the Board to hold an office in the Bank;
Ordinary Share	an ordinary voting share par value BD\$0.01 per share in the capital of the Bank;
Register of Directors and Officers	the register of Directors and Officers referred to in these Bye-laws;
Register of Members	the register of members referred to in these Bye-laws;
Secretary	the person appointed to perform any or all of the duties of secretary of the Bank and includes any deputy or assistant secretary and any person appointed by the Board to perform any of the duties of the Secretary;
Share	any share in the capital of the Bank; and
Treasury Share	a share of the Bank that was or is treated as having been acquired and held by the Bank and has been held continuously by the Bank since it was so acquired and has not been cancelled.

- .2 In these Bye-laws, where not inconsistent with the context:
- (a) words denoting the plural number include the singular number and vice versa;
 - (b) words denoting the masculine gender include the feminine and neuter genders;
 - (c) words importing persons include companies, associations or bodies of persons whether corporate or not;
 - (d) the words:
 - (i) “may” shall be construed as permissive; and
 - (ii) “shall” shall be construed as imperative;

- (e) a reference to a statutory provision shall be deemed to include any amendment or re-enactment thereof;
 - (f) the phrase “issued and outstanding” in relation to Shares, means Shares in issue other than Treasury Shares;
 - (g) the word “corporation” means a corporation whether or not a company within the meaning of the Companies Act; and
 - (h) unless otherwise provided herein, words or expressions defined in the Companies Act shall bear the same meaning in these Bye-laws.
- .3 In these Bye-laws expressions referring to writing or its cognates shall, unless the contrary intention appears, include facsimile, printing, lithography, photography, electronic mail and other modes of representing words in visible form.
- .4 Headings used in these Bye-laws are for convenience only and are not to be used or relied upon in the construction hereof.

SHARES

2. Power to Issue Shares

- .1 Subject to these Bye-laws and to any resolution of the Members to the contrary, and without prejudice to any special rights previously conferred on the holders of any existing Shares or class or series of Shares, the Board shall have the power to issue any unissued Shares on such terms and conditions as it may determine whether or not the existing voting control of any Member is thereby affected.
- .2 Without limitation to the provisions of Bye-law 4, subject to the Companies Act, any preference Shares may be issued or converted into Shares that (at a determinable date or at the option of the Bank or the holder) are liable to be redeemed on such terms and in such manner as may be determined by the Board (before the issue or conversion).
- .3 Without prejudice to the foregoing, neither the Bank nor the Board shall be obliged, when making or granting any allotment of, offer of, option over or disposal of Shares to make, or make available, any such offer, option or Shares to Members or others with registered addresses in any particular territory or territories where, in the absence of a registration statement or other special formalities, this would or might, in the opinion of the Board, be unlawful or impracticable. Members affected as a result of the foregoing sentence shall not be, or be deemed to be, a separate class of shareholders for any purpose whatsoever.

3. Power of the Bank to Purchase Its Shares

- .1 The Bank may purchase its own Shares for cancellation or acquire them as Treasury Shares in accordance with the Companies Act on such terms as the Board shall think fit.
- .2 The Board may exercise all the powers of the Bank to purchase or acquire all or any part of its own Shares in accordance with the Companies Act.

4. Rights Attaching to Shares

- .1 At the date of adoption of these Bye-laws the share capital of the Bank is divided into the following classes: (a) 2,000,000,000 Ordinary Shares, (b) 6,000,000,000 non-voting ordinary shares par value BD\$0.01 per share (the “Non-Voting Ordinary Shares”), (c) 110,200,001 preference shares of par value US\$0.01 per share (the “US\$ Preference Shares”) and (d) 50,000,000 preference shares of par value £0.01 per share (the “£ Preference Shares” and together with the US\$ Preference Shares, the “Preference Shares”).
- .2 The holders of Ordinary Shares shall, subject to these Bye-laws (including, without limitation, the rights attaching to the Preference Shares):
 - (a) be entitled to one vote per Ordinary Share;
 - (b) be entitled to such dividends as the Board may from time to time declare;

- (c) in the event of a winding-up or dissolution of the Bank, whether voluntary or involuntary or for the purpose of a reorganisation or otherwise or upon any distribution of capital, be entitled to the surplus assets of the Bank; and
- (d) generally be entitled to enjoy all of the rights attaching to Ordinary Shares.

.3 The Board is authorised to provide for the issuance of the Preference Shares in one or more series, and to establish from time to time the number of Preference Shares to be included in each such series, and to fix the terms, including designation, powers, preferences, rights, qualifications, limitations and restrictions of the Preference Shares of each such series (and, for the avoidance of doubt, such matters and the issuance of such Preference Shares shall not be deemed to vary the rights attaching to the Ordinary Shares or, subject to the terms of any other series of Preference Shares, to vary the rights attached to any other series of Preference Shares). The authority of the Board with respect to each series shall include, but not be limited to, determination of the following:

- (a) the number of Preference Shares constituting that series and the distinctive designation of that series;
- (b) the dividend rate on the Preference Shares of that series, whether dividends shall be cumulative and, if so, from which date or dates, and the relative rights of priority, if any, of the payment of dividends on Preference Shares of that series;
- (c) whether that series shall have voting rights, in addition to the voting rights provided by law, and if so, the terms of such voting rights;
- (d) whether that series shall have conversion or exchange privileges (including, without limitation, conversion into Ordinary Shares), and, if so, the terms and conditions of such conversion or exchange, including provision for adjustment of the conversion or exchange rate in such events as the Board shall determine;
- (e) whether or not the Preference Shares of that series shall be redeemable or repurchaseable, and, if so, the terms and conditions of such redemption or repurchase, including the manner of selecting Preference Shares for redemption or repurchase if less than all Preference Shares are to be redeemed or repurchased, the date or dates upon or after which they shall be redeemable or repurchaseable, and the amount per Preference Share payable in case of redemption or repurchase, which amount may vary under different conditions and at different redemption or repurchase dates;
- (f) whether that series shall have a sinking fund for the redemption or repurchase of Preference Shares of that series, and, if so, the terms and amount of such sinking fund;
- (g) the right of the Preference Shares of that series to the benefit of conditions and restrictions upon the creation of indebtedness of the Bank or any subsidiary, upon the issue of any additional Shares (including additional Preference Shares of such series or any other series) and upon the payment of dividends or the making of other distributions on, and the purchase, redemption or other acquisition by the Bank or any subsidiary of any issued Shares;
- (h) the rights of the Preference Shares of that series in the event of voluntary or involuntary liquidation, dissolution or winding up of the Bank, and the relative rights of priority, if any, of payment in respect of Preference Shares of that series;
- (i) the rights of holders of that series to elect or appoint Directors; and
- (j) any other relative participating, optional or other special rights, qualifications, limitations or restrictions of that series.

.4 Any Preference Shares of any series which have been redeemed (whether through the operation of a sinking fund or otherwise) or which, if convertible or exchangeable, have been converted into or exchanged for Shares of any other class or classes shall have the status of authorised and unissued Preference Shares of the same series and may be reissued as a part of the series

of which they were originally a part or may be reclassified and reissued as part of a new series of Preference Shares to be created by resolution or resolutions of the Board or as part of any other series of Preference Shares, all subject to the conditions and the restrictions on issuance set forth in the resolution or resolutions adopted by the Board providing for the issue of any series of Preference Shares.

- .5 At the discretion of the Board, whether or not in connection with the issuance and sale of any Preference Shares or other securities of the Bank, the Bank may issue securities, contracts, warrants or other instruments evidencing any Preference Shares, option rights, securities having conversion or option rights, or obligations on such terms, conditions and other provisions as are fixed by the Board, including, without limiting the generality of this authority, conditions that preclude or limit any person or persons owning or offering to acquire a specified number or percentage of the issued Ordinary Shares, other Shares, option rights, securities having conversion or option rights, or obligations of the Bank or transferee of the person or persons from exercising, converting, transferring or receiving the Shares, option rights, securities having conversion or option rights, or obligations.
- .6 All the rights attaching to a Treasury Share shall be suspended and shall not be exercised by the Bank while it holds such Treasury Share and, except where required by the Companies Act, all Treasury Shares shall be excluded from the calculation of any percentage or fraction of the share capital, or Shares, of the Bank.

5. **Shares to Be Issued Fully Paid**

Notwithstanding anything to the contrary in these Bye-laws, no Share shall be issued unless such Share is fully paid up.

6. **[INTENTIONALLY OMITTED]**

7. **[INTENTIONALLY OMITTED]**

8. **Share Certificates**

- .1 The Shares of each Member may be uncertificated or evidenced by share certificates in such form as the Board may from time to time prescribe.
- .2 The Bank shall be under no obligation to complete and deliver a share certificate unless specifically called upon to do so by the Member to whom the Shares have been allotted. In such case, the Member shall be entitled without charge to receive one certificate for all of his Shares or several certificates each for one or more of his Shares upon payment of \$10.00 for every certificate after the first one or such lesser sum as the Directors shall from time to time determine. The Board may by resolution determine, either generally or in a particular case, that any or all signatures on share certificates may be printed thereon or affixed by mechanical means.
- .3 If any share certificate shall be proved to the satisfaction of the Board to have been worn out, lost, mislaid, or destroyed the Board shall, upon request by the Member, cause a new certificate to be issued without charge and may request an indemnity for the lost certificate if it sees fit.
- .4 Notwithstanding any provisions of these Bye-laws:
 - (a) the Directors shall, subject to the Companies Act and any other applicable laws and regulations and the facilities and requirements of any relevant system concerned, have power to implement any arrangements they may, in their absolute discretion, think fit in relation to the evidencing of title to and transfer of uncertificated Shares and to the extent such arrangements are so implemented, no provision of these Bye-laws shall apply or have effect to the extent that it is in any respect inconsistent with the holding or transfer of Shares in uncertificated form; and
 - (b) unless otherwise determined by the Directors and as permitted by the Companies Act and any other applicable laws and regulations, no person shall be entitled to receive

a certificate in respect of any Share for so long as the title to that Share is evidenced otherwise than by a certificate and for so long as transfers of that Share may be made otherwise than by a written instrument.

.5 Where a Member has sold part of his holding, that Member is entitled to a certificate for the balance of his holding without charge.

.6 Notwithstanding anything to the contrary in these Bye-laws, Shares that are listed or admitted to trading on an Exchange shall be transferred in accordance with the rules and regulations of such Exchange and the applicable transfer agent of the Bank.

9. **Fractional Shares**

The Bank may issue its Shares in fractional denominations and deal with such fractions to the same extent as its whole Shares, and Shares in fractional denominations shall have in proportion to the respective fractions represented thereby all of the rights of whole Shares including (but without limiting the generality of the foregoing) the right to vote, to receive dividends and distributions and to participate in a winding-up.

10. **Ownership**

.1 The Bank may at any time enquire in writing of any Member:

(a) whether or not he is the beneficial owner of the Shares;

(b) whether or not he is under any obligation to exercise any rights attaching to that Share at the instance of, or for the benefit of, another person, and, if so, the name of such other person; and

(c) whether he owns that Share jointly or severally with another person and, if so, the name of such other person who has such an interest;

and the Bank may further require a person who responds to such enquiry to furnish such proof of the correctness of his response as the Bank considers necessary.

.2 Any person to whom an enquiry is made pursuant to Bye-law 10.1 shall reply in writing within fourteen (14) days after receipt of the enquiry and shall provide the information required.

REGISTRATION OF SHARES

11. **Register of Members**

.1 The Board shall cause to be kept in one or more books a Register of Members and shall enter therein the particulars required by the Companies Act.

.2 The Register of Members shall be open to inspection without charge at the registered office of the Bank or at such other place in Bermuda convenient for inspection on every business day, subject to such reasonable restrictions as the Board may impose, so that not less than two hours in each business day be allowed for inspection. The Register of Members may, after notice has been given in accordance with the Companies Act, be closed for any time or times not exceeding in the whole thirty (30) days in each year.

12. **Registered Holder Absolute Owner**

The Bank shall be entitled to treat the registered holder of any Share as the absolute owner thereof and accordingly shall not be bound to recognise any equitable claim or other claim to, or interest in, such Share on the part of any other person.

13. **Transfer of Registered Shares**

.1 An instrument of transfer shall be in writing in the form of the following, or as near thereto as circumstances admit, or in such other form as the Board may accept:

Transfer of a Share or Shares

[] (the "Bank")

FOR VALUE RECEIVED [amount], I, [name of transferor] hereby sell, assign and transfer unto [transferee] of [address], [number] shares of the Bank.

Status of Transferor: Bermudian* [] Other _____

Status of Transferee**: Bermudian* [] Other _____

If joint holders, state the type of co-ownership to be acquired by the Transferees: Joint tenancy/
Tenancy in common.

DATED this [] day of [], 20[]

Signed by: In the presence of:

Transferor Witness

Transferee Witness

* Bermudian has the meaning prescribed in the Companies Act 1981 and includes, inter alia, (a) any person who has Bermudian status by virtue of the law relating to immigration; (b) a local company in which the percentage of Shares beneficially owned by Bermudians is not less than 80% of the total issued share capital; or (c) a wholly owned subsidiary of a local company.

** Where the shares are to be acquired by the Transferee as nominee, the status of the beneficial owner must be given.

- .2 Such instrument of transfer shall be signed by (or, in the case of a party that is a corporation, on behalf of) the transferor and transferee, provided that, in the case of a fully paid up Share, the Board may accept the instrument signed by or on behalf of the transferor alone. The transferor shall be deemed to remain the holder of such Share until the same has been registered as having been transferred to the transferee in the Register of Members.
- .3 The Board may refuse to recognise any instrument of transfer unless it is accompanied by the certificate, if any, in respect of the Shares to which it relates and by such other evidence as the Board may reasonably require to show the right of the transferor to make the transfer.
- .4 No fee shall be payable to the Company for registration of any transfer of Shares.
- .5 The joint holders of any Share may transfer such Share to one or more of such joint holders, and the surviving holder or holders of any Share previously held by them jointly with a deceased Member may transfer any such Share to the executors or administrators of such deceased Member.
- .6 The Board shall refuse to register a transfer unless all applicable consents, authorisations and permissions of any governmental body or agency in Bermuda have been obtained or if a transfer would otherwise violate any statutory restriction on transfers. If the Board refuses to register a transfer of any Share, the Secretary shall, within three (3) months after the date

on which the transfer was lodged with the Bank, send to the transferor and transferee notice of the refusal.

.7 Shares may be transferred without a written instrument if transferred by an appointed agent or otherwise in accordance with the Companies Act.

.8 Notwithstanding anything to the contrary in these Bye-laws, Shares that are listed or admitted to trading on an Exchange shall be transferred in accordance with the rules and regulations of such Exchange and the applicable transfer agent of the Bank.

14. **Transmission of Registered Shares**

.1 In the case of the death of a Member, the survivor or survivors where the deceased Member was a joint holder, and the legal personal representatives of the deceased Member where the deceased Member was a sole holder, shall be the only persons recognised by the Bank as having any title to the deceased Member's interest in the Shares. Nothing herein contained shall release the estate of a deceased joint holder from any liability in respect of any Share which had been jointly held by such deceased Member with other persons. Subject to the Companies Act, for the purpose of this Bye-law, legal personal representative means the executor or administrator of a deceased Member or such other person as the Board may, in its absolute discretion, decide as being properly authorised to deal with the Shares of a deceased Member.

.2 Any person becoming entitled to a Share in consequence of the death or bankruptcy of any Member may be registered as a Member upon such evidence as the Board may deem sufficient or may elect to nominate some person to be registered as a transferee of such Share, and in such case the person becoming entitled shall execute in favour of such nominee an instrument of transfer in writing in the form, or as near thereto as circumstances admit, of the following: Transfer by a Person Becoming Entitled on Death/Bankruptcy of a Member

[] (the "Bank")

I/We, having become entitled in consequence of the [death/bankruptcy] of [name and address of deceased/bankrupt Member] to [number] share(s) standing in the Register of Members of the Bank in the name of the said [name of deceased/bankrupt Member] instead of being registered myself/ourselves, elect to have [name of transferee] (the "Transferee") registered as a transferee of such share(s) and I/we do hereby accordingly transfer the said share(s) to the Transferee to hold the same unto the Transferee, his or her executors, administrators and assigns, subject to the conditions on which the same were held at the time of the execution hereof; and the Transferee does hereby agree to take the said share(s) subject to the same conditions.

DATED this [] day of [], 20[] Signed by: In the presence of:

Transferor Witness

Transferee Witness

- .3 On the presentation of the foregoing materials to the Board, accompanied by such evidence as the Board may require to prove the title of the transferor, the transferee shall be registered as a Member. Notwithstanding the foregoing, the Board shall, in any case, have the same right to decline or suspend registration as it would have had in the case of a transfer of the Share by that Member before such Member's death or bankruptcy, as the case may be.
- .4 Where two or more persons are registered as joint holders of a Share or Shares, then in the event of the death of any joint holder or holders, the remaining joint holder or holders shall be absolutely entitled to such Share or Shares and the Bank shall recognise no claim in respect of the estate of any joint holder except in the case of the last survivor of such joint holders.
- .5 Notwithstanding anything to the contrary in these Bye-laws, Shares that are listed or admitted to trading on an Exchange shall be transferred in accordance with the rules and regulations of such Exchange and the applicable transfer agent of the Bank.

ALTERATION OF SHARE CAPITAL

15. Power to Alter Capital

- .1 If authorised by resolution of the Members, the Bank may increase, divide, consolidate, subdivide, change the currency denomination of, diminish or otherwise alter or reduce its share capital in any manner permitted by the Companies Act.
- .2 Where, on any alteration or reduction of share capital or otherwise, fractions of Shares or some other difficulty would result, the Board may deal with or resolve the same in such manner as it thinks fit.

16. Variation of Rights Attaching to Shares

If, at any time, the share capital is divided into different classes of Shares, the rights attached to any class (unless otherwise provided by the terms of issue of the Shares of that class) may, whether or not the Bank is being wound-up, be varied with the consent in writing of the holders of three-fourths of the issued Shares of that class or with the sanction of a resolution passed by a majority of the votes cast at a separate general meeting of the holders of the Shares of the class at which meeting the necessary quorum shall be two (2) persons holding or representing by proxy one-third of the issued Shares of the class. The rights conferred upon the holders of the Shares of any class issued with preferred or other rights shall not, unless otherwise expressly provided by the terms of issue of the Shares of that class, be deemed to be varied by the creation or issue of further Shares ranking *pari passu* therewith.

DIVIDENDS AND CAPITALISATION

17. Dividends

- .1 The Board may, subject to these Bye-laws and in accordance with the Companies Act, declare a dividend to be paid to the Members, in proportion to the number of Shares held by them, and such dividend may be paid in cash or wholly or partly in specie, in which case the Board may fix the value for distribution in specie of any assets. No unpaid dividend shall bear interest as against the Bank.
- .2 The Board may fix any date as the record date for determining the Members entitled to receive any dividend.
- .3 The Bank may pay dividends in proportion to the amount paid up on each Share where a larger amount is paid up on some Shares than on others.
- .4 The Board may declare and make such other distributions (in cash or in specie) to the Members as may be lawfully made out of the assets of the Bank. No unpaid distribution shall bear interest as against the Bank.

18. **Power to Set Aside Profits**

The Board may, before declaring a dividend, set aside out of the surplus or profits of the Bank, such amount as it thinks proper as a reserve to be used to meet contingencies or for equalising dividends or for any other purpose.

19. **Method of Payment**

- .1 Any dividend or other monies payable in respect of a Share may be paid by cheque or draft sent through the post directed to the address of the Member in the Register of Members (in the case of joint Members, the senior joint holder, seniority being determined by the order in which the names stand in the Register of Members), or by direct transfer to such bank account as such Member may direct. Every such cheque shall be made payable to the order of the person to whom it is sent or to such persons as the Member may direct, and payment of the cheque or draft shall be a good discharge to the Bank. Every such cheque or draft shall be sent at the risk of the person entitled to the money represented thereby. If two or more persons are registered as joint holders of any Shares any one of them can give an effectual receipt for any dividend paid in respect of such Shares.
- .2 Any dividend and or other monies payable in respect of a Share which has remained unclaimed for a period of seven (7) years from the date when it became due for payment shall, if the Board so resolves, be forfeited and cease to remain owing by the Bank provided that during that seven (7) year period at least three dividends in respect of the Shares in question have become payable and no dividend during that period has been claimed and on or after the expiry of the seven (7) year period the Bank has given notice by advertisement locally and also in a newspaper circulating in the area of the last known address of the Member or the address at which service of notices may be effected in the manner authorised by these Bye-laws is located, of its intention to declare the monies forfeit, and provided that the applicable Exchange has been informed of such intention. The payment of any unclaimed dividend or other monies payable in respect of a Share may (but need not) be paid by the Bank into an account separate from the Bank's own account. Such payment shall not constitute the Bank as trustee in respect thereof.
- .3 The Bank shall be entitled to cease sending dividend cheques and drafts by post or otherwise to a Member if those instruments have been returned undelivered to, or left uncashed by, that Member on at least two (2) consecutive occasions, or, following one (1) such occasion, reasonable enquiries have failed to establish the Member's new address. The entitlement conferred on the Bank by this Bye-law 19.3 in respect of any Member shall cease if the Member claims a dividend or cashes a dividend cheque or draft.
- .4 The Bank shall be entitled to sell the Shares of a Member who is untraceable if:
 - (a) During any period of seven (7) years at least three (3) dividends in respect of the Shares in question have become payable and no dividend during that period has been claimed; and
 - (b) On or after expiration of the seven (7) years the Bank has given notice, by advertisement published in a daily newspaper in Bermuda and also in a newspaper circulating in the area in which the last known address of the Member or the address at which service of notices may be effected in the manner authorised by these Bye-laws is located, of its intention to sell the Shares and has informed the applicable Exchange of such intention.

If the Bank in accordance with this Bye-law elects to sell the unclaimed Shares on the open market, then the Bank shall be entitled to keep the proceeds of any such sale.

20. **Capitalisation**

- .1 The Board may capitalise any amount for the time being standing to the credit of any of the Bank's share premium or other reserve accounts or to the credit of the profit and loss account or otherwise available for distribution by applying such amount in paying up unissued Shares to be allotted as fully paid up bonus Shares pro-rata (except in connection with the conversion of Shares of one class to Shares of another class) to the Members.
- .2 The Board may capitalise any amount for the time being standing to the credit of a reserve account or amounts otherwise available for dividend or distribution by applying such amounts in paying up in full, partly or nil paid up Shares of those Members who would have been entitled to such amounts if they were distributed by way of dividend or distribution.

MEETINGS OF MEMBERS

21. **Annual General Meetings**

The annual general meeting of the Bank shall be held in each year at such time and place as the Chairman or the Board shall appoint. Only persons who are proposed or nominated by the Board, or by one or more Members in accordance with Bye-law 39, shall be eligible for election as Directors at an annual general meeting and only such other business shall be conducted or considered, as shall have been properly brought before the meeting by the Board or Members.

22. **Special General Meetings**

The Chairman or the Board may convene a special general meeting whenever in their judgment such a meeting is necessary. Only persons who are proposed or nominated by the Board, or by one or more Members in accordance with Bye-law 39, shall be eligible for election as Directors at a special general meeting and only such other business shall be conducted or considered, as shall have been properly brought before the meeting by the Board.

23. **Requisitioned General Meetings and Other Business**

- .1 The Board shall, on the requisition of Members holding at the date of the deposit of the requisition not less than one-tenth of such of the paid-up share capital of the Bank as at the date of the deposit carries the right to vote at general meetings, forthwith proceed to convene a special general meeting pursuant to the Companies Act.
- .2 In addition to any other rights of Members under the Companies Act or these Bye-laws, business may be brought before any annual general meeting by any person who: (a) is a Member of record on the date of the giving of the notice provided for in this Bye-law 23 and on the record date for the determination of Members entitled to receive notice of and vote at such meeting; and (b) complies with the notice procedures set forth in this Bye-law 23, unless such notice procedures are waived by the Board.
- .3 In addition to any other applicable requirements, for business to be proposed by a Member pursuant to Bye-law 23.2, such Member must have given timely notice thereof in proper written form to the Secretary.
- .4 To be timely, a notice given to the Secretary must be delivered to or mailed and received by the Secretary at the Bank's registered office not less than ninety (90) days nor more than one-hundred twenty (120) days before the anniversary of the last annual general meeting. In the event the annual general meeting is called for a date that is greater than thirty (30) days before or after such anniversary, the notice must be so delivered or mailed and received not later than ten (10) days following the earlier of the date on which notice of the annual general meeting was posted to Members or the date on which public disclosure of the date of the annual general meeting was made.

- .5 To be in proper written form, a notice given to the Secretary pursuant to this Bye-law 23 must set forth as to each matter such Member proposes to bring before the annual general meeting: (a) a brief description of the business desired to be brought before the annual general meeting, the text of the proposal or business (including the text of any resolutions proposed for consideration and, in the event that such business includes a proposal to amend these Bye-laws, the language of the proposed amendment) and the reasons for conducting such business at the annual general meeting; (b) the name and record address of such Member and of the beneficial owner, if any, on whose behalf the business is being proposed; (c) the class or series and number of Shares of the Bank which are registered in the name of or beneficially owned by such Member and such beneficial owner (including any Shares as to which such Member or such beneficial owner has a right to acquire ownership at any time in the future); (d) a description of all derivatives, swaps or other transactions or series of transactions engaged in, directly or indirectly, by such Member or such beneficial owner, the purpose or effect of which is to give such Member or such beneficial owner economic risk similar to ownership of Shares; (e) a description of all agreements, arrangements, understandings or relationships engaged in, directly or indirectly, by such Member or such beneficial owner, the purpose or effect of which is to mitigate loss to, reduce the economic risk (or ownership or otherwise) of any Shares or any class or series of Shares of the Bank, manage the risk of Share price changes for, or increase or decrease the voting power of, such Member or beneficial owner, or which provides, directly or indirectly, such Member or beneficial owner with the opportunity to profit from any decrease in the price or value of the Shares or any class or series of Shares of the Bank; (f) a description of all agreements, arrangements, understandings or relationships between such Member or such beneficial owner and any other person or persons (including their names) in connection with the proposal of such business by such Member and any material interest of such Member or such beneficial owner in such business; and (g) a representation that such Member intends to appear in person or by proxy at the annual general meeting to bring such business before the annual general meeting.
- .6 Once business has been properly brought before an annual general meeting in accordance with the procedures set forth in this Bye-law 23, nothing in this Bye-law shall be deemed to preclude discussion by any Member of such business. If the chairman of the annual general meeting determines that business was not properly brought before the annual general meeting in accordance with this Bye-law 23, the chairman shall declare to the meeting that the business was not properly brought before the meeting and the determination of the chairman shall be final and such business shall not be transacted.
- .7 No business may be transacted at an annual general meeting or requisitioned general meeting, other than business that is either (a) properly brought before the annual general meeting by or at the direction of the Board (or any duly authorised committee thereof); or (b) properly brought before the meeting by any Member or Members in accordance with the Companies Act and these Bye-laws.

24. **Notice**

- .1 At least twenty-one (21) days' notice of an annual general meeting shall be given to each Member entitled to attend and vote thereat stating the date, place and time at which the meeting is to be held, that the appointment or election of Directors will take place thereat, and, as far as practicable, the other business to be conducted at the meeting.
- .2 At least twenty-one (21) days' notice of a special general meeting shall be given to each Member entitled to attend and vote thereat stating the date, place and time at which the meeting is to be held, and, as far as practicable, the business to be conducted at the meeting.
- .3 The Board may fix any date as the record date for determining the Members entitled to receive notice of and to vote at any general meeting of the Bank.

- .4 A general meeting shall, notwithstanding that it is called on shorter notice than that specified in these Bye-laws, be deemed to have been properly called if it is so agreed by (a) all the Members entitled to attend and vote thereat in the case of an annual general meeting; and (b) a majority in number of the Members having the right to attend and vote at the meeting, being a majority together holding not less than 95% in nominal value of the Shares giving a right to attend and vote thereat in the case of a special general meeting.
- .5 The accidental omission to give notice of a general meeting to, or the non-receipt of a notice of a general meeting by, any person entitled to receive notice shall not invalidate the proceedings at that meeting.

25. **Giving Notice and Access**

- .1 A notice may be given by the Bank to a Member:
 - (a) by delivering it to such Member in person;
 - (b) by sending it by letter mail or courier to such Member's address in the Register of Members;
 - (c) by transmitting it by electronic means (including facsimile and electronic mail, but not telephone) in accordance with such directions as may be given by such Member to the Bank for such purpose; or
 - (d) by delivering it in accordance with the provisions of the Companies Act pertaining to delivery of electronic records by publication on a website.
- .2 Any notice required to be given to a Member shall, with respect to any Shares held jointly by two (2) or more persons, be given to whichever of such persons is named first in the Register of Members, and notice so given shall be sufficient notice to all the holders of such Shares.
- .3 Any notice delivered in accordance with Bye-law 25.1(a) shall be deemed to have been served upon delivery. Any notice delivered in accordance with Bye-law 25.1(b) shall be deemed to have been served one (1) day after the date on which it is deposited, with postage or courier fees (as the case may be) prepaid, in the mail of the any member state of the European Union, the United Kingdom, the United States, Canada or Bermuda, or with any courier service (as the case may be). Any notice delivered in accordance with Bye-law 25.1(c) shall be deemed to have been served at the time when the same would be delivered in the ordinary course of transmission and, in proving such service, it shall be sufficient to prove that the notice was properly addressed and prepaid, if posted, and the time when it was posted, delivered to the courier or transmitted by electronic means. Any notice delivered in accordance with Bye-law 25.1(d) shall be deemed to have been delivered at the time when the requirements of the Companies Act in that regard have been met.
- .4 The Bank shall be under no obligation to send a notice or other document to the address shown for any particular Member in the Register of Members if the Board considers that the legal or practical problems under the laws of, or the requirements of any regulatory body or stock exchange in, the territory in which that address is situated, are such that it is necessary or expedient not to send the notice or document concerned to such Member at such address and may require a Member with such an address to provide the Bank with an alternative acceptable address for delivery of notices by the Bank.

26. **Postponement or Cancellation of General Meeting**

The Chairman or the Board may, and the Secretary on instruction from the Chairman or the Board shall, postpone or cancel any general meeting called in accordance with these Bye-laws (other than a meeting requisitioned under these Bye-laws) provided that notice of postponement or cancellation is given to each Member before the time for such meeting. Fresh notice of the date, time and place for the postponed or cancelled meeting shall be given to the Members in accordance with these Bye-laws.

27. **Electronic Participation and Security at General Meetings**

- .1 Members may participate in any general meeting by such telephonic, electronic or other communication facilities or means as permit all persons participating in the meeting to communicate with each other simultaneously and instantaneously, and participation in such a meeting shall constitute presence in person at such meeting.
- .2 The Board may, and at any general meeting the chairman of such meeting may, make any arrangement and impose any requirement or restriction it or he considers appropriate to ensure the security of a general meeting including, without limitation, requirements for evidence of identity to be produced by those attending the meeting, the searching of their personal property and the restriction of items that may be taken into the meeting place. The Board and, at any general meeting, the chairman of such meeting are entitled to refuse entry to a person who refuses to comply with any such arrangements, requirements or restrictions.

28. **Quorum at General Meetings**

- .1 At any general meeting two or more persons present in person at the start of the meeting and representing in person or by proxy in excess of 25% of the total issued voting Shares in the Bank shall form a quorum for the transaction of business.
- .2 If within half an hour from the time appointed for the meeting a quorum is not present, then, in the case of a meeting convened on a requisition, the meeting shall be deemed cancelled and, in any other case, the meeting shall stand adjourned to the same day one (1) week later, at the same time and place or to such other day, time or place as the Secretary may determine. Unless the meeting is adjourned to a specific date, place and time announced at the meeting being adjourned, fresh notice of the date, place and time for the resumption of the adjourned meeting shall be given to each Member entitled to attend and vote thereat in accordance with these Bye-laws.

29. **Chairman to Preside at General Meetings**

- .1 The Chairman, if there be one, and if not the Vice-Chairman, if there be one, shall act as chairman at all general meetings at which such person is present. In their absence, a chairman of the meeting shall be appointed or elected by those present at the meeting and entitled to vote.
- .2 The Board and the chairman of any general meeting may make any arrangement and impose any requirement or restriction it or he considers appropriate to ensure the security of a general meeting including, without limitation, requirements for evidence of identity to be produced by those attending the meeting, the searching of their personal property and the restriction of items that may be taken into the meeting place. The Board and the chairman of any general meeting shall be entitled to refuse entry to a person who refuses to comply with any such arrangements, requirements or restrictions.
- .3 At any general meeting if an amendment is proposed to any resolution under consideration and the chairman of the meeting rules on whether the proposed amendment is out of order, the proceedings on the substantive resolution shall not be invalidated by any error in such ruling.

30. **Voting on Resolutions**

- .1 Subject to the Companies Act and these Bye-laws, any question proposed for the consideration of the Members at any general meeting shall be decided by the affirmative votes of a majority of the votes cast in accordance with these Bye-laws and in the case of an equality of votes the resolution shall fail.
- .2 Notwithstanding any other provisions of these Bye-Laws to the contrary, the following matters, except to the extent any proposal in respect of such a matter has received the prior approval of the Board, shall require the affirmative vote of not less than two-thirds of all voting rights attached to all issued and outstanding Shares:

- (a) removal of a Director other than for cause;
 - (b) the approval of an amalgamation, merger or consolidation with or into any other person, arrangement, reconstruction or sale, lease, conveyance, exchange or other transfer of all or substantially all the Bank's assets, or in each case, an equivalent transaction;
 - (c) commencement of proceedings seeking winding-up, liquidation or reorganisation of the Bank.
- .3 At any general meeting if an amendment is proposed to any resolution under consideration and the chairman of the meeting rules on whether or not the proposed amendment is out of order, the proceedings on the substantive resolution shall not be invalidated by any error in such ruling.

31. **Restrictions on Voting Rights**

- .1 In this Bye-Law unless the context otherwise requires:
“**Relevant Shareholder**” means any person who is not Bermudian as defined in the Companies Act who is interested in Shares which constitute more than 40% of all Shares then issued and outstanding.

“**Relevant Shares**” means those Shares in which a Relevant Shareholder has an interest which constitute more than 40% of all Shares then issued and outstanding and which are in excess of that 40% interest.

- .2 A Relevant Shareholder shall not be entitled to vote the Relevant Shares at any general meeting of the Bank without the prior written approval of the Minister of Finance.
- .3 In this Bye-Law the word “interest” means (and “interests” and “interested in Shares” shall be construed accordingly) any interest of any kind whatsoever in Shares including but not limited to the following:
- (a) any interest in Shares comprised in property held on trust;
 - (b) any contractual right to purchase Shares whether for cash or other consideration;
 - (c) any interest by virtue of any right or obligation (whether subject to conditions or not) to exercise any right conferred by the holding of Shares including but not limited to voting rights or any entitlement to control the exercise of any such right;
 - (d) any right to call for delivery of Shares;
 - (e) the right to acquire an interest in the Shares or an obligation to take an interest in Shares; or
 - (f) the power to dispose of Shares.

PROVIDED THAT:

- (g) persons having a joint interest shall be taken each of them to have that interest;
- (h) a person shall be taken to be interested in any Shares in which an associate (within the meaning of the Banks Act) of that person is interested;
- (i) a person shall be interested in Shares if a body corporate is interested in them and:
 - (i) that body corporate or its directors are accustomed to act in accordance with the directions or instructions of that person; or
 - (ii) that person is entitled by virtue of any right or obligation (whether subject to conditions or not) to exercise or control the exercise of one third or more of the voting power at general meetings of that body corporate, and where such body corporate is entitled to control the exercise of any of the voting power at general meetings of another body corporate such voting power shall be taken to be exercisable by that person.

PROVIDED ALSO THAT the following interests shall be disregarded if the person in question is under any obligation to exercise or control the exercise of the voting rights of the Shares at the instance of any other person:

- (j) any interest of a custodian trustee or a bare trustee;
- (k) any interest of a licensed bank or other financial institution held by way of security for the purposes of a transaction entered into in the ordinary course of banking business;
- (l) an interest of a personal representative of any estate;
- (m) any interest of a person arising by reason only that such person has been appointed a proxy to vote at a specified meeting of shareholders and at any adjournment of that meeting or has been appointed by a body corporate to act as its representative at any meeting of shareholders;
- (n) any interest of any underwriter or sub-underwriter in any offer of Shares provided the agreement or interest is confined to that purpose and any matters incidental to it;
- (o) any interest of any market maker in the Shares which has been approved by the Board provided the interest is confined to that purpose and any matters incidental to it;
- (p) any interest as a beneficiary under a pension or retirement benefits scheme;
- (q) the interests of any subsidiary of the Bank.

32. **Power to Demand a Vote on a Poll**

- .1 Notwithstanding the foregoing, a poll may be demanded by any of the following persons:
 - (a) the chairman of such meeting;
 - (b) at least three Members present in person or represented by proxy;
 - (c) any Member or Members present in person or represented by proxy and holding between them not less than one-tenth of the total voting rights of all the Members having the right to vote at such meeting; or
 - (d) any Member or Members present in person or represented by proxy holding Shares in the Bank conferring the right to vote at such meeting, being Shares on which an aggregate sum has been paid up equal to not less than one-tenth of the total amount paid up on all such Shares conferring such right.
- .2 Where a poll is demanded, subject to any rights or restrictions for the time being lawfully attached to any class of Shares, every person present at such meeting shall have one vote for each Share of which such person is the holder or for which such person holds a proxy and such vote shall be counted by ballot as described herein, or in the case of a general meeting at which one or more Members are present by telephone, electronic or other communication facilities or means, in such manner as the chairman of the meeting may direct and the result of such poll shall be deemed to be the resolution of the meeting at which the poll was demanded and shall replace any previous resolution upon the same matter which has been the subject of a show of hands. A person entitled to more than one vote need not use all his votes or cast all the votes he uses in the same way.
- .3 A poll demanded for the purpose of electing a chairman of the meeting or on a question of adjournment shall be taken forthwith. A poll demanded on any other question shall be taken at such time and in such manner during such meeting as the chairman (or acting chairman) of the meeting may direct. Any business other than that upon which a poll has been demanded may be conducted pending the taking of the poll.
- .4 Where a vote is taken by poll, each person physically present and entitled to vote shall be furnished with a ballot paper on which such person shall record his vote in such manner as shall be determined at the meeting having regard to the nature of the question on which the vote is taken. Each ballot paper shall be signed or initialed or otherwise marked so as to identify the voter and the registered holder in the case of a proxy. Each person present by

telephone, electronic or other communication facilities or means shall cast his vote in such manner as the chairman of the meeting shall direct. At the conclusion of the poll, the ballot papers and votes cast in accordance with such directions shall be examined and counted by one or more scrutineers appointed by the chairman of the meeting for the purpose. The result of the poll shall be declared by the chairman of the meeting.

33. **Voting by Joint Holders of Shares**

In the case of joint holders, the vote of the senior who tenders a vote (whether in person or by proxy) shall be accepted to the exclusion of the votes of the other joint holders, and for this purpose seniority shall be determined by the order in which the names stand in the Register of Members.

34. **Instrument of Proxy**

.1 A Member may appoint a proxy by (a) an instrument appointing a proxy in writing in substantially the following form or such other form as the Board may determine from time to time:

Proxy

[] (the "Bank")

I/We, [insert name(s) here], being a [Member/holder of shares] of the Bank with [number] shares, HEREBY APPOINT [name] of [address] or failing him, [name] of [address] to be my/our proxy to vote for me/us at the meeting of the Members held on the [] day of [], 20[] and at any adjournment thereof. (Any restrictions on voting to be inserted here.)

Signed this [] day of [], 20[]

Member(s)

or (b) such telephonic, electronic or other means as may be approved by the Board.

.2 In respect of Shares held by the BSD Nominee, the instrument of proxy shall be in such form as required by the BSD Regulations and shall, if so required by the BSD Regulations allow for the BSD Account Holder for whom the Shares are held by the BSD Nominee to appoint an alternative person as proxy in place of the person named in the instrument of proxy where relevant. The Bank shall issue and send to each BSD Account Holder such an instrument of proxy in respect of that BSD Account Holder's Shares on behalf of and in the name of the BSD Nominee, which instrument of proxy need not be signed on behalf of the BSD Nominee. Any proxy appointed pursuant to such an instrument of proxy shall be afforded the opportunity to attend, speak and vote at meetings as though such person were an individual Member and the registered holder of the Shares for which the proxy is appointed.

.3 A Member who is the holder of two or more Shares may appoint more than one proxy to represent him and vote on his behalf in respect of different Shares.

.4 The decision of the chairman of any general meeting as to the validity of any appointment of a proxy shall be final.

.5 A Member may appoint a standing proxy by depositing at the registered office of the Bank a proxy in an appropriate form and such proxy shall be valid for any and all matters to be approved by Members pursuant to general meetings until notice of revocation is received by the Secretary at the office of the Bank. Where a standing proxy exists, its operation shall be deemed to have been suspended at any general meeting at which the Member is present or in

respect to which the Member has specially appointed a proxy. The Bank may from time to time require such evidence as it shall deem necessary as to the due execution and continuing validity of a standing proxy and the operation of that standing proxy shall be deemed to be suspended until the Bank has received and is satisfied with the requested evidence.

35. **Representation of Corporate Member**

- .1 A corporation which is a Member may, by written instrument, authorise such person or persons as it thinks fit to act as its representative at any meeting and any person so authorised shall be entitled to exercise the same powers on behalf of the corporation which such person represents as that corporation could exercise if it were an individual Member, and that Member shall be deemed to be present in person at any such meeting attended by its authorised representative or representatives.
- .2 Notwithstanding the foregoing, the chairman of the meeting may accept such assurances as he thinks fit as to the right of any person to attend and vote at general meetings on behalf of a corporation which is a Member.

36. **Adjournment of General Meeting**

- .1 The chairman of any general meeting at which a quorum is present may with the consent of Members holding a majority of the voting rights of those Members present in person or by proxy (and shall if so directed by Members holding a majority of the voting rights of those Members present in person or by proxy), adjourn the meeting.
- .2 In addition, the chairman of the meeting may adjourn the meeting to another time and place without such consent or direction if it appears to him that:
 - (a) it is likely to be impracticable to hold or continue that meeting because of the number of Members wishing to attend who are not present;
 - (b) the unruly conduct of persons attending the meeting prevents, or is likely to prevent, the orderly continuation of the business of the meeting; or
 - (c) an adjournment is otherwise necessary so that the business of the meeting may be properly conducted.
- .3 Unless the meeting is adjourned to a specific date, place and time announced at the meeting being adjourned, fresh notice of the date, place and time for the resumption of the adjourned meeting shall be given to each Member entitled to attend and vote thereat in accordance with these Bye-laws.

37. **Written Resolutions of the Members Not Permitted**

Notwithstanding any provision of the Companies Act, the Members may adopt resolutions only at general meetings held in accordance with these Bye-laws and not by written resolution.

38. **Directors Attendance at General Meetings**

The Directors shall be entitled to receive notice of, attend and be heard at any general meeting.

DIRECTORS AND OFFICERS

39. **Election of Directors**

- .1 The Board shall consist of such number of Directors being not less than six Directors and not more than such maximum number of Directors, not exceeding twelve Directors, as the Board may from time to time determine.
- .2 Only persons who are proposed in accordance with this Bye-law shall be eligible for appointment or election as Directors at general meetings. A person may be proposed for election or appointment as a Director at a general meeting either by the Board or by one or more Members holding Shares which in the aggregate carry not less than 5% of the voting rights in respect of the election of Directors. Where any person, other than a person

proposed for election or appointment as a Director by the Board, is to be proposed for appointment or election as a Director, written notice of the proposal must be given to the Bank, and of his willingness to serve as a Director, as follows. Where a Director is to be appointed or elected:

- (a) at an annual general meeting, such notice must be given not less than 90 days nor more than 120 days before the anniversary of the last annual general meeting prior to the giving of the notice or, in the event the annual general meeting is called for a date that is not 30 days before or after such anniversary the notice must be given not later than 10 days following the earlier of the date on which notice of the annual general meeting was posted to Members or the date on which public disclosure of the date of the annual general meeting was made; and
- (b) at a special general meeting, such notice must be given not later than 10 days following the earlier of the date on which notice of the special general meeting was posted to Members or the date on which public disclosure of the date of the special general meeting was made.

.3 Where the number of persons validly proposed for appointment or election as a Director is not greater than the number of Directors to be appointed or elected, the chairman of the meeting shall declare such persons appointed. Where the number of persons validly proposed for appointment or election as a Director is greater than the number of Directors to be appointed or elected, the persons receiving the most votes (up to the number of Directors to be elected) shall be elected as Directors, and an absolute majority of the votes cast shall not be a prerequisite to the election of such Directors.

.4 At any general meeting the Members may authorise the Board to fill any vacancy in their number left unfilled at a general meeting.

40. **Single Class of Directors**

The Board shall consist of a single class of Directors.

41. **Term of Office of Directors**

Each Director shall hold office until the next annual general meeting, subject to his office being vacated pursuant to Bye-law 44.

42. **Alternate Directors Not Permitted**

Without prejudice to the power of Directors to appoint another Director to represent him and to vote on his behalf at any meeting of the Board in accordance with section 91A of the Companies Act, no person may be appointed by the Members, the Board or any Director to act as a Director in the alternative to any Director.

43. **Removal of Directors**

.1 Subject to any provision to the contrary in these Bye-laws, the Members entitled to vote for the election of Directors may, at any special general meeting convened and held in accordance with these Bye-laws, remove a Director, provided that the notice of any such meeting convened for the purpose of removing a Director shall contain a statement of the intention so to do and be served on such Director not less than 14 days before the meeting and at such meeting the Director shall be entitled to be heard on the motion for such Director's removal.

.2 Where a Director is to be removed for cause, any vote on such removal shall be decided by the affirmative votes of a majority of the votes cast in accordance with Bye-law 30.1, and where a Director is to be removed without cause and without the prior approval of the Board, any vote on such removal shall require the affirmative vote of not less than two-thirds of all voting rights attached to all issued and outstanding Shares in accordance with Bye-law 30.2.

- .3 If a Director is removed from the Board under the provisions of this Bye-law the Members may fill the vacancy at the meeting at which such Director is removed. In the absence of such election or appointment, the Board may fill the vacancy.
- .4 For the purposes of Bye-law 30.2 and this Bye-law, “cause” shall mean a conviction for a criminal offence involving dishonesty or engaging in conduct which brings the Director or the Bank into disrepute or which results in material financial detriment to the Bank.

44. **Vacancy in the Office of Director**

- .1 The office of Director shall be vacated if the Director:
 - (a) is removed from office pursuant to these Bye-laws or is prohibited from being a Director by applicable law;
 - (b) is or becomes bankrupt, or makes any arrangement or composition with his creditors generally;
 - (c) is or becomes of unsound mind or dies; or
 - (d) resigns his office by notice to the Bank.
- .2 The Members in general meeting or the Board shall have the power to appoint any person as a Director to fill a vacancy on the Board occurring as a result of the death, disability, disqualification or resignation of any Director or as a result of an increase in the size of the Board.
- .3 The term of office of any Director appointed to the Board to fill a casual vacancy, or otherwise appointed as an additional member of the Board, shall expire at the next annual general meeting.

45. **Remuneration of Directors**

The remuneration (if any) of the Directors shall be determined by the Board. The Directors may also be paid all travel, hotel and other expenses properly incurred by them in attending and returning from the meetings of the Board, any committee appointed by the Board, general meetings, or in connection with the business of the Bank or their duties as Directors generally.

46. **Defect in Appointment**

All acts done in good faith by the Board, any Director, a member of a committee appointed by the Board, any person to whom the Board may have delegated any of its powers, or any person acting as a Director shall, notwithstanding that it be afterwards discovered that there was some defect in the appointment or election of any Director or person acting as aforesaid, or that he or she was, or any of them were, disqualified, be as valid as if every such person had been duly appointed or elected and was qualified to be a Director or act in the relevant capacity.

47. **Directors to Manage Business**

- .1 The business of the Bank shall be managed and conducted by the Board. In managing the business of the Bank, the Board may exercise all such powers of the Bank as are not, by the Companies Act or by these Bye-laws, required to be exercised by the Bank in general meeting.
- .2 Subject to these Bye-laws, the Board may delegate to any company, firm, person, or body of persons any power of the Board (including the power to sub-delegate).

48. **Powers of the Board of Directors**

Without limiting the authority of the Board under other provisions of these Bye-laws, the Board may:

- (a) appoint, suspend, or remove any manager, secretary, clerk, agent or employee of the Bank and may fix their remuneration and determine their duties;
- (b) exercise all the powers of the Bank to borrow money and to mortgage or charge or otherwise grant a security interest in its undertaking, property and uncalled capital, or any part thereof, and may issue debentures, debenture stock and other securities

- whether outright or as security for any debt, liability or obligation of the Bank or any third party;
- (c) appoint a person to the office of Chief Executive Officer of the Bank who shall, subject to the supervision of the Board, supervise and administer the general business and affairs of the Bank;
 - (d) by power of attorney, appoint any company, firm, person or body of persons, whether nominated directly or indirectly by the Board, to be an attorney of the Bank for such purposes and with such powers, authorities and discretions (not exceeding those vested in or exercisable by the Board) and for such period and subject to such conditions as it may think fit and any such power of attorney may contain such provisions for the protection and convenience of persons dealing with any such attorney as the Board may think fit and may also authorise any such attorney to sub-delegate all or any of the powers, authorities and discretions so vested in the attorney;
 - (e) procure that the Bank pays all expenses incurred in promoting the Bank and listing and maintaining any listing of Shares;
 - (f) delegate any of its powers (including the power to sub-delegate) to a committee appointed by the Board which may consist partly or entirely of non-Directors, provided that every such committee shall conform to such directions as the Board shall impose on them and provided further that the meetings and proceedings of any such committee shall be governed by these Bye-laws regulating the meetings and proceedings of the Board, so far as the same are applicable and are not superseded by directions imposed by the Board;
 - (g) delegate any of its powers (including the power to sub-delegate) to any person on such terms and in such manner as the Board may see fit;
 - (h) subject to Bye-law 30.2(c), present any petition and make any application in connection with the liquidation or reorganisation of the Bank;
 - (i) in connection with the issue of any Share, pay such commission and brokerage as may be permitted by law; and
 - (j) authorise any company, firm, person or body of persons to act on behalf of the Bank for any specific purpose and in connection therewith to execute any deed, agreement, document or instrument on behalf of the Bank.

49. **Register of Directors and Officers**

The Board shall cause to be kept in one or more books at the registered office of the Bank a Register of Directors and Officers and shall enter therein the particulars required by the Companies Act.

50. **Appointment of Officers**

The Officers of the Bank shall include a Chief Executive Officer, who may be a Director. The Board shall appoint this Officer and may appoint such other Officers (who may or may not be Directors) as the Board may determine.

51. **Appointment of Secretary**

The Secretary shall be appointed by the Board from time to time.

52. **Duties of Chief Executive Officer and Other Officers**

.1 The Chief Executive Officer shall exercise a general supervision over the affairs of the Bank and, subject to such restrictions as the Board may impose from time to time, his responsibilities for such supervision shall include the following:

- (a) the keeping of proper records of account;
- (b) the safe custody of the cash and securities of the Bank;

- (c) the administration of credit;
 - (d) the appointment and dismissal of personnel other than officers of the rank of Executive Vice President and above;
 - (e) negotiation of interest rates and charges;
 - (f) the authorisation of expenses necessary for the operation of the Bank;
 - (g) arrangements with correspondent banks; and
 - (h) negotiating and contracting with persons outside the Bank (including consultants, correspondents and agents) required in connection with the Bank's business.
- .2 Notwithstanding the foregoing, the Chief Executive Officer shall have power to delegate any responsibilities to any person he or she sees fit.
- .3 The Board may from time to time entrust to and confer upon the Chief Executive Officer any of the powers exercisable by the Board upon such terms and conditions and with such restrictions that they think fit and may from time to time revoke, withdraw, alter and vary all or any of such terms and conditions and without limiting the generality of the foregoing the Board may entrust to and confer upon the Chief Executive Officer such of the Board's powers as may be necessary for the day to day operations of the Bank.
- .4 The Board may from time to time require the Chief Executive Officer to submit to the Board such reports as the Board thinks fit for the purpose of enabling the Board to exercise control over the operations of the Bank.
- .5 Officers other than the Chief Executive Officer shall have such powers and perform such duties in the management, business and affairs of the Bank as may be delegated to them by the Board from time to time.

53. **Remuneration of Officers**

The Officers shall receive such remuneration as the Board may determine.

54. **Conflicts of Interest**

- .1 Any Director, or any Director's firm, partner or any company with whom any Director is associated, may act in any capacity for, be employed by or render services to the Bank and such Director or such Director's firm, partner or company shall be entitled to remuneration as if such Director were not a Director. Nothing herein contained shall authorise a Director or Director's firm, partner or company to act as Auditor to the Bank.
- .2 A Director who is directly or indirectly interested in a contract or proposed contract or arrangement with the Bank shall declare the nature of such interest as required by the Companies Act.
- .3 Following a declaration being made pursuant to this Bye-law, and unless disqualified by the chairman of the relevant Board meeting (or where the interest is that of the chairman of the meeting, disqualified by a resolution of the other Directors present) in respect of any material contract or proposed material contract or arrangement, a Director may vote in respect of any contract or proposed contract or arrangement in which such Director is interested and may be counted in the quorum for such meeting. For the purposes hereof, material in relation to any contract or proposed contract shall be construed as relating to the materiality of that contract or proposed contract in relation to the business of the Bank to which the declaration of the nature of the interest should be made. For the purpose of this paragraph a Director shall not be deemed to be materially interested in any such matter by reason only of his being a shareholder of the Bank or by reason of his being a shareholder holding less than 10% of any party interested in such matter.

55. **Indemnification and Exculpation of Directors and Officers**

- .1 The Directors, Secretary and other Officers (such term to include any person appointed to any committee by the Board) for the time being acting in relation to any of the affairs of the

Bank or any subsidiary thereof and the liquidator or trustees (if any) for the time being acting in relation to any of the affairs of the Bank or any subsidiary thereof, and every one of them, and their heirs, executors and administrators, shall be indemnified and secured harmless out of the assets of the Bank from and against all actions, costs, charges, losses, damages and expenses which they or any of them, their heirs, executors or administrators, shall or may incur or sustain by or by reason of any act done, concurred in or omitted in or about the execution of their duty, or supposed duty, or in their respective offices or trusts, and none of them shall be answerable for the acts, receipts, neglects or defaults of the others of them or for joining in any receipts for the sake of conformity, or for any bankers or other persons with whom any monies or effects belonging to the Bank shall or may be lodged or deposited for safe custody, or for insufficiency or deficiency of any security upon which any monies of or belonging to the Bank shall be placed out on or invested, or for any other loss, misfortune or damage which may happen in the execution of their respective offices or trusts, or in relation thereto, provided that this indemnity shall not extend to any matter in respect of any fraud or dishonesty which may attach to any of the said persons. Each Member agrees to waive any claim or right of action such Member might have, whether individually or by or in the right of the Bank against any Director or Officer on account of any action taken by such Director or Officer, or the failure of such Director or Officer to take any action in the performance of his duties with or for the Bank or any subsidiary thereof, provided that, such waiver shall not extend to any matter in respect of any fraud or dishonesty in relation to the Bank which may attach to such Director or Officer.

- .2 The Bank may purchase and maintain insurance for the benefit of any Director or Officer against any liability incurred by him under the Companies Act in his capacity as a Director, Officer or director or officer of any subsidiary of the Bank, or indemnifying such Director, Officer or director or officer of any subsidiary of the Bank in respect of any loss arising or liability attaching to him by virtue of any rule of law in respect of any negligence, default, breach of duty or breach of trust of which the Director, Officer or director or officer of any subsidiary of the Bank may be guilty in relation to the Bank or any subsidiary thereof.
- .3 The Bank may advance monies to a Director, Officer or director or officer of any subsidiary of the Bank for the costs, charges and expenses incurred by the Director, Officer or director or officer of any subsidiary of the Bank in defending any civil or criminal proceedings against them, on condition that the Director, Officer or director or officer of any subsidiary of the Bank shall repay the advance if any allegation of fraud or dishonesty is proved against him.

MEETINGS OF THE BOARD OF DIRECTORS

56. Board Meetings

The Board may meet for the transaction of business, adjourn and otherwise regulate its meetings as it sees fit. Subject to these Bye-laws, a resolution put to the vote at a meeting of the Board shall be carried by the affirmative votes of a majority of the votes cast and in the case of an equality of votes the resolution shall fail.

57. Notice of Board Meetings

A Director may, and the Secretary on the requisition of a Director shall, at any time summon a meeting of the Board. Notice of a meeting of the Board shall be deemed to be duly given to a Director if it is given to such Director verbally (including in person or by telephone) or otherwise communicated or sent to such Director by post, electronic means or other mode of representing words in a visible

form at such Director's last known address or in accordance with any other instructions given by such Director to the Bank for this purpose.

58. **Electronic Participation in Meetings**

Directors may participate in any meeting by such telephonic, electronic or other communication facilities or means as permit all persons participating in the meeting to communicate with each other simultaneously and instantaneously, and participation in such a meeting shall constitute presence in person at such meeting.

59. **Quorum at Board Meetings**

The quorum necessary for the transaction of the business of the Board shall be five (5) Directors, a majority of whom shall be independent non-executive Directors.

60. **Board to Continue in the Event of Vacancy**

The Board may act notwithstanding any vacancy in its number but, if and so long as its number is reduced below the number fixed by these Bye-laws as the quorum necessary for the transaction of business at meetings of the Board, the continuing Directors or Director may act for the purpose of (a) summoning a general meeting or (b) preserving the assets of the Bank.

61. **Chairman to Preside**

Unless otherwise agreed by a majority of the Directors attending, the Chairman, if there be one, and if not, the Vice-Chairman, if there be one, shall act as chairman at all meetings of the Board at which such person is present. In their absence a chairman of the meeting shall be appointed or elected by the Directors present at the meeting.

62. **Written Resolutions**

A resolution signed by all the Directors, which may be in counterparts, shall be as valid as if it had been passed at a meeting of the Board duly called and constituted, such resolution to be effective on the date on which the last Director signs the resolution.

63. **Validity of Prior Acts of the Board**

No regulation or alteration to these Bye-laws made by the Bank in general meeting shall invalidate any prior act of the Board which would have been valid if that regulation or alteration had not been made.

CORPORATE RECORDS

64. **Minutes**

The Board shall cause minutes to be duly entered in books provided for the purpose:

- (a) of all elections and appointments of Officers;
- (b) of the names of the Directors present at each meeting of the Board and of any committee appointed by the Board; and
- (c) of all resolutions and proceedings of general meetings of the Members, meetings of the Board, and meetings of committees appointed by the Board.

65. **Place Where Corporate Records Kept**

Minutes prepared in accordance with the Companies Act and these Bye-laws shall be kept by the Secretary at the registered office of the Bank.

66. **Form and Use of Seal**

- .1 The Bank may adopt a seal in such form as the Board may determine. The Board may adopt one or more duplicate seals for use in or outside Bermuda.
- .2 A seal may, but need not, be affixed to any deed, instrument or document, and if the seal is to be affixed thereto, it shall be attested by the signature of (a) any Director; (b) any Officer; (c) the Secretary; or (d) any person authorised by the Board for that purpose.
- .3 Any officer may, but need not, affix the seal of the Bank to certify the authenticity of any copies of documents.

ACCOUNTS

67. **Books of Account**

- .1 The Board shall cause to be kept proper records of account with respect to all transactions of the Bank and in particular with respect to:
 - (a) all sums of money received and expended by the Bank and the matters in respect of which the receipt and expenditure relate;
 - (b) all sales and purchases of goods by the Bank; and
 - (c) all assets and liabilities of the Bank.
- .2 Such records of account shall be kept at the registered office of the Bank, or subject to the Companies Act, at such other place as the Board thinks fit and shall be available for inspection by the Directors during normal business hours.

68. **Financial Year End**

The financial year end of the Bank may be determined by resolution of the Board and failing such resolution shall be the 31st of December in each year.

AUDITS

69. **Annual Audit**

Subject to any rights to waive laying of accounts or appointment of an Auditor pursuant to the Companies Act, the accounts of the Bank shall be audited on an annual basis.

70. **Appointment of Auditor**

- .1 Subject to the Companies Act, at the annual general meeting or at a subsequent special general meeting in each year, the Members shall appoint an Auditor to the Bank.
- .2 The Auditor must satisfy any applicable requirements of (a) any Exchange and (b) the Banks Act. No Director, Officer or employee of the Bank shall, during his continuance in office, be eligible to act as an Auditor of the Bank.

71. **Remuneration of Auditor**

The remuneration of the Auditor shall be fixed by the Bank in general meeting or in such manner as the Members may determine. In the case of an Auditor appointed pursuant to Bye-law 76, the remuneration of the Auditor shall be fixed by the Board.

72. **Duties of Auditor**

- .1 The financial statements provided for by these Bye-laws shall be audited by the Auditor in accordance with generally accepted auditing standards. The Auditor shall make a written report thereon in accordance with generally accepted auditing standards.
- .2 The generally accepted auditing standards referred to in this Bye-law may be those of a country or jurisdiction other than Bermuda or such other generally accepted auditing standards as may be provided for in the Companies Act. If so, the financial statements and the report of the Auditor shall identify the generally accepted auditing standards used.

73. **Access to Records**

The Auditor shall at all reasonable times have access to all books kept by the Bank and to all accounts and vouchers relating thereto, and the Auditor may call on the Directors or Officers of the Bank for any information in their possession relating to the books or affairs of the Bank.

74. **Financial Statements**

Subject to any rights to waive laying of accounts pursuant to the Companies Act, financial statements as required by the Companies Act shall be provided to the Members on an annual basis.

75. **Distribution of Auditor's Report**

The report of the Auditor shall be laid before the Members at the annual general meeting.

76. **Replacement of Auditor**

If the Auditor resigns or becomes incapable of acting by reason of illness or other disability at a time when the Auditor's services are required, the vacancy thereby created shall be filled in accordance with the Companies Act.

VOLUNTARY WINDING-UP AND DISSOLUTION

77. **Winding-Up**

If the Bank shall be wound up the liquidator may, with the sanction of a resolution of the Members, divide amongst the Members in specie or in kind the whole or any part of the assets of the Bank (whether they shall consist of property of the same kind or not) and may, for such purpose, set such value as he deems fair upon any property to be divided as aforesaid and may determine how such division shall be carried out as between the Members or different classes of Members. The liquidator may, with the like sanction, vest the whole or any part of such assets in the trustees upon such trusts for the benefit of the Members as the liquidator shall think fit, but so that no Member shall be compelled to accept any shares or other securities or assets whereon there is any liability.

CHANGES TO CONSTITUTION

78. **Changes to Bye-laws**

- .1 Subject to Bye-law 78.2, no Bye-law may be rescinded, altered or amended and no new Bye-law may be made until the same has been approved by a resolution of the Board and by a resolution of the Members.
- .2 Bye-laws 30.2, 31, 39, 40, 41, 43, and 78 may not be rescinded, altered or amended and no new Bye-law may be made which would have the effect of rescinding, altering or amending the provisions of such Bye-laws, until the same has been approved by a resolution of the Board including the affirmative vote of not less than 66% of the Directors then in office and by a resolution of the Members including the affirmative vote of not less than 66% of the votes attaching to all Shares in issue.

Exhibit 8

Subsidiaries as of December 31, 2018

Subsidiary	Jurisdiction
Bermuda Trust Company Limited	Bermuda
BerNom Nominees Limited	Bermuda
Butterfield Asset Management Limited	Bermuda
Butterfield Securities (Bermuda) Limited	Bermuda
Butterfield Trust (Bermuda) Limited	Bermuda
Butterfield Vencap Limited	Bermuda
Compass Services Limited	Bermuda
Day Limited	Bermuda
Field Investments Limited	Bermuda
Field Nominees Limited	Bermuda
Field Real Estate Holdings Limited	Bermuda
Grosvenor Trust Company Limited	Bermuda
Harcourt & Co. Ltd.	Bermuda
Palmar Limited	Bermuda
Reefs Club Ltd.	Bermuda
Rosebank Nominees Ltd.	Bermuda
Skye Nominees Limited	Bermuda
Butterfield Trust (Bahamas) Limited	Bahamas
East Bay Protector Services Inc.	Bahamas
Gresham Nominees Limited	Bahamas
Montague East Ltd.	Bahamas
Sterling East Ltd.	Bahamas
Harbour View Management (BVI) Ltd.	BVI
Miners Management (BVI) Ltd.	BVI
Regula Ltd.	BVI
Butterfield Asset Management General Partner (Cayman) II Ltd.	Cayman
Butterfield Asset Management General Partner (Cayman) III, Ltd.	Cayman
Butterfield Bank (Cayman) Limited	Cayman
Butterfield Fiduciary Services (Cayman) Limited	Cayman
Butterfield Trust (Cayman) Limited	Cayman
Field Directors (Cayman) Limited	Cayman
Field Nominees (Cayman) Limited	Cayman
Field Secretaries (Cayman) Limited	Cayman
BNTB Nominees (Guernsey) Ltd.	Guernsey
Butterfield Bank (Guernsey) Ltd.	Guernsey
Butterfield Corporate Services (Guernsey) Limited	Guernsey
Butterfield Fiduciary Services (Guernsey) Limited	Guernsey
Butterfield Trust (Guernsey) Ltd.	Guernsey
Butterfield Management Services (Guernsey) Ltd.	Guernsey
Havre Corporate Services Ltd.	Guernsey
Havre Management Services Limited	Guernsey
Havre (MRL) Limited	Guernsey
Moulinet Trustees Limited	Guernsey
Rose Nominees Ltd.	Guernsey
Butterfield Support Services (Halifax) Limited	Canada

Deutsche Transnational Trustee Corporate Inc.	Canada
Butterfield Bank (Jersey) Limited	Jersey
Butterfield (Jersey) Nominees Limited	Jersey
Butterfield (Mauritius) Limited	Mauritius
Butterfield Trust (New Zealand) Limited	New Zealand
Butterfield Holdings (UK) Limited	United Kingdom
Butterfield Group Services Limited	United Kingdom
Butterfield Mortgages Limited	United Kingdom
Leopold Joseph Holdings Limited	United Kingdom
Butterfield (Singapore) Pte. Ltd.	Singapore
Avalon Corporate Management Limited	Switzerland
Bastion Resources Limited	Switzerland
Butterfield Holdings (Switzerland) Limited	Switzerland
Butterfield (Switzerland) Limited	Switzerland
Butterfield Trust (Switzerland) Limited	Switzerland
Pendragon Management Limited	Switzerland

CERTIFICATIONS

I, Michael Collins, certify that:

1. I have reviewed this annual report on Form 20-F of The Bank of N.T. Butterfield & Son Limited for the year-ended December 31, 2018;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in the Exchange Act Rules 13a-15(f) and 15d to 15(f)) for the company and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting.

5. The company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
- a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: February 26, 2019

/s/ Michael Collins

Name: Michael Collins

Title: Chairman and Chief Executive Officer

CERTIFICATIONS

I, Michael Schrum, certify that:

1. I have reviewed this annual report on Form 20-F of The Bank of N.T. Butterfield & Son Limited for the year-ended December 31, 2018;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in the Exchange Act Rules 13a-15(f) and 15d to 15(f)) for the company and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting.

5. The company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
- a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: February 26, 2019

/s/ Michael Schrum

Name: Michael Schrum

Title: Chief Financial Officer

18 U.S.C. SECTION 1350 CERTIFICATION

I, Michael Collins, Chairman and Chief Executive Officer of The Bank of N.T. Butterfield & Son Limited (the “Company”), and I, Michael Schrum, Chief Financial Officer of the Company, hereby certify that, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350, to my knowledge:

1. The Company’s Annual Report on Form 20-F for the period ended December 31, 2018 (the “Form 20-F”) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Form 20-F fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 26, 2019

By: /s/ Michael Collins
Name: Michael Collins
Title: Chairman and Chief Executive Officer

Date: February 26, 2019

By: /s/ Michael Schrum
Name: Michael Schrum
Title: Chief Financial Officer

The foregoing certification is being furnished solely pursuant to 18 U.S.C. Section 1350 and is not being filed as part of the Form 20-F or as a separate disclosure document.

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to The Bank of N.T. Butterfield & Son Limited and will be retained by The Bank of N.T. Butterfield & Son Limited and furnished to the Securities and Exchange Commission or its staff upon request.

SHAREHOLDER INFORMATION & DIRECTORY

SHAREHOLDER INFORMATION

DIRECTORS' AND EXECUTIVE OFFICERS' SHARE INTERESTS AND DIRECTORS' SERVICE CONTRACTS

In accordance with Regulation 6.8(3) of Section IIA of the Bermuda Stock Exchange Listing Regulations, the total interests in common shares of the Bank held by all Directors and Executive Officers* are noted on page 112 of the Annual Report on Form 20-F within this publication. For information on equity compensation for Directors and Executive Officers, please see page 110 of the Annual Report on Form 20-F within this publication.

Save for those arrangements described in Note 27 to the Bank's December 31, 2018 consolidated financial statements, there are no contracts of significance subsisting during or at the end of the financial year ended December 31, 2018 in which a Director of the Bank is or was materially interested, either directly or indirectly.

**As listed on pages 105 and 106 of the Annual Report on Form 20-F within this publication.*

WRITTEN NOTICE OF SHARE REPURCHASE PROGRAM — BSX REGULATION 6.38

On December 6, 2018, following the completion of the initial 2018 share buy-back program, the Board approved the 2019 share buy-back program, authorizing for purchase for treasury up to 2.5 million common shares through February 29, 2020.

The repurchase of shares pursuant to the buy-back program is subject to the approval of the Bermuda Monetary Authority. The timing and amount of repurchase transactions will be based on market conditions, share price, legal requirements and other factors. No assurances can be given as to the amount of common shares that may actually be repurchased.

Under the Bank's share buy-back programs, the total shares acquired or purchased for cancellation during the year ended December 31, 2018 amounted to 1,254,212 common shares to be held as treasury shares.

From time to time, the Bank's associates, insiders and insiders' associates as defined by the BSX regulations may sell shares, which may result in such shares being repurchased pursuant to the program, but under BSX regulations, such trades must not be pre-arranged and all repurchases must be made in the open market. Prices paid by the Bank must not, according to BSX regulations, be higher than the last independent trade for a "round lot" defined as 100 shares or more.

The Bank will advise the BSX monthly of the number of shares repurchased by the Bank.

LARGE SHAREHOLDERS

See page 112 of the Annual Report on Form 20-F within this publication for a listing of registered holders of 5% or more of the issued share capital as at February 15, 2019.

EXCHANGE LISTING

The Bank's shares are listed on the following stock exchanges:

BERMUDA STOCK EXCHANGE

30 Victoria Street
3rd Floor
Hamilton, HM 12
P.O. Box HM 1369
Hamilton HM FX
Bermuda
Tel: (441) 292 7212
Fax: (441) 292 7619
www.bsx.com

NEW YORK STOCK EXCHANGE

11 Wall Street
New York, NY 10005
United States of America
Tel: (212) 656 3000
www.nyse.com

SHARE DEALING SERVICE

Butterfield Securities (Bermuda) Limited
65 Front Street
Hamilton, HM 12
Bermuda
Tel: (441) 299 3972
Fax: (441) 292 9947
E-mail: info@butterfieldgroup.com

REGISTRAR AND TRANSFER AGENT

For Bermuda-registered securities:

MUFG Fund Services (Bermuda) Limited
The Belvedere Building
69 Pitts Bay Road
Pembroke, HM 08
Bermuda
Tel: (441) 295 1355
Fax: (441) 295 6759
E-mail: bntbshareholders2@mfsadmin.com

For US-registered securities:

Computershare
Attn: Global Transaction Team
250 Royall Street
Canton, MA 02021
United States of America
Fax: (617) 360 6841
E-mail:
USALLGlobalTransactionTeam@computershare.com

MEDIA RELATIONS / PUBLICATION REQUESTS

Mark Johnson
Vice President, Group Head of Communications
Tel: (441) 299 1624
E-mail: mark.johnson@butterfieldgroup.com

INVESTOR RELATIONS

Noah Fields
Vice President, Investor Relations
Tel: (441) 299 3816
E-mail: noah.fields@butterfieldgroup.com

FOR ADDITIONAL SHAREHOLDER INFORMATION

Please visit www.butterfieldgroup.com

DIRECTORY

PRINCIPAL OFFICES & SUBSIDIARIES

This list does not include all companies in the Group.

The Bank of N.T. Butterfield & Son Limited

Group Parent Company, Community Banking, Corporate Banking, Private Banking, Credit and Treasury Services, Custody

Head Office

65 Front Street
Hamilton, HM 12
Bermuda
Tel: (441) 295 1111
Fax: (441) 292 4365
SWIFT: BNTB BM HM
E-mail: info@butterfieldgroup.com

Mailing Address:

P.O. Box HM 195
Hamilton, HM AX
Bermuda

BERMUDA

Butterfield Asset Management Limited

Asset Management
Head of Global Asset Management:
Dwayne Outerbridge
65 Front Street
Hamilton, HM 12
Bermuda
Tel: (441) 299 3817
Fax: (441) 292 9947
E-mail: info@butterfieldgroup.com

Butterfield Securities (Bermuda) Limited

Brokerage Services
65 Front Street
Hamilton, HM 12
Bermuda
Tel: (441) 299 3972
Fax: (441) 292 9947
E-mail: info@butterfieldgroup.com

Bermuda Trust Company Limited Butterfield Trust (Bermuda) Limited Grosvenor Trust Company Limited

Trust and Fiduciary Services
Managing Director: John Richmond
Rosebank Centre
11 Bermudiana Road
Hamilton, HM 08
Bermuda
Tel: (441) 299 3980
Fax: (441) 292 1258
E-mail: info@butterfieldgroup.com

THE BAHAMAS

Butterfield Trust (Bahamas) Limited

Trust and Fiduciary Services
Managing Director: Craig Barley
3rd Floor, Montague Sterling Centre
East Bay Street
P.O. Box N-3242
Nassau, N.P.
The Bahamas
Tel: (242) 393 8622
Fax: (242) 393 3772
E-mail: bahamas@butterfieldgroup.com

CAYMAN ISLANDS

Butterfield Bank (Cayman) Limited

Community Banking, Corporate Banking, Private Banking, Asset Management, Credit and Treasury Services, Custody
Managing Director: Michael McWatt
Butterfield Place
12 Albert Panton Street
P.O. Box 705
Grand Cayman KY1-1107
Cayman Islands
Tel: (345) 949 7055
Fax: (345) 949 7004
E-mail: info.cayman@butterfieldgroup.com

Butterfield Trust (Cayman) Limited

Trust and Fiduciary Services
Managing Director: Andrew Leggatt
68 Fort Street
P.O. Box 705
Grand Cayman KY1-1107
Cayman Islands
Tel: (345) 949 7055
Fax: (345) 949 7004
E-mail: trust.cayman@butterfieldgroup.com

GUERNSEY

Butterfield Bank (Guernsey) Limited

Private Client, Intermediary and Institutional Banking, Credit and Treasury Services, Asset Management, Custody
Managing Director: Richard Saunders
P.O. Box 25
Regency Court
Glategny Esplanade
St. Peter Port
Guernsey GY1 3AP
Channel Islands
Tel: (44) 1481 711 521
Fax: (44) 1481 714 533
E-mail: guernsey@butterfieldgroup.com

Butterfield Trust (Guernsey) Limited

Trust and Fiduciary Services
Managing Director: Paul Hodgson
P.O. Box 25
Regency Court
Glategny Esplanade
St Peter Port
Guernsey GY1 3AP
Channel Islands
Tel: (44) 1481 711 521
Fax: (44) 1481 728 665
E-mail: guernsey@butterfieldgroup.com

JERSEY

Butterfield Bank (Jersey) Limited

Corporate and Intermediary Banking, Custody
Managing Director: Noel McLaughlin
P.O. Box 250
St. Paul's Gate
New Street
St. Helier
Jersey JE4 5PU
Channel Islands
Tel: (44) 1534 843 333
Fax: (44) 1534 843 334
E-mail: jersey@butterfieldgroup.com

SINGAPORE

Butterfield (Singapore) Pte. Ltd

Trust and Fiduciary Services
Regional Head, Asia: Brian Balleine
#14 02-04
6 Battery Road
Singapore 049909
Tel: 65 6916 3636
E-mail: singapore@butterfieldgroup.com

SWITZERLAND

Butterfield Trust (Switzerland) Limited

Trust and Fiduciary Services
Managing Director: Jim Parker
Boulevard des Tranchées 16
1206 Geneva
Switzerland
Tel: (41) 22 839 0000
Fax: (41) 22 839 0099
E-mail: switzerland@butterfieldgroup.com

UNITED KINGDOM

Butterfield Mortgages Limited

UK Residential Property Lending
Chief Executive Officer: Alpa Bhakta
Sun Court
66-67 Cornhill
London EC3V 3NB
United Kingdom
Tel: (44) 020 3871 6900
Fax: (44) 020 3871 6901
E-mail: ukmortgages@butterfieldgroup.com



Butterfield

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