

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549  
**FORM 10-K**

(Mark One)

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

For the fiscal year ended **December 31, 2016**

OR

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

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number **001-07436**

**HSBC USA Inc.**

(Exact name of registrant as specified in its charter)

Maryland

(State of incorporation)

452 Fifth Avenue, New York, New York

(Address of principal executive offices)

13-2764867

(I.R.S. Employer Identification No.)

10018

(Zip Code)

(212) 525-5000

Registrant's telephone number, including area code

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
\$100,000,000 Zero Coupon Callable Accreting Notes due January 15, 2043	New York Stock Exchange
\$50,000,000 Zero Coupon Callable Accreting Notes due January 29, 2043	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act:

None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes  No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes  No

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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T 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 if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

(Do not check if a smaller  
reporting company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes  No

As of February 17, 2017, there were 714 shares of the registrant's common stock outstanding, all of which are owned by HSBC North America Holdings Inc.

The registrant meets the conditions set forth in General Instruction I(1)(a) and (b) of Form 10-K and has therefore omitted certain items from this report in accordance with the reduced disclosure format under General Instruction I.

**DOCUMENTS INCORPORATED BY REFERENCE**

None.

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**TABLE OF CONTENTS**

<b>Part/Item No.</b>		<b>Page</b>
<b>Part I</b>		
Item 1.	Business:	
	Organization History and Acquisition by HSBC.....	4
	HSBC North America Operations .....	4
	HSBC USA Inc. Operations .....	4
	Funding.....	6
	Employees and Customers .....	7
	Regulation and Competition.....	7
	Corporate Governance and Controls .....	18
Item 1A.	Risk Factors .....	19
Item 1B.	Unresolved Staff Comments .....	36
Item 2.	Properties .....	36
Item 3.	Legal Proceedings.....	36
Item 4.	Mine Safety Disclosures .....	36
<b>Part II</b>		
Item 5.	Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.....	38
Item 6.	Selected Financial Data.....	39
Item 7.	Management's Discussion and Analysis of Financial Condition and Results of Operations:	
	Forward-Looking Statements .....	41
	Executive Overview .....	43
	Basis of Reporting .....	45
	Critical Accounting Policies and Estimates.....	48
	Balance Sheet Review .....	54
	Results of Operations .....	59
	Segment Results - Group Reporting Basis .....	68
	Credit Quality .....	76
	Liquidity and Capital Resources .....	91
	Off-Balance Sheet Arrangements, Credit Derivatives and Other Contractual Obligations .....	96
	Fair Value.....	98
	Risk Management.....	100
	Glossary of Terms.....	120
	Consolidated Average Balances and Interest Rates.....	123
Item 7A.	Quantitative and Qualitative Disclosures about Market Risk.....	125
Item 8.	Financial Statements and Supplementary Data.....	125
	Selected Quarterly Financial Data (Unaudited).....	236
Item 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure .....	237
Item 9A.	Controls and Procedures .....	237
Item 9B.	Other Information .....	238

**Part/Item No.**

**Part III**

**Page**

Item 10.	Directors, Executive Officers and Corporate Governance.....	240
Item 11.	Executive Compensation .....	240
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters .	240
Item 13.	Certain Relationships and Related Transactions, and Director Independence .....	240
Item 14.	Principal Accounting Fees and Services .....	240

**Part VI**

Item 15.	Exhibits and Financial Statement Schedules .....	241
Item 16.	Form 10-K Summary .....	242
Index.....		243
Signatures.....		246

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**PART I**
**Item 1. Business**


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**Organization History and Acquisition by HSBC**


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HSBC USA Inc. ("HSBC USA"), incorporated under the laws of the State of Maryland in 1973 as Republic New York Corporation, was acquired through a series of transactions by HSBC Holdings plc ("HSBC" and, together with its subsidiaries, "HSBC Group") and changed its name to "HSBC USA Inc." in January 2000. HSBC USA is a wholly-owned subsidiary of HSBC North America Holdings Inc. ("HSBC North America"), which is an indirect wholly-owned subsidiary of HSBC. Prior to November 15, 2016, HSBC USA was owned by HSBC North America Inc., an indirect wholly owned subsidiary of HSBC North America which was dissolved. HSBC USA's principal business is to act as a holding company for its subsidiaries. In this Form 10-K, HSBC USA and its subsidiaries are referred to as "HUSI," "we," "us" and "our."

**HSBC North America Operations**


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HSBC North America is the holding company for HSBC Group's operations in the United States. The principal subsidiaries of HSBC North America at December 31, 2016 were HSBC USA, HSBC Markets (USA) Inc. ("HMUS"), a holding company for certain subsidiaries primarily associated with global banking and markets businesses, HSBC Finance Corporation ("HSBC Finance"), a holding company for the run-off consumer finance operations, and HSBC Technology & Services (USA) Inc. ("HTSU"), a provider of information technology and centralized operational and support services including human resources, tax, finance, compliance, legal, corporate affairs and other services shared among the subsidiaries of HSBC North America and the HSBC Group. HSBC USA's principal U.S. banking subsidiary is HSBC Bank USA, National Association (together with its subsidiaries, "HSBC Bank USA"). Under the oversight of HSBC North America, HUSI works with its affiliates to maximize opportunities and efficiencies in HSBC Group's operations in the United States. These affiliates do so by providing each other with, among other things, alternative sources of liquidity to fund operations and expertise in specialized corporate functions and services through the pooling of resources within HTSU to provide shared, allocated support functions to all of HSBC North America's subsidiaries. In addition, clients of HSBC Bank USA and other affiliates are investors in debt issued by HSBC USA and/or HSBC Bank USA, providing significant sources of liquidity and capital to both entities. HSBC Securities (USA) Inc. ("HSI"), a registered broker dealer and a subsidiary of HMUS, generally leads or participates as underwriter of all HUSI domestic issuances of term debt. While neither HSBC USA nor HSBC Bank USA has received advantaged pricing, the underwriting fees and commissions paid to HSI historically have benefited the HSBC Group.

**HSBC USA Inc. Operations**


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HSBC's strategy is to be the world's leading international bank, maintaining an international network to connect faster-growing and developed markets. HSBC is a leading provider of transactional banking products which support global economic flows and its network covers more than 90 percent of global trade and capital flows, providing clients and investors access to what we believe are the most attractive global growth opportunities. In support of HSBC's strategy, our operations are focused on the core activities of our four global businesses and the positioning of our activities towards international connectivity strategies, including what we believe are our unique capabilities to serve clients in the North American Free Trade Agreement trade corridor.

- Our Retail Banking and Wealth Management ("RBWM") business focuses on internationally minded clients and certain small businesses in large metropolitan centers on the West and East coasts.
- Our Commercial Banking ("CMB") business serves corporate and business banking clients, focused on selected large cities, primarily along the West and East Coasts, with strong international trade ties.
- Our Global Banking and Markets ("GB&M") businesses serve top-tier multinational clients across the Americas and globally. Global Banking's sector-focused advisory and relationship management teams, as well as product-focused teams, collectively provide U.S. dollar funding along with other investment banking products and services, and Global Markets offers a wide range of products across fixed income, foreign exchange and equities.
- Our Private Bank ("PB") business serves high net worth and ultra-high net worth individuals and their families with a focus on multi-generational families, business owners and entrepreneurs who require sophisticated solutions to help meet their most complex needs domestically and abroad.

HSBC Bank USA, HSBC USA's principal U.S. banking subsidiary, is a national banking association with its main office in McLean, Virginia, and its principal executive offices at 452 Fifth Avenue, New York, New York. Through HSBC Bank USA, we offer our

customers a full range of commercial and consumer banking products and related financial services. Our customers include individuals, including high net worth and ultra-high net worth individuals, small businesses, corporations, institutions and governments. HSBC Bank USA is also an international dealer in derivative instruments denominated in U.S. dollars and other currencies, focusing on structuring transactions to meet clients' needs.

In 2005, HSBC USA incorporated a nationally chartered limited purpose bank subsidiary, HSBC Trust Company (Delaware), National Association ("HTCD"), the primary activities of which are serving as custodian of investment securities for other HSBC affiliates and providing personal trust services. The impact of HTCD's operations on HSBC USA's consolidated balance sheets and results of operations for the years ended December 31, 2016, 2015 and 2014 was not material.

We report financial information to our ultimate parent, HSBC, in accordance with HSBC Group accounting and reporting policies, which apply International Financial Reporting Standards ("IFRSs") as issued by the International Accounting Standards Board ("IASB") and as endorsed by the European Union ("EU"). As a result, our segment results are prepared and presented using financial information prepared on the basis of HSBC Group's accounting and reporting policies ("Group Reporting Basis") as operating results are monitored and reviewed, trends are evaluated and decisions about allocating resources such as employees, are primarily made on this basis. However, we continue to monitor capital adequacy, establish dividend policy and report to regulatory agencies on a U.S. GAAP basis. During the fourth quarter of 2016, HSBC Group made changes to its internal management reporting and, as a result, its segment reporting which we plan to implement during the first quarter of 2017, as further discussed below. For additional financial information relating to our business and operating segments as well as a summary of the significant differences between U.S. GAAP and Group Reporting Basis as they impact our results, see Note 22, "Business Segments," in the accompanying consolidated financial statements.

**Retail Banking and Wealth Management Segment** Our RBWM segment provides a full range of banking and wealth products and services through our branches and on-line channels to individuals and certain small businesses. These services include asset-driven services such as credit and lending, liability-driven services such as deposit taking and account services and fee or commission driven services such as advisory and wealth management. RBWM is focused on growing its wealth and banking business in key urban centers with strong international connectivity across the U.S. including New York City, Los Angeles, San Francisco, Miami and Washington DC. RBWM focuses on two customer propositions: HSBC Premier and HSBC Advance. HSBC Premier, is a comprehensive banking and wealth management proposition for the internationally minded mass affluent client. HSBC Premier clients have access to a full suite of banking and wealth management solutions and also have access to priority services such as 24-hour telephone service and more favorable pricing based on the banking relationship. HSBC Premier clients also receive personalized support through dedicated relationship managers and are serviced through other alternative channels such as on-line banking and a dedicated contact center. HSBC Advance, RBWM's other main customer proposition, is a banking relationship designed to offer holistic financial services and banking products for emerging affluent clients in the initial stage of wealth accumulation or clients who look for more convenience and self-control with respect to their personal finances. In addition to everyday banking solutions, HSBC Advance customers have access to a range of lending and wealth products through HSBC's multi-channel platform, yet primarily through direct channels, including the contact center, secure internet banking and mobile.

With our affiliates, HSI and HSBC Insurance Agency (USA) Inc., HSBC Premier and HSBC Advance provides access to a range of wealth management solutions. RBWM also offers a broad range of financial products and services to all of its retail banking customers, including residential mortgages, home equity lines of credit, credit cards, deposits and branch services.

**Commercial Banking Segment** CMB's goal is to be the banking partner of choice for international businesses building on our rich heritage, international capabilities and customer relationships to enable global connectivity. CMB strives to execute this vision and strategy by focusing on key markets with high concentrations of international connectivity. Our CMB segment serves the markets through three client groups, notably Large Corporate, Middle Market and Business Banking. We also have a specialized Commercial Real Estate group which focuses on selective business opportunities in markets where we have strong portfolio expertise. This structure allows us to align our resources in order to efficiently deliver suitable products and services based on our clients' needs and abilities. Global Liquidity and Cash Management, Global Trade and Receivables Finance, Lending and Transaction Management, Investment Banking and Global Markets are key product groups that CMB partners with to deliver the global connections and related products and services required by customers. Whether it is through commercial centers, the retail branch network, or via *HSBCnet*, our online banking channel, CMB provides customers with the products and services needed to grow their businesses internationally and delivers those products and services through its relationship managers who operate within a robust, customer focused compliance and risk culture, and collaborate across HSBC to capture a larger percentage of a relationship.

**Global Banking and Markets Segment** Our GB&M business segment supports HSBC's global strategy by leveraging the HSBC Group's advantages and scale, strength in developed and emerging markets and product expertise in order to focus on delivering international products to U.S. clients and local products to international clients, with New York as the hub for the Americas business, including Canada and Latin America. GB&M provides tailored financial solutions to major government, corporate and institutional clients as well as private investors worldwide. GB&M clients are served by sector-focused teams that bring together relationship managers and product specialists to develop financial solutions that meet individual client needs. With a focus on providing client connectivity between the emerging markets and developed markets, GB&M aims to develop a comprehensive understanding of

each client's financial requirements with a long-term relationship management approach. In addition to GB&M clients, GB&M also provides financial solutions to RBWM, CMB and PB clients where those clients have needs that require the product set that GB&M has available.

Within client-focused business lines, GB&M offers a full range of capabilities, including:

- Banking and financing advice and solutions for sovereign, corporate and institutional clients, including loans, working capital, trade services, liquidity and cash management, leveraged and acquisition finance, project and infrastructure finance, asset finance, mergers and acquisitions advisory, as well as capital raising in the debt and equity capital markets; and
- A markets business with 24-hour coverage and knowledge of world-wide local markets which provides services in credit and rates, foreign exchange, precious metals trading, equities and securities services.

Also included in our GB&M segment is Balance Sheet Management ("BSM"), which is responsible for managing liquidity and funding under the supervision of our Asset and Liability Management Committee. BSM also manages our structural interest rate position within a limit structure. BSM reinvests excess liquidity into highly rated liquid assets. The majority of the liquidity is invested in interest bearing deposits with Federal Reserve banks and U.S. government and other high quality securities. BSM is permitted to use derivatives as part of its mandate to manage interest rate risk. Derivative activity is predominantly comprised of the use of traditional interest rate swaps which are part of cash flow hedging relationships. Credit risk in BSM is predominantly limited to short-term exposure created by exposure to banks as well as high quality sovereigns or agencies which constitute the majority of BSM's liquidity portfolio. BSM does not and is not mandated to manage the structural credit risk of our balance sheet. BSM only manages interest rate risk.

**Private Banking Segment** PB provides a broad range of banking and investment products and services to high net worth and ultra-high net worth individuals and families with a focus on multi-generational families, business owners and entrepreneurs who require sophisticated solutions to help meet their most complex needs domestically and abroad, with many clients sourced in collaboration with our other business lines. Accessing the most suitable products from the marketplace, PB works with its clients to offer tailored, coordinated and innovative ways to manage and preserve wealth while optimizing returns. PB offers a wide range of products and services, including banking, liquidity management, investment services, custody, tailored lending, trust and fiduciary services, insurance, family wealth and philanthropy advisory services. PB also works to ensure that its clients have access to other products and services available throughout the HSBC Group, such as credit cards and investment banking, to deliver total solutions for their financial and wealth needs. PB's strategy is concentrated on three main areas: growth, streamlining and the implementation of the highest and most effective global standards in combating financial crime ("Global Standards").

**Corporate Center** In January 2017, we made the decision to implement changes to our internal management reporting for certain activities and functions and report them within a new Corporate Center segment. These activities and functions include BSM and our legacy structured credit products which historically have both been reported in GB&M, as well as a portfolio of residential mortgage loans previously purchased from HSBC Finance, including certain loan servicing activities performed on behalf of HSBC Finance, which historically have been reported in RBWM. In addition, we have reviewed central costs which historically have been reported in the Other segment and reallocated these costs to the global businesses where appropriate. Remaining residual costs will be reported in the Corporate Center along with all other remaining items historically reported in the Other segment. As a result, beginning in the first quarter of 2017, we will align our segment reporting with the changes made to our internal management reporting and begin to report those changes as part of the newly created Corporate Center for all periods presented.

## Funding

We fund our operations using a diversified deposit base, supplemented by issuing short-term and long-term debt, borrowing under unsecured and secured financing facilities, issuing preferred equity, selling liquid assets and, as necessary, receiving capital contributions from our parent, HSBC North America. Emphasis is placed on maintaining stable deposit balances. Numerous factors, both internal and external, may impact our access to, and the costs associated with, both retail and wholesale sources of funding. These factors may include our debt ratings, overall economic conditions, overall capital markets volatility, the counterparty credit limits of investors to the HSBC Group, the effectiveness of our compliance remediation efforts and our management of the credit risks inherent in our business and customer base.

In 2016, our primary source of funds continued to be deposits, augmented by issuances of commercial paper and term debt. We focus on relationship deposits where clients have purchased multiple products from us, such as HSBC Premier for individuals, as those balances will tend to be significantly more stable than non-relationship deposits. We issued a total of \$8,694 million of long-term debt at various points in 2016, including \$4,000 million of senior debt issued to HSBC North America. We also repaid long-term debt of \$4,869 million in 2016. As previously reported, as a result of the adoption of the final rules by the U.S. banking regulators implementing the Basel III regulatory capital and liquidity reforms from the Basel Committee on Banking Supervision (the "Basel Committee"), together with the impact of similar implementation by United Kingdom ("U.K.") banking regulators,

we continued to review the composition of our capital structure. During the second quarter of 2016, we replaced certain preferred equity instruments that receive less favorable treatment under the rules with new Basel III compliant instruments. A detailed description of our sources and availability of funding are set forth in the "Liquidity and Capital Resources" and "Off-Balance Sheet Arrangements, Credit Derivatives and Other Contractual Obligations" sections of Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A").

We use the cash generated by these funding sources to service our debt obligations, originate new loans, purchase investment securities and pay preferred dividends and, as available and appropriate, common dividends to our parent.

## Employees and Customers

At December 31, 2016, we had approximately 6,114 employees.

At December 31, 2016, we had approximately 1.4 million customers, some of which are customers of more than one of our businesses. Customers residing in the state of New York and California accounted for 32 percent and 32 percent, respectively, of our total outstanding commercial real estate loans and residential mortgage loans.

## Regulation and Competition

**Regulation** We are subject to, among other things, an extensive statutory and regulatory framework applicable to bank holding companies, financial holding companies and banks. U.S. regulation of banks, bank holding companies and financial holding companies is intended primarily for safety and soundness of banks, and the protection of the interests of depositors, the Federal Deposit Insurance Fund and the banking system as a whole rather than the protection of security holders and creditors. Events since early 2008 affecting the financial services industry and, more generally, the financial markets and the economy have led to a significant number of initiatives regarding reform of the financial services industry and the regulation governing the industry.

**Bank Holding Company Supervision** As a bank holding company, we are subject to regulation under the Bank Holding Company Act of 1956, as amended ("BHC Act"), and to inspection, examination and supervision by our primary regulator, the Federal Reserve Board ("FRB"). We are also subject to the disclosure and regulatory requirements of the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended (the "Exchange Act"), as administered by the Securities and Exchange Commission (the "SEC").

HSBC USA and its parent bank holding companies qualified as financial holding companies pursuant to the amendments to the BHC Act effected by the Gramm-Leach-Bliley Act of 1999 ("GLB Act"). Financial holding companies may engage in a broader range of activities than bank holding companies. Under regulations implemented by the FRB, if any financial holding company, or any depository institution controlled by a financial holding company, ceases to meet certain capital or management standards, the FRB may impose corrective capital and/or managerial requirements on the financial holding company and place limitations on its ability to conduct the broader financial activities permissible for financial holding companies. In addition, the FRB may require divestiture of the holding company's depository institutions or its affiliates engaged in broader financial activities in reliance on the GLB Act if the deficiencies persist. The regulations also provide that if any depository institution controlled by a financial holding company fails to maintain a satisfactory rating under the Community Reinvestment Act of 1977, as amended, the FRB must prohibit the financial holding company and its subsidiaries from engaging in any additional activities other than those permissible for bank holding companies that are not financial holding companies. As reflected in the agreement entered into with the Office of the Comptroller of the Currency ("OCC") on December 11, 2012 (the "GLBA Agreement"), the OCC has determined that HSBC Bank USA is not in compliance with the requirements for a national bank and each depository institution affiliate of the national bank to be both well capitalized and well managed in order to own or control a "financial subsidiary." A "financial subsidiary" is a subsidiary of a bank that also may engage in broader activities than subsidiaries of non-qualified banks. As a result, HSBC USA and its parent bank holding companies no longer meet the qualification requirements for financial holding company status, and may not engage in any new types of financial activities without the prior approval of the FRB, and HSBC Bank USA may not directly or indirectly acquire control of, or hold an interest in, any new financial subsidiary, nor commence a new activity in its existing financial subsidiary, unless it receives prior approval from the OCC. If all of our affiliate depository institutions are not in compliance with these requirements within the time periods specified in the GLBA Agreement, as they may be extended, HSBC USA could be required either to divest HSBC Bank USA or to divest or terminate any financial activities conducted in reliance on financial holding company status under the GLB Act. Similar consequences could result for financial subsidiaries of HSBC Bank USA that engage in activities in reliance on expanded powers provided for in the GLB Act. The GLBA Agreement requires HSBC Bank USA to take all steps necessary to correct the circumstances and conditions resulting in HSBC Bank USA's noncompliance with the requirements referred to above. We continue to take steps to satisfy the requirements of the GLBA Agreement.

We are generally prohibited under the BHC Act from acquiring, directly or indirectly, ownership or control of more than five percent of any class of voting shares of, or substantially all the assets of, or exercising control over, any U.S. bank, bank holding company or many other types of depository institutions and/or their holding companies without the prior approval of the FRB and, potentially, other U.S. banking regulatory agencies.

The GLB Act and the regulations issued thereunder contain a number of other provisions that affect our operations and those of our subsidiary banks, including regulations and restrictions on the activities we may conduct and the types of businesses and entities we may acquire. Furthermore, other provisions contain detailed requirements relating to the financial privacy of consumers. In addition, the so-called 'push-out' provisions of the GLB Act removed the blanket exemption from registration for securities and brokerage activities conducted in banks (including HSBC Bank USA) under the Exchange Act. Applicable regulations allow banks to continue to avoid registration as a broker or dealer only if they conduct securities activities that fall within a set of defined exceptions.

*Consumer Regulation* Our consumer lending businesses operate in a highly regulated environment. In addition to the establishment of the Consumer Financial Protection Bureau (the "CFPB") and the other consumer-related provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act" or "Dodd-Frank") described below, these businesses are subject to laws relating to consumer protection including, without limitation, fair lending, fair debt collection practices, mortgage loan origination and servicing obligations, bankruptcy, military service member protections, use of credit reports, privacy matters, and disclosure of credit terms and correction of billing errors. Local, state and national regulatory and enforcement agencies continue efforts to address perceived problems within the mortgage lending and credit card industries through broad or targeted legislative or regulatory initiatives aimed at lenders' operations in consumer lending markets. There continues to be a significant amount of legislative and regulatory activity, nationally, locally and at the state level, designed to limit certain lending practices while mandating certain servicing procedures. Federal bankruptcy and state debtor relief and collection laws, as well as the Servicemembers Civil Relief Act affect the ability of banks, including HSBC Bank USA, to collect outstanding balances.

Due to the turmoil in the mortgage lending markets in prior years, there has also been a significant amount of federal and state legislative and regulatory focus on this industry. Increased regulatory oversight over residential mortgage lenders has occurred, including through state and federal examinations and periodic inquiries from state Attorneys General for information. Several regulators, legislators and other governmental bodies have promoted particular views of appropriate or "model" loan modification programs, suitable loan products and foreclosure and loss mitigation practices. We have a repayment plan and a loan modification program for customers facing financial hardship who express the desire to remain in their homes. We evaluate the results of our customer assistance efforts and we continue to enhance and refine our programs based on performance and industry trends. In certain situations, we offer qualified customers relocation assistance to help avoid foreclosure.

In 2011, HSBC Bank USA entered into a consent cease and desist order with the OCC (the "OCC Servicing Consent Order"), and our affiliate, HSBC Finance, and our then indirect parent, HSBC North America, entered into a similar consent order with the FRB (together with the OCC Servicing Consent Order, the "Servicing Consent Orders") following completion of a broad horizontal review of industry foreclosure practices. The OCC Servicing Consent Order required HSBC Bank USA to take prescribed actions to address the foreclosure practices noted in the joint examination and deficiencies described in the consent order.

The Servicing Consent Orders required an independent review of foreclosures (the "Independent Foreclosure Review" or "IFR") pending or completed between January 2009 and December 2010 to determine if any borrower was financially injured as a result of an error in the foreclosure process. In 2013, HSBC Bank USA entered into an agreement with the OCC, and HSBC Finance and HSBC North America entered into an agreement with the FRB (together the "IFR Settlement Agreements"), to amend the Servicing Consent Orders, pursuant to which the Independent Foreclosure Review ceased and HSBC North America made a cash payment of \$96 million into a fund used to make payments to borrowers that were in active foreclosure during 2009 and 2010 and agreed to provide other assistance (e.g., loan modifications) to help eligible borrowers. As a result, in 2012, we recorded expenses of \$19 million reflecting the portion of HSBC North America's total expense we believe is allocable to us. See Note 27, "Litigation and Regulatory Matters," in the accompanying consolidated financial statements for further discussion.

In June 2015, HSBC Bank USA consented to the OCC's issuance of an amended OCC Servicing Consent Order (the "2015 Amended Consent Order") setting forth the OCC's conclusion that we were not yet in compliance with all requirements of the OCC Servicing Consent Order. The 2015 Amended Consent Order also included business restrictions, which did not materially impact our business operations.

On January 6, 2017, the OCC terminated the OCC Servicing Consent Order, together with the 2013 and 2015 amendments thereto, after determining HSBC Bank USA had satisfied the requirements thereunder. The OCC also assessed a \$32.5 million civil money penalty against HSBC Bank USA finding that HSBC Bank USA failed to correct deficiencies identified under the OCC Servicing Consent Order in a timely fashion. The OCC also found that HSBC Bank USA failed to file payment change notices in compliance with applicable bankruptcy rules on about 1,700 mortgage loan accounts, which resulted in approximately \$3.5 million in remediation to borrowers. An additional charge to income in the amount of \$27.5 million was taken by HSBC Bank USA in the fourth quarter of 2016 related to this matter.

**Supervision of Bank Subsidiaries** Our subsidiary national banks, HSBC Bank USA and HTCD, are subject to regulation and examination primarily by the OCC. These subsidiary banks are subject to additional regulation and supervision by the Federal Deposit Insurance Corporation ("FDIC"), the FRB and the CFPB. HSBC Bank USA and HTCD are subject to banking laws and regulations that place various restrictions and requirements on their activities, investments, operations and administration, including the establishment and maintenance of branch offices, capital and reserve requirements, deposits and borrowings, investment and lending activities, payment of dividends, transactions with affiliates, overall compliance and risk management and numerous other matters.

Federal law imposes limitations on the payment of dividends by national banks. Dividends payable by HSBC Bank USA and HTCD are limited to the lesser of the amounts calculated under a "recent earnings" test and an "undivided profits" test. Under the recent earnings test, a dividend may not be paid if the total of all dividends declared by a bank in any calendar year is in excess of the current year's net income combined with the retained net income of the two preceding years, unless the national bank obtains the approval of the OCC. Under the undivided profits test, a dividend may not be paid in excess of a bank's undivided profits account. HSBC Bank USA is also required to maintain reserves in the form of vault cash and deposits with the Federal Reserve Bank, as well as maintain appropriate amounts of capital against its assets as discussed further in this Annual Report on Form 10-K.

HSBC Bank USA and HTCD are subject to significant restrictions imposed by federal law on extensions of credit to, and certain other "covered transactions" with HSBC USA or other affiliates. Covered transactions include loans and other extensions of credit, investments and asset purchases, derivatives and certain other transactions involving the transfer of value from, or taking the credit risk by, a subsidiary bank to an affiliate or for the benefit of an affiliate. Unless an exemption applies, or a specific waiver is granted by the FRB, covered transactions by a bank with a single affiliate are limited to 10 percent of the bank's capital and surplus, and all covered transactions with affiliates in the aggregate are limited to 20 percent of a bank's capital and surplus. Loans and extensions of credit to affiliates by a bank generally are to be secured in specified amounts with specific types of collateral. A bank's credit exposure to an affiliate as a result of derivative, securities borrowing/lending or repurchase transactions is also subject to these restrictions. A bank's transactions with its non-bank affiliates are also generally required to be on arm's length terms.

The types of activities in which the non-U.S. branches of HSBC Bank USA may engage are subject to various restrictions imposed by the FRB in addition to those generally applicable to HSBC Bank USA under OCC rules. These branches are also subject to the laws and regulatory authorities of the countries in which they operate.

Under longstanding FRB policy, which Dodd-Frank codified as a statutory requirement, HSBC USA is expected to act as a source of strength to its subsidiary banks and, under appropriate circumstances, to commit resources to support each such subsidiary bank in circumstances where it might not do so absent such policy.

**Regulatory Capital and Liquidity Requirements** As a bank holding company, we are subject to regulatory capital requirements and guidelines imposed by the FRB, which are substantially similar to those imposed by the OCC and the FDIC on banks such as HSBC Bank USA and HTCD. A bank or bank holding company's failure to meet minimum capital requirements can result in certain mandatory actions and possibly additional discretionary actions by its regulators. Generally, bank holding company regulatory capital compliance is performed at a consolidated level within the United States at HSBC North America, our parent, and also separately for HSBC Bank USA. However, we do present HSBC USA's capital ratios below in "Liquidity and Capital Resources" in our MD&A, as well as, together with HSBC Bank USA's, in Note 23, "Retained Earnings and Regulatory Capital Requirements," of the accompanying consolidated financial statements. Our ultimate parent, HSBC, is also subject to regulatory capital requirements under U.K. law.

**Basel I.** Prior to 2015, the U.S.'s general risk-based capital guidelines were based on the 1988 Capital Accord ("Basel I") of the Basel Committee. Under such capital guidelines, a bank or a bank holding company's assets and certain specified off-balance sheet commitments and obligations were assigned to various risk categories.

**Basel II.** In 2007, the U.S. federal banking regulators implemented the Basel Committee's so-called Basel II capital reforms ("Basel II"), which included an advanced internal ratings based approach for credit risk and an advanced measurement approach for operational risk (taken together, the "Advanced Approaches"), for banking organizations having \$250 billion or more in total consolidated assets or \$10 billion or more of foreign exposures. As discussed further below, the intermediate holding companies of non-U.S. banks like HSBC may opt out of the Advanced Approach with the prior approval of the FRB.

**Basel III.** In 2010, the Basel Committee issued "A global regulatory framework for more resilient banks and banking systems" ("Basel III"), which presents details of a bank capital and liquidity reform program to address both firm-specific and broader, systemic risks to the banking sector. In 2013, U.S. banking regulators issued a final rule implementing the Basel III capital framework in the United States ("the Basel III final rule") which, for banking organizations such as HSBC North America and HSBC Bank USA, became effective January 1, 2014 with certain provisions being phased in over time through the beginning of 2019. The Basel III final rule established an integrated regulatory capital framework to improve the quality and quantity of regulatory capital and will materially increase our regulatory capital requirements over the next several years. In addition to phasing in a complete replacement to the Basel I general risk-based capital rules, the Basel III final rule builds on the Advanced Approaches

of Basel II, incorporates certain changes to the market risk capital rule, and implements certain other requirements of the Dodd-Frank Act.

The Basel III final rule, among other changes, introduced (i) a new minimum common equity Tier 1 risk-based capital requirement; (ii) a "Standardized Approach" for risk weighted assets, which replaced the Basel I rules as the "general risk-based capital rules" for determining risk weighted assets as of January 1, 2015; (iii) a supplementary leverage ratio ("SLR") for banking organizations that meet the Advanced Approaches thresholds (applicable to banking organizations having \$250 billion or more in total consolidated assets or \$10 billion or more in foreign exposures); and (iv) a capital conservation buffer applicable to all banking organizations and a countercyclical capital buffer requirement applicable to banking organizations that meet the Advanced Approaches thresholds. As a result, as of January 1, 2015, under the Basel III final rule, to be categorized as "well capitalized," a banking institution must have the ratios reflected in the table included in Note 23, "Retained Earnings and Regulatory Capital Requirements," of the accompanying consolidated financial statements and must not be subject to a directive, order or written agreement to meet and maintain specific capital levels. The federal bank regulatory agencies may, however, set higher capital requirements for an individual bank or bank holding company when particular circumstances warrant. The FRB is considering a new measure to replace the capital conservation buffer with a "stress capital buffer," which would equal a bank holding company's projected decline in common equity Tier 1 under the supervisory severely adverse stress testing scenario, discussed further below, prior to any planned capital actions, and would be reset each year based on the bank holding company's stress testing results. We are reviewing these possible changes to the capital conservation buffer in anticipation of the formal rulemaking and their potential impact on our capital planning processes specifically and our operations and results generally. We currently target internal capital levels using an approach analogous to the stress capital buffer and, therefore, we do not expect the proposal to have a significant impact on our U.S. operations or change our capital planning processes.

Under the Basel III final rule, all banking organizations will continue to be subject to the U.S. regulators' existing minimum Tier 1 leverage ratio of 4 percent. Additionally, intermediate holding companies ("IHCs") and banking organizations that meet the thresholds for the Advanced Approaches such as HSBC North America and HSBC Bank USA, are subject to the SLR, with full implementation and compliance required by January 1, 2018. For HSBC North America and HSBC Bank USA, the SLR regulatory minimum is 3 percent (calculated as the ratio of Tier 1 capital to total leverage exposure, which includes balance sheet exposures plus certain off-balance sheet items). The SLR is generally consistent with the final Basel leverage framework, but also contains certain modifications, including to the methodology for averaging total leverage exposure. On April 1, 2016 the Basel Committee issued final standards for risk management and supervision of interest rate risk in the banking book, which updates its 2004 Principles for the management and supervision of interest rate risk. These standards adopt a supervisory approach that includes quantitative calculation and disclosure and not a measure that imposes minimum capital requirements.

In 2014, the FRB adopted a final rule requiring enhanced supervision of the U.S. operations of non-U.S. banks such as HSBC. The rule requires certain large non-U.S. banks with significant operations in the United States, such as HSBC, to establish a single IHC to hold all of their U.S. bank and non-bank subsidiaries. HSBC Group has been operating in the United States through such an IHC structure (i.e., HSBC North America), and therefore, the implementation of this requirement did not have a significant impact on our U.S. operations. As previously disclosed, in accordance with the rule HSBC North America and HSBC Bank USA received regulatory approval in 2014 and 2015, respectively, to opt out of the Advanced Approaches and are calculating their risk-based and leverage capital requirements solely under the Standardized Approach. In 2016, HSBC Bank USA submitted the annual statement to the OCC to renew the Advanced Approaches opt out and received approval. HSBC North America and HSBC Bank USA, however, remain subject to the other capital requirements applicable to Advanced Approaches banking organizations such as: the SLR, the countercyclical capital buffer, stress testing requirements, enhanced risk management standards, enhanced governance and stress testing requirements for liquidity management, and other applicable prudential standards. Under the rule, most of these requirements became effective on July 1, 2016.

The Basel III final rule requires banks to phase in requirements for more capital and a higher quality of capital over a period from 2014 to 2019. When fully phased in on January 1, 2019, HSBC North America and HSBC Bank USA will be required to maintain minimum capital ratios (exclusive of any countercyclical capital buffer) as follows:

	Common Equity Tier 1 Ratio	Tier 1 Capital Ratio	Total Capital Ratio	Tier 1 Leverage Ratio	Supplementary Leverage Ratio
Regulatory minimum ratio .....	4.5%	6.0%	8.0%	4.0%	3.0%
Plus: Capital conservation buffer requirement...	2.5%	2.5%	2.5%	—	—
Regulatory minimum ratio plus capital conservation buffer.....	7.0%	8.5%	10.5%	4.0%	3.0%

We anticipate HSBC North America and HSBC Bank USA will meet these requirements well in advance of the ultimate full phase-in date. However, it is possible that further increases in regulatory capital may be required in response to the implementation of the Basel III final rule. The exact amount, however, will depend upon our prevailing risk profile and that of our North America affiliates under various stress scenarios.

In addition, and subject to discretion by the respective regulatory authorities, a countercyclical capital buffer of up to 2.5 percent, consisting of common equity Tier 1 capital, could also be required to be built up by banking organizations in periods of excess credit growth in the economy.

As previously reported, as a result of the adoption of the final rules by the U.S. banking regulators implementing the Basel III regulatory capital and liquidity reforms from the Basel Committee, together with the impact of similar implementation by U.K. banking regulators, we continued to review the composition of our capital structure. During the second quarter of 2016, we replaced certain preferred equity instruments that receive less favorable treatment under the rules with new Basel III compliant instruments. See Note 23, "Retained Earnings and Regulatory Capital Requirements," and Note 17, "Preferred Stock," in the accompanying consolidated financial statements for additional details.

In 2015, the Financial Stability Board ("FSB") issued its final standards for total loss-absorbing capacity ("TLAC") requirements for global systemically important banks ("G-SIBs"). In December 2016, the FRB adopted final rules implementing the FSB's TLAC standard in the United States. The rules require, among other things, the U.S. IHCs of non U.S. G-SIBs, including HSBC North America, to maintain minimum amounts of TLAC which would include minimum levels of Tier 1 capital and long-term debt satisfying certain eligibility criteria, and a related TLAC buffer commencing January 1, 2019, without the benefit of a phase-in period. The TLAC rules also include 'clean holding company requirements' that impose limitations on the types of financial transactions that HSBC North America could engage in. The FSB's TLAC standard and the FRB's TLAC rules represent a significant expansion of the current regulatory capital framework that may require HSBC North America to issue additional long-term debt.

*Capital Planning and Stress Testing.* U.S. bank holding companies with \$50 billion or more in total consolidated assets, including HSBC North America, are required to comply with the FRB's capital plan rule and Comprehensive Capital Analysis and Review ("CCAR") program, as well as the annual supervisory stress tests conducted by the FRB, and the semi-annual company-run stress tests as required under the Dodd-Frank Act (collectively, "DFAST"). As part of the CCAR process, the FRB undertakes a supervisory assessment of the capital adequacy of bank holding companies, including HSBC North America, based on a review of a comprehensive capital plan submitted by each participating bank holding company to the FRB that describes the company's planned capital actions during the nine quarter review period, as well as the results of stress tests conducted by both the company and the FRB under different hypothetical macroeconomic scenarios, including a supervisory adverse scenario and severely adverse scenario provided by the FRB. The FRB can object to a capital plan for qualitative or quantitative reasons, in which case the company cannot make capital distributions (with the exception of those that may have already received a non-objection in the previous year) without specific FRB approval.

In evaluating a capital plan, the FRB considers a number of qualitative factors, which have become increasingly important in the CCAR process in recent years. The FRB's supervisory expectations for the capital planning and stress testing processes at large and complex bank holding companies, including HSBC North America, are heightened relative to smaller and less complex bank holding companies. In assessing capital planning and stress testing processes, the FRB considers whether the bank holding company has sound and effective governance to oversee these processes. The FRB's evaluation focuses on whether a bank holding company's capital planning and stress testing processes are supported by a strong risk management framework to identify, measure and assess material risks and to provide a strong foundation to capital planning. The FRB also evaluates a bank holding company's policy guidelines for capital planning and assessing capital adequacy and the comprehensiveness of its internal controls. A bank holding company's scenario design processes and approaches for estimating the impact of stress on its capital position are also comprehensively reviewed to ensure that projections reflect the impact of appropriately stressful conditions on its capital position. Significant deficiencies in a bank holding company's capital planning and stress testing processes may result in a qualitative objection by the FRB to its capital plan. On January 30, 2017, the FRB indicated that so-called "large and noncomplex" firms, which are firms with less than \$250 billion in total consolidated assets and less than \$75 billion in total nonbanking assets, are exempt from the CCAR qualitative assessment. HSBC North America does not currently fall into the category of "large and noncomplex" and will, therefore, remain subject to the qualitative review in the 2017 CCAR cycle.

From a quantitative perspective, the FRB considers whether under different hypothetical macroeconomic scenarios, including the supervisory severely adverse scenario, the company would be able to maintain throughout each quarter of the nine quarter planning horizon, even if it maintained its base case planned capital actions, projected regulatory risk-based and leverage capital ratios that exceed the minimums that are, or would then be, in effect for the company, taking into account the Basel III capital rules and any applicable phase-in periods. Failure to meet a minimum regulatory risk-based or leverage capital requirement on a projected stress basis is grounds for objection to a capital plan. In addition, the FRB evaluates a company's projected path towards compliance with the Basel III regulatory capital framework on a fully implemented basis.

HSBC North America participates in the CCAR and DFAST programs of the FRB and submitted its latest CCAR capital plan and annual company-run DFAST results in April 2016, and its latest mid-cycle DFAST results in October 2016. HSBC Bank USA is subject to the OCC's DFAST requirements, which require certain banks to conduct annual company-run stress tests, and submitted its latest annual DFAST results in April 2016. The company-run stress tests are forward looking exercises to assess the impact of hypothetical macroeconomic baseline, adverse and severely adverse scenarios provided by the FRB and the OCC for the annual

exercise, and internally developed scenarios for both the annual and mid-cycle exercises, on the financial condition and capital adequacy of a bank holding company or bank over a nine quarter planning horizon.

HSBC North America and HSBC Bank USA are required to disclose the results of their annual DFAST under the FRB and OCC's severely adverse stress scenario and HSBC North America is required to disclose the results of its mid-cycle DFAST under its internally developed severely adverse stress scenario. In July 2016, HSBC North America and HSBC Bank USA publicly disclosed their most recent annual DFAST results and the FRB also publicly disclosed its own DFAST and CCAR results. In October 2016, HSBC North America publicly disclosed the results of its mid-cycle DFAST results.

In June 2016, the FRB informed HSBC North America, our parent company, that it did not object to HSBC North America's capital plan or the planned capital distributions included in its 2016 CCAR submission. The FRB's capital plan rule provides that a bank holding company must resubmit a new capital plan prior to the annual submission date if, among other things, there has been or will be a material change in its risk profile, financial condition, or corporate structure since its last capital plan submission. On January 30, 2017, the FRB finalized several changes to the 2017 CCAR cycle, including by: (i) reducing the de minimis exception for additional capital distributions from 1 percent of a bank holding company's Tier 1 capital to 0.25 percent; (ii) introducing "blackout periods" for notices regarding or requests for approval to make additional capital distributions; and (iii) extending the range of dates from which the FRB may select the "as of" date for the global market shock component of the supervisory stress test macroeconomic scenarios applicable to certain bank holding companies.

*Liquidity Risk Management.* As previously disclosed, the Basel Committee has adopted two minimum liquidity metrics for limiting risk: the liquidity coverage ratio ("LCR"), designed to be a short-term measure to ensure banks have sufficient High Quality Liquid Assets ("HQLA") to cover net stressed cash outflows over the next 30 days, and the net stable funding ratio ("NSFR"), which is a longer term measure with a 12-month time horizon to ensure a sustainable maturity structure of assets and liabilities. Under European Commission Delegated Regulation 2015/61, the Basel Committee based LCR became a minimum regulatory standard beginning in 2015. The European calibration of the Basel Committee based NSFR is still pending.

In 2014, the FRB, the OCC and the FDIC issued final regulations to implement the LCR in the United States applicable to certain large banking institutions, including HSBC North America and HSBC Bank USA. The LCR final rule is generally consistent with the Basel Committee guidelines, but is more stringent in several areas including the range of assets that will qualify as HQLA and the assumed rate of outflows of certain kinds of funding. Under the final rule, U.S. institutions began the LCR transition period on January 1, 2015 and were required to be fully compliant by January 1, 2017, two years ahead of the Basel Committee's timeframe for compliance by January 1, 2019. As a result, HSBC North America and HSBC Bank USA, were required to maintain an LCR of 80 percent, starting on January 1, 2015 increasing annually by 10 percent increments and reaching 100 percent on January 1, 2017. The current requirement to report LCR to U.S. regulators on a monthly basis moved to a daily requirement beginning on July 1, 2016. The LCR final rule does not address the NSFR requirement, which is currently in an international observation period. Based on the results of the observation period, the Basel Committee and U.S. banking regulators may make further changes to the NSFR. In April 2016, U.S. regulators issued for public comment a proposal to implement the NSFR in the United States, applicable to certain large banking organizations, including HSBC North America and HSBC Bank USA. The NSFR proposal is generally consistent with the Basel Committee guidelines, but similar to the U.S. LCR final rule, is more stringent in several areas including the required stable funding factors applied to certain assets such as mortgage-backed securities. Under the proposal, U.S. institutions would be required to comply with the NSFR rule by January 1, 2018, consistent with the scheduled global implementation of the Basel Committee based NSFR.

Enhanced prudential standard rules issued pursuant to Section 165 of the Dodd-Frank Act complement the LCR, capital planning, resolution planning, and stress testing requirements for U.S. bank holding companies and foreign banking organizations with total global consolidated assets of \$50 billion or more ("Covered Companies"). The rules require Covered Companies, such as HSBC North America, to comply with various liquidity risk management standards and to maintain a liquidity buffer of unencumbered highly liquid assets based on the results of internal liquidity stress testing. Covered Companies are also required to meet heightened liquidity requirements, which include qualitative liquidity standards, cash flow projections, internal liquidity stress tests, and liquidity buffer requirements. HSBC North America has implemented the standard and it does not have a significant impact to our business model. As of July 1, 2016, HSBC North America is treated as an IHC owned by a non-U.S. banking organization. This transition did not have a significant impact on our U.S. operations or change our liquidity management policies.

HSBC North America and HSBC Bank USA have adjusted their liquidity profiles to support compliance with these rules. HSBC North America and HSBC Bank USA may need to make further changes to their liquidity profiles to support compliance with any future final rules.

*Non-U.S. Regulatory Capital Requirements.* HSBC North America and HSBC USA also continue to support HSBC's implementation of the Basel III framework, as adopted by the U.K. Prudential Regulation Authority ("PRA"). We supply data regarding credit risk, operational risk and market risk to support HSBC's regulatory capital and risk weighted asset calculations.

*General.* Our capital resources are summarized under "Liquidity and Capital Resources" in MD&A. Capital amounts and ratios for HSBC USA and HSBC Bank USA are summarized in Note 23, "Retained Earnings and Regulatory Capital Requirements" of

the consolidated financial statements. From time to time, bank regulators propose amendments to or issue interpretations of risk-based or leverage capital guidelines. Such proposals or interpretations could, upon implementation, affect reported capital ratios and net risk weighted assets.

**Deposit Insurance** Deposits placed at HSBC Bank USA and HTCD are insured by the FDIC, subject to the limitations and conditions of applicable law and the FDIC's regulations. The FDIC insurance coverage limits are \$250,000 per depositor. HSBC Bank USA and HTCD are subject to risk-based assessments from the FDIC. Historically, depository institutions subject to assessment are categorized based on supervisory ratings, financial ratios and, in the case of larger institutions, long-term debt issuer ratings, with those in the highest rated categories paying lower assessments. While the assessments are generally payable quarterly, the FDIC also has the authority to impose special assessments to prevent the deposit insurance fund from declining to an unacceptable level. Beginning in 2011, the assessment methodology was revised to a methodology based on assets rather than insured deposits and pricing is now based on a FDIC methodology to measure the risk of banks. In 2014, the FDIC adopted further changes to the deposit insurance assessment system for large banks to align the assessment methodology with the Standardized Approach capital regulations and to eliminate all use of internal models.

**FDIC Assessment** The minimum reserve ratio for the Deposit Insurance Fund was increased under the Dodd-Frank Act from 1.15 percent to 1.35 percent, with the target of 1.35 percent to be reached by 2020 and with the incremental cost charged to banks with more than \$10 billion in assets. In order to achieve the 1.35 percent goal, on March 15, 2015, the FDIC adopted a rule imposing on banks with at least \$10 billion in assets, including HSBC Bank USA, a temporary assessment surcharge of 4.5 cents per \$100 of their assessment base, after making certain adjustments. The FDIC expects this surcharge, which took effect July 1, 2016, to remain in place for approximately two years. The surcharge has increased deposit insurance costs for HSBC Bank USA. In addition, the FDIC has set the designated reserve ratio at two percent as a long-term goal.

**Brokered Deposits** On June 30, 2016, the FDIC finalized the updates to its January 2015 guidance regarding brokered deposits. The updated guidance answers frequently asked questions regarding identifying, accepting, and reporting brokered deposits and could have implications for regulatory reporting, the LCR, the NSFR, and other regulatory requirements. The revised guidance did not have a material impact on HSBC Bank USA's depository relationships.

**Bank Secrecy Act/Anti-Money Laundering** The USA Patriot Act (the "Patriot Act") of 2001, contains significant record keeping and customer identity requirements, expands the government's powers to freeze or confiscate assets and increases the available penalties that may be assessed against financial institutions for violation of the requirements of the Patriot Act intended to detect and deter money laundering. The U.S. Treasury Secretary developed and implemented final regulations with regard to the anti-money laundering ("AML") compliance obligations of financial institutions (a term which includes insured U.S. depository institutions, U.S. branches and agencies of foreign banks, U.S. broker-dealers and numerous other entities). The U.S. Treasury Secretary delegated certain authority to a bureau of the U.S. Treasury Department known as the Financial Crimes Enforcement Network ("FinCEN").

Many of the AML compliance requirements of the Patriot Act, as implemented by FinCEN, are generally consistent with the anti-money laundering compliance obligations that applied to HSBC Bank USA under the Bank Secrecy Act ("BSA") and applicable FRB regulations before the Patriot Act was adopted. These include requirements to adopt and implement an AML program, report suspicious transactions and implement due diligence procedures for certain correspondent and private banking accounts. Certain other specific requirements under the Patriot Act involve compliance obligations. The Patriot Act and other recent events have also resulted in heightened scrutiny of the BSA and AML compliance programs by bank regulators.

In October 2010, HSBC Bank USA entered into a consent cease and desist order with the OCC and our parent, HSBC North America, entered into a consent cease and desist order with the FRB (each an "AML/BSA Consent Order"). These orders required improvements to establish an effective compliance risk management program across our U.S. businesses, including risk management related to BSA and AML compliance. We are currently not in full compliance with the OCC AML/BSA Consent Order, which required improvements to establish an effective compliance risk management program across our U.S. businesses, including risk management related to BSA and AML compliance. We are continuing to take steps to return to compliance and to address the requirements of the FRB AML/BSA Consent Order.

In December 2012, HSBC, HSBC North America and HSBC Bank USA entered into agreements with U.S. and U.K. government agencies regarding past inadequate compliance with AML/BSA and sanctions laws. Among those agreements, HSBC and HSBC Bank USA entered into a five-year deferred prosecution agreement with the U.S. Department of Justice ("DOJ"), the U.S. Attorney's Office for the Eastern District of New York, and the U.S. Attorney's Office for the Northern District of West Virginia (the "U.S. DPA"), and HSBC consented to a cease and desist order and HSBC and HSBC North America consented to a civil money penalty order with the FRB. HSBC also entered into an agreement with the Office of Foreign Assets Control ("OFAC") regarding historical transactions involving parties subject to OFAC sanctions, as well as an undertaking with the U.K. Financial Conduct Authority ("FCA") to comply with certain forward-looking AML and sanctions-related obligations. In addition, HSBC Bank USA entered into a civil money penalty order with FinCEN and a separate civil money penalty order with the OCC.

Under these agreements, HSBC and HSBC Bank USA made payments totaling \$1.921 billion to U.S. authorities, of which \$1.381 billion was attributed to and paid by HSBC Bank USA. In July 2013, the United States District Court for the Eastern District of New York approved the U.S. DPA and retained authority to oversee implementation of that agreement while the case was in abeyance. Under the agreements entered into with the DOJ and the FCA in 2012, an independent compliance monitor (the "Monitor") was appointed in July 2013 for an expected five-year period to produce annual assessments of the effectiveness of HSBC Group's AML and sanctions compliance program. Additionally, the Monitor is serving as HSBC's independent consultant under the consent order of the FRB. In February 2017, the Monitor delivered his third annual follow-up review report as required by the U.S. DPA. See Note 27, "Litigation and Regulatory Matters," for additional discussion.

Potential consequences of breaching the U.S. DPA could include the imposition of additional terms and conditions on HSBC or HSBC Bank USA, an extension of the U.S. DPA, including its monitorship, or the criminal prosecution of HSBC or HSBC Bank USA, which could, in turn, entail further financial penalties and other collateral consequences. Under the terms of the U.S. DPA, upon notice and opportunity to be heard, the DOJ has sole discretion to determine whether HSBC or HSBC Bank USA has breached the U.S. DPA.

We are continuing to take concerted action to remedy AML and sanctions compliance deficiencies and to implement Global Standards. As part of our program to enhance our financial crimes compliance risk management, HSBC has developed a "Global Standards" program, which is our commitment to implementing the most effective global standards to combat financial crime. We are also working to implement the agreed recommendations flowing from the Monitor's 2013, 2014 and 2015 reviews, and will implement the agreed recommendations from the 2016 review. During 2016, we continued to make progress toward putting in place a reasonably effective and sustainable AML and sanctions compliance program, including (i) the establishment of a new Financial Crime Risk Function, (ii) rolling out improved systems and infrastructure to manage financial crime risk and improve sanctions compliance technology and customer due diligence practices, and (iii) continuing to enhance the internal audit function. We are putting in place controls aimed at enabling us to understand more about our customers, what they do, and where and why they do it. This comprehensive approach is designed to help us detect, deter, and prevent financial crime.

HSBC Bank USA also entered into a separate consent order with the OCC requiring it to correct the circumstances and conditions as noted in the OCC's then most recent report of examination, imposing certain restrictions on HSBC Bank USA directly or indirectly acquiring control of, or holding an interest in, any new financial subsidiary, or commencing a new activity in its existing financial subsidiary, unless it receives prior approval from the OCC. HSBC Bank USA also entered into a separate consent order with the OCC requiring it to adopt an enterprise-wide compliance program.

These settlements with the U.S. and U.K. government agencies do not preclude further private litigation relating to, among other things, the HSBC Group's compliance with applicable AML/BSA and sanctions laws or other regulatory or law enforcement action for AML/BSA or sanctions matters not covered by the various agreements.

**Cybersecurity Regulatory Proposals** In October 2016, the FRB, FDIC, and OCC issued a joint advance notice of proposed rulemaking that would impose enhanced cyber risk management standards on banking organizations with \$50 billion or more in total consolidated assets and certain of their service providers. The standards address five categories: (i) cyber risk governance; (ii) cyber risk management; (iii) internal dependency management; (iv) external dependency management; and (v) incident response, cyber resilience, and situational awareness. The agencies are also considering proposing more stringent "Sector Critical Standards" that would apply to systems "deemed critical to the financial sector." The advanced notice of proposed rulemaking leaves open the precise form the enhanced standards would take, and instead lays out possibilities ranging from policy guidance on best practices to specific regulations. We are monitoring future developments in this area and their potential impact on our operations.

**Financial Regulatory Reform** In 2010, the Dodd-Frank Act was signed into law. This legislation is a sweeping overhaul of the U.S. financial regulatory system. The law is comprehensive and includes many provisions specifically relevant to our businesses and the businesses of our affiliates as follows, many of which have already been described above.

**Oversight** In order to promote financial stability in the U.S. financial system, the Dodd-Frank Act created a framework for the enhanced prudential regulation and supervision of financial institutions that are deemed to be "systemically important" to the U.S. financial system, including U.S. bank holding companies with consolidated assets of \$50 billion or more, such as HSBC North America. This framework is subject to the general oversight of the Financial Stability Oversight Council ("FSOC"), an interagency coordinating body that has authority, among other things, to recommend stricter regulatory and supervisory requirements for large bank holding companies and to designate bank and non-bank financial companies that pose a risk to financial stability. In turn, the FRB has authority, in consultation with the FSOC, to take certain actions, including to preclude mergers, restrict financial products offered, restrict, terminate or impose conditions on activities or require the sale or transfer of assets against any systemically important bank holding company with assets greater than \$50 billion, such as HSBC North America, that is found to pose a grave threat to financial stability. The FSOC is supported by the Office of Financial Research ("OFR"), which will impose data reporting requirements on financial institutions. The cost of operating both the FSOC and OFR is paid for through an assessment on large bank holding companies, which began in July 2012.

*Increased Prudential Standards* In addition to the increased capital, liquidity, stress testing and other enhanced prudential and structural requirements described above, large international banks, such as HSBC (generally with regard to its U.S. operations), and large insured depository institutions, such as HSBC Bank USA, are required to file resolution plans identifying material subsidiaries and core business lines and describing what strategy would be followed to resolve the institution in the event of significant financial distress, including identifying how insured bank subsidiaries would be adequately protected from risk created by other affiliates. The failure to cure deficiencies in a resolution plan required by Dodd-Frank to be filed by HSBC would enable the FRB and the FDIC, acting jointly, to impose more stringent capital, leverage or liquidity requirements, or restrictions on growth, activities or operations and, if such failure persists, require the divestiture of assets or operations. Dodd-Frank also requires that single counterparty lending limits applicable to HSBC Bank USA take into account credit exposure arising from derivative transactions, securities borrowing and lending transactions and repurchase and reverse repurchase agreements with counterparties.

On March 4, 2016 the FRB issued its re-proposal to limit credit exposures to single counterparties. The re-proposal would prohibit HSBC North America from having aggregate net credit exposure to a single counterparty in excess of 25 percent of Tier 1 capital. Our ultimate parent, HSBC, would be prohibited from having aggregate net credit exposure to a "Major Counterparty" in its combined U.S. operations (including HSBC North America) in excess of 15 percent of Tier 1 capital. Aggregate net credit exposure of HSBC's combined U.S. operations to any other counterparty would be limited to 25 percent of HSBC's Tier 1 capital. A "major counterparty" is any counterparty that is (i) a U.S. G-SIB; (ii) a foreign banking organization ("FBO"), that has the characteristics of a G-SIB under the Basel Committee's G-SIB methodology; (iii) an FBO with respect to which the FRB determines that the FBO would be a G-SIB or that the U.S. IHC of the FBO would be a G-SIB; or (iv) is a nonbank financial company supervised by the FRB. We continue to evaluate the potential effects of this re-proposal on our operations.

There are also provisions in Dodd-Frank that relate to governance of executive compensation, including disclosures evidencing the relationship between compensation and performance and a requirement that some executive incentive compensation is forfeitable in the event of an accounting restatement. Section 956 of the Dodd-Frank Act requires federal regulators to prescribe regulations or guidelines regarding incentive-based compensation practices at certain financial institutions. In April 2016, a joint proposed rule was released, replacing a previous 2011 proposal, which each of six agencies must separately approve. The general qualitative requirements applicable to "covered institutions" with consolidated assets of at least \$1 billion, including HSBC North America and HSBC Bank USA, would include (1) prohibiting incentive-based compensation arrangements that are determined to encourage inappropriate risks, (2) prohibiting incentive arrangements that encourage inappropriate risks that could lead to a material financial loss, (3) establishing requirements for performance measures to appropriately balance risk and reward, (4) requiring board of director oversight of incentive arrangements and (5) mandating appropriate recordkeeping. The proposal contemplates additional requirements for covered institutions with consolidated assets of at least \$250 billion, such as HSBC North America, and its covered institution subsidiaries, including HSBC Bank USA, including that incentive arrangements will have certain deferral, downward adjustments and forfeiture requirements and clawback provisions.

*Affiliate Transaction Limits* Quantitative and qualitative limits on bank credit transactions with affiliates also include credit exposure related to repurchase agreements, derivatives and securities lending/borrowing transactions. This provision may limit the use of intercompany transactions between us and our affiliates, which may impact our current funding, hedging and overall internal risk management strategies.

*Derivatives Regulation* Title VII of the Dodd-Frank Act imposes comprehensive regulation on the over-the-counter ("OTC") derivatives markets, including credit default, equity, foreign exchange and interest rate swaps. Implementation of Title VII is the responsibility of the Commodity Futures Trading Commission ("CFTC") (for swaps based on non-securities underliers or broad-based security indices), the SEC (for swaps based on individual securities and narrow-based security indices, known as "security-based swaps") and, to a lesser extent, U.S. banking regulators (for certain rules applicable to banks). The CFTC has adopted final rules implementing many of the most significant provisions of Title VII applicable to swaps, most of which came into effect during 2013 and 2014. In particular, certain swap dealers, including HSBC Bank USA, have provisionally registered with the CFTC and become members of the National Futures Association, subjecting them to an extensive array of corporate governance requirements, business conduct standards, reporting requirements, mandatory clearing and trading of certain swaps and other regulatory standards affecting their derivatives businesses. These requirements have and continue to significantly increase the costs associated with HSBC Bank USA's derivatives businesses.

In addition to these CFTC rules, as a provisionally registered swap dealer that is a national bank, HSBC Bank USA is subject to the final rules establishing margin requirements for non-cleared swaps and security-based swaps adopted in November 2015 by the OCC jointly with other U.S. banking regulators. The final margin rules require HSBC Bank USA to collect and post initial and variation margin for non-cleared swaps and security-based swaps entered into with other swap dealers and certain financial end users that exceed a minimum threshold of transactional activity. For non-cleared swaps and security-based swaps entered into with financial end users that do not meet the minimum transactional activity threshold, HSBC Bank USA will only be required to collect and post variation margin (but not initial margin). The U.S. banking regulators' final rules do not impose margin requirements for non-cleared swaps and security-based swaps entered into with non-financial end users, certain treasury affiliates, certain sovereigns and multilateral development banks or qualifying hedging transactions with certain small depository institutions.

The final margin rules also limit the types of assets that are eligible to satisfy initial and variation margin requirements, require initial margin to be segregated at a third-party custodian, impose requirements on internal models used to calculate initial margin requirements and contain specific provisions for cross-border transactions and inter-affiliate transactions. The final margin rules follow a phased implementation schedule, with certain initial margin and variation margin requirements effective as of September 2016. Additional variation margin requirements will come into effect in March 2017 and additional initial margin requirements will be phased in on an annual basis from September 2017 through September 2020, with the relevant compliance dates depending on the transactional volume of the parties and their affiliates. These final rules, as well as parallel margin rules from the CFTC, the SEC, and certain non-U.S. regulators will increase the costs and liquidity burden associated with trading non-cleared swaps and security-based swaps and may adversely affect our business in such products. In particular, the imposition of initial margin requirements on inter-affiliate transactions will significantly increase the cost of certain consolidated risk management activities and may adversely affect HSBC to a greater extent than some of our competitors.

Also, HSBC Bank USA engages in equity and credit derivatives businesses that are subject to the SEC's jurisdiction to regulate security-based swaps under Title VII of the Dodd-Frank Act. In 2015 and 2016, the SEC finalized rules regarding registration, business conduct standards and trade acknowledgment and verification requirements for security-based swap dealers and major security-based swap participants. The registration requirements and other rules applicable to security-based swap dealers and major security-based swap participants will not come into effect until the SEC completes further security-based swap rulemakings. Certain HSBC affiliates, including HSBC Bank USA, may be required to register and become subject to these rules when the registration requirement becomes effective. In January 2015 and July 2016, the SEC also finalized rules regarding reporting and public dissemination requirements for security-based swap transaction data. The reporting requirements will not become effective until after the compliance date for security-based swap dealer and major security-based swap participant registration. Because HSBC Bank USA's equity and credit derivatives businesses are also subject to the CFTC's jurisdiction under Title VII, material differences between the final SEC rules and existing CFTC rules could materially increase our costs of compliance with Title VII by requiring the implementation of significant additional policies, procedures, documentation, systems and controls for those businesses.

*The "Volcker Rule"* In 2013, U.S. regulators finalized the "Volcker Rule," which limits the ability of banking entities to sponsor or invest in certain private equity or hedge funds or to engage in certain types of proprietary trading. The conformance period for the Volcker Rule was extended until July 21, 2015. The FRB further extended the conformance period to July 21, 2016 for investments in and relationships with "covered funds" and "foreign funds," each as defined in the Volcker Rule, that were in place prior to December 31, 2013 ("legacy covered funds"). In July 2016, the FRB granted an additional one-year extension of the conformance period for legacy covered funds until July 21, 2017.

The Volcker Rule restricts proprietary trading as principal for a "trading account" in "financial instruments," each as defined in the Volcker Rule, subject to various exclusions and exemptions. Generally, securities, derivatives, futures and options on all such instruments are covered, while loans, currencies and commodities are not covered. In addition, there are exemptions for activities, among others, that constitute market making, underwriting, hedging, and trading of U.S. government, agency or municipal securities and certain foreign sovereign debt securities. Each of these exemptions, however, is generally subject to its own set of compliance requirements and conditions.

The Volcker Rule also restricts acquiring or retaining an ownership interest in, or sponsoring or having certain relationships with, covered funds. Covered funds generally include entities that would be an investment company under the Investment Company Act of 1940 (the "1940 Act"), but for the exemptions provided in Section 3(c)(1) or Section 3(c)(7) of the 1940 Act, as well as certain commodity pools. The Volcker Rule includes exclusions and exemptions, among others, for certain limited investments in conjunction with asset management activities for customers, for loan securitizations, for asset-backed commercial paper conduits, and for underwriting and market making in covered funds. As with the proprietary trading restrictions, the exemptions are generally subject to a variety of compliance requirements and conditions. Any limited, yet permissible, investments in covered funds are required to be deducted from the Tier 1 capital of U.S. banking entities. Several activities engaged in by HSBC USA are subject to restrictions under the Volcker Rule.

The Volcker Rule also requires an extensive array of compliance policies, procedures and quantitative metrics reporting to ensure that activities remain within one or more of the exemptions described in the Volcker Rule. In connection with these requirements, we have built the appropriate compliance framework to ensure compliance by the relevant effective dates. HSBC USA has continued to ensure that relevant training is completed on a regular basis for all affected front office and control personnel, that it has conformance plans for those legacy covered funds to which the extension applies, and that it is in compliance with all material respects of the Volcker Rule.

The Volcker Rule also requires an annual attestation either by the Chief Executive Officer of the top-tier foreign banking organization or the senior management officer in the U.S. as to the implementation of a compliance program reasonably designed to achieve compliance with the Volcker Rule.

*Consumer Regulation* The Dodd-Frank Act created the CFPB, which has a broad range of powers to administer and enforce a new federal regulatory framework of consumer financial regulation, including the authority to regulate credit, savings, payment and other consumer financial products and services and providers of those products and services. The CFPB has the authority to

issue regulations to prevent unfair, deceptive or abusive practices in connection with consumer financial products or services and to ensure features of any consumer financial products or services are fully, accurately and effectively disclosed to consumers. The CFPB also has authority to examine large banks, including HSBC Bank USA, and their affiliates for compliance with those regulations.

With respect to certain state laws governing the provision of consumer financial products by national banks such as HSBC Bank USA, the Dodd-Frank Act codified the current judicial standard of federal preemption with respect to national banks, but added procedural steps to be followed by the OCC when considering preemption determinations after July 21, 2011. Furthermore, the Dodd-Frank Act removed the ability of subsidiaries or agents of a national bank to claim federal preemption of consumer financial laws, although the legislation did not purport to affect existing contracts. These limitations on federal preemption may elevate our costs of compliance, while increasing litigation expenses as a result of potential state Attorney General or plaintiff challenges and the risk of courts not giving deference to the OCC, as well as increasing complexity due to the lack of uniformity in state law. The extent to which the limitations on federal preemption will impact our businesses and those of our competitors remains uncertain. The Dodd-Frank Act contains many other consumer-related provisions, including provisions addressing mortgage reform.

**Debit Interchange** The Dodd-Frank Act authorized the FRB to implement standards for assessing debit interchange fees that are reasonable and proportionate to the actual processing costs of the issuer. The FRB promulgated regulations effective October 1, 2011 that limit interchange fees in most cases to no more than the sum of 21 cents per transaction and 5 basis points multiplied by the value of the transaction, plus the ability to charge an additional 1 cent per transaction if the issuer meets certain fraud-prevention standards. In 2013, the U.S. District Court for the District of Columbia overturned the FRB's regulations on debit interchange and required that the FRB recraft the rule with a lower maximum fee. The District Court decision was overturned by the Court of Appeals in 2014, and a group of retailer trade associations and individual merchants filed a petition seeking review by the U.S. Supreme Court of the Court of Appeals decision. The U.S. Supreme Court denied the petition in January 2015, allowing the interchange fee limitations in the FRB regulation to remain unchanged.

The Dodd-Frank Act has and will continue to have a significant impact on the operations of many financial institutions in the United States, including HSBC USA, HSBC Bank USA and our affiliates. As the legislation calls for extensive regulations to be promulgated to interpret and implement the legislation, we are unable to determine precisely the impact that Dodd-Frank and related regulations will have on financial results at this time. Notwithstanding, the new Administration in the U.S. (the "Administration") has indicated it would like to see changes made to certain financial reform regulations, including Dodd-Frank, to replace certain elements with new policies to encourage economic growth and job creation. The specifics of what might be changed are currently unclear, which has introduced some uncertainty about the regulatory framework that will apply to the financial services industry going forward.

**Competition** The GLB Act eliminated many of the regulatory restrictions on providing financial services in the United States. The GLB Act allows for financial institutions and other providers of financial products to enter into combinations that permit a single organization to offer a complete line of financial products and services. In addition, the Volcker Rule places new restrictions on bank-affiliated financial companies' trading activities and private equity and hedge fund investments, which may provide a competitive advantage to financial companies that do not have U.S. banking operations and may impact liquidity in the products and activities in which we engage. Therefore, we face intense competition in all of the markets we serve, competing with banks and other financial institutions such as insurance companies, commercial finance providers, brokerage firms and investment companies. The financial services industry has experienced consolidation in recent years as financial institutions involved in a broad range of products and services have merged, been acquired or dispersed. This trend is expected to continue and has resulted in, among other things, greater concentrations of deposits and other resources. Competition is expected to continue to be intense given the multiple banks and other financial services companies which offer products and services in our markets, noting that we compete with different banks and financial services companies in different markets, given our global strategy.

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**Corporate Governance and Controls**

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We maintain a website at [www.us.hsbc.com](http://www.us.hsbc.com) on which we make available, as soon as reasonably practicable after filing with or furnishing to the SEC, our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and any amendments to these reports. We have included our website address only as an inactive textual reference and do not intend it to be an active link to our website. Our website also contains our Corporate Governance Standards and Charters of standing Board of Director Committees, including the Audit Committee, the Compliance Committee, the Risk Committee, the Fiduciary Committee and the Chairman's Committee. We have a Statement of Business Principles and Code of Ethics that expresses the principles upon which we operate our businesses. Integrity is the foundation of all our business endeavors and is the result of continued dedication and commitment to the highest ethical standards in our relationships with each other, with other organizations and with those individuals who are our customers. Our Statement of Business Principles and Code of Ethics can be found on our corporate website. We also have a Code of Ethics for Senior Financial Officers that applies to our finance and accounting professionals that supplements the Statement of Business Principles. That Code of Ethics is incorporated by reference in Exhibit 14 to this Annual Report on Form 10-K. Printed copies of this information can be requested at no charge. Requests should be made to HSBC USA Inc., 452 Fifth Avenue, New York, NY 10018, Attention: Corporate Secretary.

**Certifications** In addition to certifications from our Chief Executive Officer and Chief Financial Officer pursuant to Sections 302 and 906 of the Sarbanes-Oxley Act of 2002 (attached to this report on Form 10-K as Exhibits 31 and 32), we also file a written affirmation of an authorized officer with the New York Stock Exchange (the "NYSE") certifying that such officer is not aware of any violation by HSBC USA of the applicable NYSE corporate governance listing standards in effect as of February 21, 2017.

## Item 1A. Risk Factors

The following discussion provides a description of the most significant risk factors that could affect our businesses, results of operations and financial condition and could cause our results to differ materially from those expressed in public statements or documents. Some of these risk factors are inherent in the financial services industry and others are more specific to our own businesses. There are also other factors besides those discussed below or elsewhere in this Annual Report on Form 10-K that could affect our businesses, results of operations and financial condition and, therefore, the risk factors below should not be considered a complete list of all potential risks that we may face.

**The current uncertain market and economic conditions may continue to affect our businesses, results of operations and financial condition.** Our business and earnings are affected by general business, economic and market conditions in the United States and abroad. Uncertainties remain concerning the outlook and the future economic environment despite recent improvements in certain segments of the global economy. There can be no assurance that the global economy as a whole will improve significantly or at all. Given our concentration of business activities in the United States, we are particularly exposed to any additional turmoil in the economy, housing downturns, high unemployment, tighter credit conditions and reduced economic growth. While the U.S. economy continued its trend of slow growth during 2016, challenges remain. We also have a significant number of customers in Latin America and in particular Brazil, which continues to experience inflation and other economic challenges. In addition, although the price of oil increased in 2016, it remains depressed compared with historical levels in part due to the strong U.S. dollar, adding pressure to portfolios where the customer base is heavily centered in commodity-based businesses. General business, economic and market conditions that could continue to affect us include:

- level of economic growth, including the pace and magnitude of such growth;
- pressure on consumer confidence and consumer spending from other economic and market conditions;
- fiscal policy;
- volatility in energy prices, including oil and gas prices;
- volatility in credit markets;
- unemployment levels;
- trends in corporate earnings;
- wage income levels and declines in wealth;
- market value of residential and commercial real estate throughout the United States;
- inflation;
- monetary supply and monetary policy;
- fluctuations in both debt and equity capital markets in which we fund our operations;
- consequences of unexpected geopolitical events, natural disasters, pandemics or acts of war or terrorism;
- trade policy;
- fluctuations in the value of the U.S. dollar;
- movements in short-term and long-term interest rates, a change in the shape of the yield curve or a prolonged period of low or negative interest rates;
- availability of liquidity;
- tight consumer credit conditions;
- bankruptcy filing levels and heightened scrutiny by various U.S. Bankruptcy Trustees of proofs of claim and other documents filed by creditors in consumer bankruptcy cases; and
- new laws, regulations or regulatory and law enforcement initiatives.

Although unemployment rates have improved in 2016 and housing market conditions in the U.S. continue to recover, if businesses were again to become cautious to hire, lay-off employees or reduce hours for employees, losses could be significant in all types of our consumer loans due to decreased consumer income. While the U.S. economy continued to improve in 2016, economic uncertainty remains high in many economies outside the U.S., including China as well as Latin America and in particular Brazil, where economic activity continues to be slow. In addition, the decision by the United Kingdom in late June to exit the EU as well as the new Administration in the U.S. could potentially impact the capital markets and trade further adding to this global uncertainty. The sustainability of the economic recovery will be determined by numerous variables including consumer sentiment, energy prices, credit market volatility, employment levels and housing market conditions which will impact corporate earnings and the capital markets. In the event economic conditions stop improving or become depressed and lead to a recession, there would be a significant negative impact on delinquencies, charge-offs and losses in all loan portfolios with a corresponding impact on our results of operations. While the recovery may be positive in the United States, it can have a simultaneous negative effect on

currencies and stock markets in emerging economies such as those in Latin America, which could have a negative impact on our loan portfolio for our Latin American clients, with a corresponding impact on our results of operations.

A deterioration in business and economic conditions, which may erode consumer and investor confidence levels or increased volatility of financial markets, also could adversely affect financial results for our fee-based businesses, including our financial planning products and services.

**Federal, state, local and other similar international measures to regulate the financial industry may significantly impact our operations.** We operate in a highly regulated environment. Changes in federal, state and local laws and regulations affecting banking, derivatives, capital, liquidity, consumer credit, bankruptcy, privacy, consumer protection or other matters.

Attempts by local, state and federal regulatory agencies to address perceived problems with the mortgage lending and credit card industries could affect us in substantial and unpredictable ways, including limiting the types of products we can offer, how these products may be originated, the fees and charges that may be applied to accounts and how accounts may be collected or security interests enforced. Any one or more of these effects could negatively impact our results. There is also significant focus on loss mitigation and foreclosure activity for real estate loans. We cannot fully anticipate the response by national regulatory agencies, state Attorneys General, or certain legislators, nor can we anticipate whether significant changes to our operations and practices will be required as a result.

The Dodd-Frank Act established the CFPB which has broad authority to regulate providers of credit, payment and other consumer financial products and services. In addition, provisions of the Dodd-Frank Act may also narrow the scope of federal preemption of state consumer laws and expand the authority of state Attorneys General to bring actions to enforce federal consumer protection legislation. As a result of the Dodd-Frank Act's potential expansion of the authority of state Attorneys General to bring actions to enforce federal consumer protection legislation, we could potentially be subject to additional state lawsuits and enforcement actions, thereby further increasing our legal and compliance costs. Any new regulatory requirements or changes to existing requirements that the CFPB may promulgate could require changes in our consumer businesses, result in increased compliance costs and impair the profitability of such businesses.

Under the Dodd-Frank Act, certain of our affiliates and subsidiaries, including HSBC Bank USA, have registered as swap dealers and are now subject to extensive oversight by the CFTC. Regulation of swap dealers by the CFTC imposes numerous corporate governance, business conduct, capital, margin, reporting, clearing, execution and other regulatory requirements on HSBC Bank USA. Additionally, certain of our affiliates and subsidiaries, including HSBC Bank USA, may in the future be required to register as security-based swap dealers and become subject to extensive oversight by the SEC, including the imposition of parallel corporate governance, business conduct, reporting and other regulatory requirements for security-based swaps. Imposition of these requirements may adversely affect our derivatives business and make us less competitive or make certain derivative products less profitable to undertake. Although many significant regulations applicable to swap dealers are already in effect and have imposed significant costs on our derivatives business, we are still in the process of assessing the full impact of certain recently released requirements and the potential impact of future security-based swap requirements.

In 2013, U.S. regulatory agencies finalized the Volcker Rule, which limits the ability of banking entities such as HUSI to sponsor or invest in certain private equity or hedge funds or engage in certain types of proprietary trading. The conformance period for the Volcker Rule was extended until July 21, 2015. The FRB further extended the conformance period to July 21, 2016 for investments in and relationships with "covered funds" and "foreign funds," each as defined in the Volcker Rule, that were in place prior to December 31, 2013 ("legacy covered funds"). In July 2016, the FRB granted an additional one year extension of the conformance period for legacy covered funds until July 21, 2017. The Volcker Rule requires extensive regulatory interpretation and subjects HUSI to further supervisory oversight by U.S. regulatory agencies. While the Volcker Rule contains exemptions for market-making, underwriting, risk-mitigating hedging, and certain transactions on behalf of customers and activities in certain asset classes, clearly defining all the parameters of these exemptions and requirements requires additional guidance and clarification from the U.S. regulatory agencies.

The Volcker Rule restricts proprietary trading as principal for a "trading account" in "financial instruments," each as defined in the Volcker Rule, subject to various exclusions and exemptions. Generally, securities, derivatives, futures and options on all such instruments are covered, while loans, currencies and commodities are not covered. In addition, there are exemptions for activities, among others, that constitute market making, underwriting, hedging, and trading of U.S. government, agency or municipal securities and certain foreign sovereign debt securities. Each of these exemptions, however, is generally subject to its own set of compliance requirements and conditions.

The Volcker Rule also restricts acquiring or retaining an ownership interest in, or sponsoring or having certain relationships with, covered funds. Covered funds generally include entities that would be an investment company under the 1940 Act, but for the exemptions provided in Section 3(c)(1) or Section 3(c)(7) of the 1940 Act, as well as certain commodity pools. The Volcker Rule includes exclusions and exemptions, among others, for certain limited investments in conjunction with asset management activities for customers, for loan securitizations, for asset-backed commercial paper conduits, and for underwriting and market making in covered funds. As with the proprietary trading restrictions, the exemptions are generally subject to a variety of compliance

requirements and conditions. Any limited, yet permissible, investments in covered funds are required to be deducted from the Tier 1 capital of U.S. banking entities. Several activities engaged in by HUSI and its affiliates and subsidiaries are subject to the restrictions under the Volcker Rule.

The Volcker Rule also requires an extensive array of compliance policies, procedures and quantitative metrics reporting to ensure that activities remain within one or more of the exemptions described in the Volcker Rule. In connection with these requirements, we have built a compliance framework designed to ensure compliance by the relevant effective dates. Compliance with the Volcker Rule will increase our operational and compliance costs, reduce our trading revenues, restrict certain activities and adversely affect our results of operations.

The FRB has also adopted rules to implement certain enhanced supervisory and prudential requirements and the early remediation requirements established under the Dodd-Frank Act. The FRB adopted enhanced standards relating to risk-based capital and leverage requirements, liquidity standards, requirements for overall risk management and stress test requirements. The FRB has also issued final rules requiring covered entities to undergo annual stress tests conducted by the FRB and conduct their own "company-run" stress tests twice a year in conjunction with the CCAR program. In March 2016, the FRB re-proposed limits on credit exposure to a single counterparty that would apply to HSBC North America and HSBC. Final regulations addressing early remediation requirements required by the Dodd-Frank Act also have not yet been adopted, and are likely to impose additional operational and compliance costs on us once they are finalized.

Our parent, HSBC North America, is subject to assessment by the FRB as part of the CCAR program, which includes annual supervisory stress tests conducted by the FRB and both HSBC North America and HSBC Bank USA must conduct company-run stress tests as required under the DFAST. CCAR is an annual exercise by the FRB to ensure that institutions have forward-looking capital planning processes that account for their risks and sufficient capital to continue operations throughout times of economic and financial stress. We cannot be certain that the FRB will have no objections to our 2017 or future capital plans submitted through the CCAR program, which is assessed by the FRB on both a quantitative and qualitative basis. If the FRB objects to our capital plan because we fail to meet either the quantitative or qualitative requirements, this could adversely affect our ability to make distributions, including dividends on our preferred stock, or to enter into acquisitions. We may fail to meet the requirements of regulatory stress tests. If our stress testing projections differ significantly from our peers or the FRB objects to HSBC North America's capital plan, this could have a material adverse effect on our reputation since CCAR and DFAST results are made public. See also "Our reputation has a direct impact on our financial results and ongoing operations" below.

The total impact of the Dodd-Frank Act cannot be fully assessed without taking into consideration how non-U.S. policymakers and regulators will implement the Dodd-Frank Act through the promulgation of new regulations and revisions to existing regulations and how the cumulative effects of both U.S. and non-U.S. laws and regulations will affect our businesses and operations. Additional legislative or regulatory actions in the United States, the EU and in other countries could result in a significant loss of revenue, limit our ability to pursue business opportunities in which we might otherwise consider engaging, affect the value of assets that we hold, require us to increase our prices and therefore reduce demand for our products, impose additional costs on us, or otherwise adversely affect our businesses. Accordingly, any such new or additional legislation or regulations could have an adverse effect on our businesses, results of operations or financial condition. Regulators in the EU and in the United Kingdom are in the midst of proposing far-reaching programs of financial regulatory reform. These proposals include enhanced capital, leverage, and liquidity requirements, changes in compensation practices (including tax levies), separation of retail and wholesale banking, the recovery and resolution of EU financial institutions, amendments to the Markets in Financial Instruments Directive and the Market Abuse Directive, and measures to address systemic risk. Furthermore, certain large G-SIBs, including HSBC, will be subject to capital surcharges and other enhanced prudential requirements. While the FSB has identified HSBC as one of the two G-SIBs that would be subject to a 2 percent surcharge, the G-SIB surcharge will not apply in the United Kingdom until January 1, 2018. The FRB's rules implementing the G-SIB surcharge in the United States would not impose additional capital requirements on us because the U.S. G-SIB surcharge will only apply to the eight largest U.S. banking organizations.

Notwithstanding the above, the new Administration has indicated it would like to see changes made to certain financial reform regulations, including Dodd-Frank, to replace certain elements with new policies to encourage economic growth and job creation. The specifics of what might be changed are currently unclear, which has introduced some uncertainty about the regulatory framework that will apply to the financial services industry going forward.

In 2015, the FSB issued final standards for TLAC requirements for G-SIBs, which will apply to our ultimate parent HSBC once implemented in the United Kingdom. The new standard also permits authorities in host jurisdictions to require "internal" TLAC to be prepositioned (i.e., issued by local entities to either parent entities or third parties). The purpose of this new standard is to ensure that G-SIBs have sufficient loss-absorbing and recapitalization capacity available to implement an orderly resolution with continuity of critical functions and minimal impact on financial stability, and to ensure cooperation between home and host authorities during resolution. The new standard calls for all G-SIBs to be subject to TLAC requirements starting January 1, 2019, and to be fully phased in by January 1, 2022. In the United States, the FRB adopted final rules implementing the FSB's TLAC standard in the United States in December 2016. The rules require, among other things, the U.S. IHCs of non U.S. G-SIBs, including HSBC North America, to maintain minimum amounts of TLAC which would include minimum levels of Tier 1 capital and long-

term debt satisfying certain eligibility criteria, and a related TLAC buffer commencing January 1, 2019, without the benefit of a phase-in period. The TLAC rules also include 'clean holding company requirements' that impose limitations on the types of financial transactions that HSBC North America could engage in. The FSB's TLAC standard and the FRB's TLAC rules represent a significant expansion of the current regulatory capital framework that may require HSBC North America to issue additional long-term debt.

The implementation of regulations and rules promulgated by these bodies could result in additional costs or limit or restrict the way HSBC conducts its businesses in the EU and in the U.K. Furthermore, the potentially far-reaching effects of future changes in laws, rules or regulations, or in their interpretation or enforcement as a result of EU or U.K. legislation and regulation are difficult to predict and could adversely affect HSBC USA's operations.

**Failure to implement and adhere to our obligations under the deferred prosecution agreement and related and other agreements and consent orders could have a material adverse effect on our business, prospects, financial condition and results and operations.** An independent compliance monitor (the "Monitor") was appointed in 2013 under the 2012 agreements entered into with the DOJ and the FCA to produce annual assessments of the effectiveness of our AML and sanctions compliance program. Additionally, the Monitor is serving as HSBC's independent consultant under the consent order of the FRB. HSBC Bank USA is also subject to an agreement entered into with the OCC in December 2012, the Gramm-Leach-Bliley Act Agreement and other consent orders.

The design and execution of AML and sanctions remediation plans to address the findings of the U.S. DPA and the Monitor are complex and require major investments in people, systems and other infrastructure. This complexity creates significant execution risk, which could affect our ability to effectively identify and manage financial crime risk and remedy AML and sanctions compliance deficiencies in a timely manner. This could, in turn, impact our ability to satisfy the Monitor or comply with the terms of the U.S. DPA and related agreements and consent orders, and may require us to take additional remedial measures in the future. These risks could be further heightened if the Monitor's reports were to become public.

In February 2017, the Monitor delivered his third annual follow-up review report based on various thematic and country reviews conducted over the course of 2016. In his report, the Monitor concluded that, in 2016, HSBC Group continued to make progress in enhancing its financial crime compliance controls, including improvements to our global AML policies and procedures. However, the Monitor also expressed significant concerns about the pace of that progress, instances of potential financial crime that the DOJ and HSBC are reviewing further and on-going systems and control deficiencies that in his view raised questions as to whether HSBC is adhering to its obligations under the U.S. DPA, a matter that would be determined by the DOJ in its sole discretion. The Monitor also found that there remain substantial challenges for HSBC to meet its goal of developing a reasonably effective and sustainable AML and sanctions compliance program. In addition, the Monitor did not certify as to HSBC Group's implementation of and adherence to remedial measures specified in the U.S. DPA.

Under the terms of the U.S. DPA, upon notice and an opportunity to be heard, the DOJ has sole discretion to determine whether HSBC or HSBC Bank USA has breached the U.S. DPA. As discussed in Note 27, "Litigation and Regulatory Matters," to this Annual Report on Form 10-K, we are the subject of other ongoing investigations and reviews by the DOJ. Potential consequences of breaching the U.S. DPA could include the imposition of additional terms and conditions on HSBC or HSBC Bank USA, an extension of the U.S. DPA, including its monitorship, or the criminal prosecution of HSBC and HSBC Bank USA, which could, in turn, entail further financial penalties and collateral consequences.

Breach of the U.S. DPA or related or other agreements and consent orders could have a material adverse effect on our business, prospects, financial condition and results of operations, including loss of business and withdrawal of funding, restrictions on our ability to operate in the United States or to perform dollar-clearing functions through HSBC Bank USA, or revocation of bank licenses. Even if we are not determined to have breached these agreements, but the agreements are amended or their terms extended, our business, reputation and brand could suffer materially. Moreover, these consent orders do not preclude additional enforcement actions by bank regulatory, governmental or law enforcement agencies or private litigation.

We are not currently in full compliance with the AML/BSA consent order entered into by HSBC Bank USA with the OCC in 2010 (the "AML/BSA Consent"), which required improvements to establish an effective compliance risk management program across our U.S. businesses, including risk management related to BSA and AML compliance. Failure to comply with the AML/BSA Consent could result in additional restrictions on HSBC Bank USA that could be material to our business, prospects, financial condition and results of operations and could result in future enforcement actions, including the assessment of additional civil money penalties.

**Third parties may use us as a conduit for illegal activities without our knowledge, which could have a material adverse effect on us.** We are required to comply with applicable AML laws and regulations and have adopted various policies and procedures, including internal control and 'know your customer' procedures, aimed at preventing the use of HSBC products and services for the purpose of committing or concealing financial crime. A major focus of U.S. and U.K. government policy relating to financial institutions in recent years has been combating money laundering and enforcing compliance with U.S. and EU economic sanctions, and this prioritization is evidenced by our agreements with U.S. and U.K. authorities relating to various investigations regarding past inadequate compliance with AML and sanctions laws. We and certain of our affiliates have entered into a consent

cease and desist order with the OCC and a similar consent order with the FRB which require the implementation of improvements to compliance procedures regarding obligations under the BSA and AML rules. These consent orders do not preclude additional enforcement actions by bank regulatory, governmental or law enforcement agencies or private litigation.

A number of the remedial actions taken or being taken as a result of the matters to which the U.S. DPA relates are intended to ensure that we and the other HSBC Group businesses are better protected from these risks. However, there can be no assurance that the steps that continue to be taken to address the requirements of the U.S. DPA will be completely effective. Breach of the U.S. DPA or related agreements and consent orders could have a material adverse effect on our business, financial condition and results of operations, including loss of business and withdrawal of funding, restrictions on performing dollar-clearing functions through HSBC Bank USA or revocation of bank licenses.

In relevant situations, and where permitted by regulation, we may rely upon certain counterparties, including our affiliates, to maintain and properly apply their own appropriate AML procedures. While permitted by regulation, such reliance may not be effective in preventing third parties from using us (and our relevant counterparties) as a conduit for money laundering, including illegal cash operations without our knowledge (and that of our relevant counterparties). Becoming a party to money laundering, association with, or even accusations of being associated, with money laundering would damage our reputation and could make us subject to fines, sanctions and/or legal enforcement (including being added to 'blacklists' that will prohibit certain parties from engaging in transactions with us). Any one of these outcomes could have a material adverse effect on our business, prospects, financial condition and results of operations.

**Failure to comply with the GLBA Agreement would have an adverse material effect on our results and operations.** As reflected in the GLBA Agreement entered into with the OCC on December 11, 2012, the OCC has determined that HSBC Bank USA is not in compliance with the requirements set forth in 12 U.S.C. § 24a(a)(2)(c) and 12 C.F.R. § 5.39(g)(1), which provide that a national bank and each depository institution affiliate of the national bank must be both well capitalized and well managed in order to own or control a financial subsidiary. As a result, HSBC USA and its parent bank holding companies no longer meet the qualification requirements for financial holding company status and may not engage in any new types of financial activities without the prior approval of the FRB. In addition, HSBC Bank USA may not directly or indirectly acquire control of, or hold an interest in, any new financial subsidiary, nor commence a new activity in its existing financial subsidiary, unless it receives prior approval from the OCC. If all of our affiliate depository institutions are not in compliance with these requirements within the time periods specified in the GLBA Agreement, as they may be extended, HSBC USA could be required either to divest HSBC Bank USA or to divest or terminate any financial activities conducted in reliance on the GLB Act. Similar consequences could result for subsidiaries of HSBC Bank USA that engage in financial activities in reliance on expanded powers provided for in the GLB Act. Any such divestiture or termination of activities would have an adverse material effect on our business, prospects, financial condition and results and operation.

**Our reputation may have a direct impact on our financial results and ongoing operations.** Our ability to attract and retain customers and conduct business transactions with our counterparties could be adversely affected to the extent our reputation, or the reputation of affiliates operating under the HSBC brand, is damaged. Our failure to address, or to appear to fail to address, various issues that could give rise to reputational risk could cause harm to us and our business prospects. Reputational issues include, but are not limited to:

- negative news about us, HSBC, our affiliates or the financial services industry generally;
- ethical issues, including potential conflicts of interest and the acceptance or receipt of gifts and entertainment, as well as potential violations under the Foreign Corrupt Practices Act ("FCPA");
- legal and regulatory requirements;
- alleged deceptive or unfair lending or pricing practices;
- anti-money laundering and economic sanctions programs;
- fraud and misappropriation of assets;
- privacy and data security intrusions related to our customers or employees;
- cybersecurity issues and cyber incidents, whether actual, threatened, or perceived;
- recordkeeping;
- sales and trading practices;
- customer service;
- actions of a vendor or other third party, including a subcontractor, we do business with;
- the proper identification of the legal, credit, liquidity, operational and market risks inherent in our businesses;
- alleged irregularities in servicing, foreclosure, consumer collections, mortgage lending practices and loan modifications;
- a downgrade of or negative watch warning on any of our credit ratings; and
- general company performance.

The proliferation of social media websites as well as the personal use of social media by our employees and others, including personal blogs and social network profiles, facilitates communication with large audiences in short time frames. These social media websites, also may increase the risk that negative, inappropriate or unauthorized information may be posted or released publicly that could harm our reputation or have other negative consequences, including as a result of our employees interacting with our customers in an unauthorized manner in various social media outlets.

The failure to address, or the perception that we have failed to address any of these issues appropriately could make our customers unwilling to do business with us or give rise to increased regulatory action, which could have a material adverse effect on our business, prospects, financial condition and results of operations.

**Our risk management measures may not be successful.** The management of risk is an integral part of all our activities. Managing risk effectively is fundamental to the delivery of our strategic priorities. While we are subject to a number of legal and regulatory actions and investigations, our risk management framework has been designed to provide robust controls and ongoing monitoring of our principal risks. Risks have the potential to affect the results of our operations or financial condition. Specifically, risk equates to the adverse effect on profitability or financial condition arising from different sources of uncertainty including retail and wholesale credit risk, market risk, interest rate risk, operational risk including legal, financial crime compliance, regulatory compliance, accounting, tax, fiduciary, information security, security fraud, people, systems, political contingency, projects, and operations risks, liquidity and funding risk, reputational risk, strategic risk, model risk, sustainability risk, and pension obligation risk. To manage risk, we employ a risk management framework at all levels and across all risk types. The framework fosters the continuous monitoring of the risk environment and an integrated evaluation of risks and their interactions. It also strives to ensure that we have a robust and consistent approach to risk management across all of our activities. While our risk management framework employs a broad and diversified set of risk monitoring and risk mitigation techniques, such techniques and the judgments that accompany their application cannot anticipate every unfavorable event or the specifics and timing of every outcome. Failure to manage risks appropriately could have a material adverse effect on our business, prospects, financial condition and results of operations.

Our risk management measures may face particularly significant challenges in the following three broad areas:

(a) Macroeconomic and geo-political risks: Current economic and market conditions may adversely affect our results. We may suffer adverse effects as a result of the renewed economic tensions in the euro-zone. Changes in foreign currency exchange rates may affect our results.

(b) Risks related to our businesses, business operations, governance, and internal systems: The delivery of our strategic priorities is subject to execution risk and we may not achieve all the expected benefits of our strategic initiatives. Our operations are subject to the threat of fraudulent activity and disruption from the external environment. We are highly dependent on our information technology systems. We could incur losses or be required to hold additional capital as a result of model limitations or failure. Issues with the quality of data or effectiveness of our data aggregation and validation procedures could result in ineffective risk management practices or inaccurate risk reporting.

(c) Regulatory and legal risks to our businesses: We are subject to a number of legal and regulatory actions and investigations, the outcomes of which are inherently difficult to predict, but unfavorable outcomes could have a material adverse effect on our operating results and brand. Unfavorable legislative or regulatory developments, or changes in the policy of regulators or governments, could have a material adverse effect on our operations, financial condition and prospects.

**Failure to implement our business strategies may adversely affect our financial performance.** Our strategies for business growth includes focusing our sales efforts on international connectivity strategies with high quality internationally minded clients as well as augmenting our returns through increased cross-selling and cost optimization. The development and implementation of our strategy requires difficult, subjective and complex judgments, including forecasts of economic conditions in various parts of the world. We may fail to correctly identify the trends we seek to exploit and the relevant factors in making decisions as to capital deployment and cost reduction, and our ability to execute our strategy may also be limited by our operational capacity and the increasing complexity of the regulatory environment in which we operate. Further, we may fail to attract internationally mobile clients or cross-sell our services to them. See "—Our "cross-selling" efforts to increase the number of products our customers buy from us and offer them all of the financial products that fulfill their needs is a key part of our growth strategy, and our failure to execute this strategy effectively could have a material adverse effect on our revenue growth and financial results." The work required to execute on our growth strategies is substantial. Alongside the strategic actions, we continue to implement a number of externally driven regulatory remediation programs. The magnitude and complexity of the projects required to meet these demands has resulted in heightened execution risk. Additionally, we may be unable to fully realize the cost optimization efforts and the other anticipated benefits from our cost optimization efforts and we may not be able to realize them in the currently anticipated timeframes.

The cumulative impact of the collective change initiatives underway is significant and has direct implications on resourcing and our people. Our ability to execute our strategy may also be limited by our operational capacity and the increasing complexity of the regulatory environment in which we operate. In addition, factors beyond our control, including but not limited to, the economic

and market conditions and other challenges discussed in detail above, could limit our ability to achieve all of the expected benefits of these initiatives. Failure to successfully implement our business strategies may have a material adverse effect on our businesses, prospects, financial condition and results of operations.

**Our "cross-selling" efforts to increase the number of products our customers buy from us and offer them all of the financial products that fulfill their needs is a key part of our growth strategy, and our failure to execute this strategy effectively could have a material adverse effect on our revenue growth and financial results.** Selling more products to our customers - "cross-selling" - is very important to our business model and key to our ability to grow revenue and earnings, especially during the current environment of slow economic growth and regulatory reform initiatives. Key among these cross-sell opportunities is the collaboration between CMB and GB&M, which is an area where many of our competitors also focus. In RBWM many of our competitors also focus on cross-selling, especially in retail banking and mortgage lending. In both instances, this can limit our ability to sell more products to our customers or influence us to sell our products at lower prices, reducing our net interest income and revenue from our fee-based products. It could also affect our ability to keep existing customers. New technologies could require us to spend more to modify or adapt our products to attract and retain customers. Our cross-sell strategy also is dependent on earning more business from our HSBC customers, and increasing our cross-sell ratio - or the average number of products sold to existing customers - may become more challenging.

**Operational risks are inherent in our businesses and may adversely impact our businesses and reputation.** We are exposed to many types of operational risks that are inherent in banking operations, including fraudulent and other criminal activities (both internal and external), breakdowns in processes or procedures and systems failure or non-availability. For example, fraudsters may target any of our products, services and delivery channels including lending, internet banking, payments, bank accounts and cards. These risks apply equally when we rely on outside suppliers or vendors to provide services to us and our customers. These operational risks may result in financial loss to us, an adverse customer experience, reputational damage and potential regulatory action depending on the circumstances of the event, which could have a material adverse effect on our businesses, prospects, financial condition and results of operation. Further, there is a risk that our operating system controls as well as business continuity and data security systems could prove to be inadequate. Any such failure could affect our operations and could have a material adverse effect on our results of operations by requiring us to expend significant resources to correct the defect, as well as exposing us to litigation or losses not covered by insurance.

**Our operations are subject to disruption from the external environment.** We may be subject to disruptions of our operating systems infrastructure arising from events that are wholly or partially beyond our control, which may include:

- computer viruses, electrical, telecommunications, or other essential utility outages;
- natural disasters, such as hurricanes or other severe weather conditions and earthquakes;
- events arising from local, regional or international politics, including terrorist acts; or
- absence of operating systems personnel due to global pandemics or otherwise, which could have a significant effect on our business operations as well as on HSBC affiliates world-wide.

Such disruptions may give rise to losses in service or disruption to customers, an inability to collect our receivables in affected areas, physical damage or loss of life and other loss or liability to us, which could have a material adverse effect on our businesses, prospects, financial condition and results of operation.

**A failure in or a breach of our operational or security systems or infrastructure, or those of our third party vendors and other service providers, including as a result of cyberattacks, could disrupt our businesses, result in the disclosure or misuse of confidential or proprietary information, and may adversely impact our businesses and reputation.** Data quality and integrity are critical for decision making, enterprise risk management and operational processes, as well as for complying with applicable regulation. Our businesses are dependent on our ability to process a large number of complex transactions, most of which involve, in some fashion, networked computing devices. If any of our financial, accounting, data processing or other recordkeeping systems and management controls fail, or are subject to cyberattack that could compromise integrity, availability or confidentiality of our systems or data, we could be materially adversely affected.

Cybersecurity continues to be leveraged by cybercriminals to perpetrate crimes at an increasing rate, often exceeding traditional offense, and poses a significant threat to economic, social and geopolitical stability for private firms and countries. HSBC faces sophisticated cyberthreats from state-sponsored attackers, hackers for hire, organized cyber syndicates, and other threat actors seeking our critical corporate and customer information.

In recent years, distributed denial of service ("DDoS") attacks, spearphishing campaigns, advanced malware, ransomware attacks, social engineering and insider threats have grown in volume and level of sophistication each with the intent to obtain personal customer financial information or proprietary corporate information, disrupt availability of services and to commit fraud. Such acts can affect our business by:

- compromising the confidentiality or integrity of our customers' data, potentially impacting our customers' ability to repay loan balances and negatively impacting their credit ratings;

- compromising the security of and confidence in our payment channels;
- putting our customers at risk for identity theft, account takeover and credit abuse;
- causing us to incur remediation and other costs related to liability for customer or third parties for losses, repairs to remedy systems flaws, or incentives to customers and business partners to maintain and rebuild business relationships after the attack;
- increasing our costs to respond to such threats and to enhance our processes and systems to ensure security of data;
- damaging our reputation as a result of public disclosure of a breach of our systems or a loss of data event;
- resulting in unauthorized disclosure or alteration of our corporate confidential information and confidential information of employees, customers and counterparties;
- disrupting our customers' or third parties' business operations; and
- resulting in violations of applicable privacy laws and other laws or regulatory fines, penalties or intervention.

The threat from cyberattacks, on us and on third party vendors on which we rely, is a concern for our organization and failure to protect our operations from internet crime or cyberattacks may result in financial loss and loss of customer data or other sensitive information which could undermine our reputation and our ability to attract and keep customers. We face various cyber risks in line with other multinational financial organizations. We and other multinational financial organizations have been, and will continue to be subject to an increasing risk of cyber incidents from these activities due to the proliferation of new technologies and the increasing use of the Internet and customers' use of personal smartphones, PCs and other computing devices, tablet PCs and other mobile devices to access products and services to conduct financial transactions and the increased sophistication and activities of organized crime for seeking financial gain, hacktivists (geopolitical designated groups), cyberterrorists (attacks against critical infrastructure) and state sponsored advanced persistent threats, sometimes referred to as APTs, for corporate espionage. Our risk and exposure to these matters remains heightened because of, among other things, HSBC Group's prominent size and scale, geographical span and role in the financial services industry, and our offering of Internet banking and mobile banking platforms that seek to serve our customers when and how they want to be served. In addition, the consolidation of clearing agents, exchanges and clearing houses and increased interconnectivity of financial institutions with such central agents, exchanges and clearing houses increases the exposure of cyberattacks on critical parties that may affect us. Evaluating and monitoring the cyberthreat landscape in comparison to our existing capabilities, and adjusting our programs in order to respond to these threats, may require additional capital expenses for human resources and technology.

In 2016, we experienced three DDoS attacks. The first occurred in February 2016 on one of our data centers. Customers may have experienced intermittent log-on issues with the U.S. Personal Internet Banking website, HSBCnet and the public websites. The attack was successfully mitigated via internal and external vendor controls in multiple datacenters. The second DDoS attack occurred in July 2016 when HSBC experienced a second DDoS attack targeting the U.S. Personal Internet Banking website. The attack traffic did not impact business services, and was systematically and effectively mitigated by our internal DDoS protection services without the need to invoke external vendor mitigation. In August 2016, we observed another DDoS attack on our U.S. Personal Internet Banking website, which impacted multiple Internet facing services. This attack was successfully mitigated via internal and external vendor controls in multiple datacenters. We have also been the subject of these types of attacks in prior years.

Our businesses are increasingly subject to laws and regulations relating to surveillance, encryption and data on-shoring in the jurisdictions in which we operate. Compliance with these laws and regulations may require us to change our policies, procedures and technology for information security (including cyber security) from time to time.

**We may suffer losses due to employee negligence, fraud or misconduct.** Non-compliance with policies, employee misconduct, negligence and fraud could result in regulatory sanctions and serious reputational or financial harm. We are dependent on our employees. We could be materially adversely affected if an employee or employees, acting alone or in concert with non-affiliated third parties, causes a significant operational break-down or failure, either as a result of human error or where an individual purposefully sabotages or fraudulently manipulates our operations or systems. In recent years, a number of multinational financial institutions have suffered material losses due to the actions of 'rogue traders' or other employees. It is not always possible to deter employee misconduct and the precautions we take to prevent and detect this activity may not always be effective. Employee misconduct could have a material adverse effect on our business, prospects, financial condition and results of operations.

**We may suffer losses due to negligence, fraud or misconduct by third parties.** We depend on third party suppliers, outsource providers and our affiliates for a variety of services. Third parties with which we do business could also be sources of operational risk to us, including risks relating to break-downs or failures of such parties' own systems or employees. The OCC and FRB require financial institutions to maintain third party and service provider risk management programs, which include due diligence requirements for third parties and service providers as well as for our affiliates who may perform services for us. Under FRB guidance "service providers" is broadly defined to include all entities that have entered into a contractual relationship with a financial institution to provide business functions or activities. If our third party risk and service provider management and due diligence program is not sufficiently robust, this could lead to regulatory intervention. Any of these occurrences could diminish

our ability to operate one or more of our businesses, and may result in potential liability to clients, reputational damage or regulatory intervention, all of which could materially adversely affect us.

**Failure to successfully change our operational practices may have a material impact on our businesses.** Changes to operational practices from time to time could materially impact our performance and results. Such changes may include:

- our determining to sell residential mortgage loans and other loans;
- changes to our customer account management and risk management/collection policies and practices;
- our investment choices in technology, business infrastructure and specialized personnel;
- changes to our AML and sanctions policies and the related operations practices; or
- our outsourcing of various operations, including our mortgage servicing business.

Further, in order to react quickly to or meet newly-implemented regulatory requirements, we may need to change or enhance systems within very tight time frames, which would increase operational risk. Failure to implement changes to our operational practices successfully and efficiently may diminish our ability to operate one or more of our businesses and could result in reputational damage and regulatory intervention, all of which could materially adversely affect us.

**Federal Reserve Board policies can significantly affect business and economic conditions and, as a result, our financial results and condition.** The FRB regulates the supply of money and credit in the United States. Its policies determine in large part our cost of funds for lending and investing and the return we earn on those loans and investments, both of which affect our net interest margin. They also can materially affect the value of financial instruments we hold, such as debt securities and derivative instruments. Its policies also can affect our borrowers, potentially increasing the risk that they may fail to repay their loans. Changes in FRB policies are beyond our control and can be hard to predict.

**We may not be able to meet regulatory requests for data.** The volume, granularity, frequency and scale of regulatory and other reporting requirements necessitate a clear data strategy to enable consistent data aggregation, reporting and management. Inadequate management information systems or processes, including those relating to risk data aggregation and risk reporting, could lead to a failure to meet regulatory reporting requirements or other internal or external information demands. Financial institutions that fail to comply with the principles for effective risk data aggregation and risk reporting as set out by the Basel Committee may face supervisory measures. Any of these failures could have a material adverse effect on our business, prospects, financial condition and results of operations.

**The delivery of our regulatory priorities is subject to execution risk.** The financial services industry is currently facing an unprecedented period of scrutiny. Additionally, we are subject to a number of consent orders with our regulators. Regulatory requests, legal matters and business initiatives all require a significant amount of time and resources to implement. The magnitude and complexity of projects required to meet these demands has resulted in heightened execution risk. Organizational change and external factors, including the challenging macroeconomic environment and the extent and pace of regulatory change also contribute to execution risk. These factors could adversely affect the successful delivery of our regulatory priorities.

**Our data management and policies and processes may not be sufficiently robust.** Critical business processes across the HSBC Group rely on large volumes of data from a number of different systems and sources. If data governance, data quality and data architecture policies and procedures are not sufficiently robust, manual intervention, adjustments and reconciliations may be required to reduce the risk of error in reporting to senior management or regulators. Inadequate policies and processes may also affect our ability to use data to service customers more effectively and/or improve our product offering. This could have a material adverse effect on our business, prospects and results of operations.

**Uncertainty surrounding the potential legal, regulatory and policy changes by the new Administration that may directly impact financial institutions and the global economy.** The new Administration has indicated that it would like to see changes made to certain financial reform regulations, including Dodd-Frank, which has resulted in increased regulatory uncertainty, and we are assessing the potential impact on financial and economic markets and on our business. Changes in federal policy and regulatory agencies are expected to occur over time through policy and personnel changes, which could lead to changes involving the level of oversight and focus on the financial services industry. The nature, timing and economic and political effects of potential changes to the current legal and regulatory framework affecting financial institutions remain highly uncertain. At this time, it is unclear what laws, regulations and policies may change and whether future changes or uncertainty surrounding future changes will adversely affect our operating environment and therefore our results of operations and financial condition.

**We face significant and increasing competition in the rapidly evolving financial services industry.** We compete with other financial institutions in a highly competitive industry that continues to undergo significant change as a result of financial regulatory reform and increased public scrutiny stemming from the financial crisis and continued challenging economic conditions. We target internationally mobile clients who need sophisticated global solutions and generally compete on the basis of the quality of our customer service, the wide variety of products and services that we can offer our customers and the ability of those products and services to satisfy our customers' needs, the extensive distribution channels available for our customers, our innovation, and our reputation. Continued or increased competition in any one or all of these areas may negatively affect our market share and results

of operations and/or cause us to increase our capital investment in our businesses in order to remain competitive. Additionally, if our products and services are not accepted by our targeted clients, this may have a material adverse effect on our businesses, financial condition and results of operations.

Given the current economic, regulatory, and political environment for large financial institutions such as us, and possible public backlash to bank fees, there is increased competitive pressure to provide products and services at current or lower prices. Consequently, our ability to reposition or reprice our products and services from time to time may be limited and could be influenced significantly by the actions of our competitors who may or may not charge similar fees for their products and services. Any changes in the types of products and services that we offer our customers and/or the pricing for those products and services could result in a loss of customers and market share and could materially adversely affect our results of operations. Further, new technologies could require us to spend more to modify or adapt our products to attract and retain customers. Continued technological advances and the growth of e-commerce have made it possible for non-depository institutions to offer products and services that traditionally were banking products, and for financial institutions and other companies to provide electronic and internet-based financial solutions, including electronic payment solutions. We may not respond effectively to these competitive threats from existing and new competitors and may be forced to increase our investment in our businesses to modify or adapt our existing products and services or develop new products and services to respond to our customers' needs. Any of these factors may have a material adverse effect on our business, prospects, financial condition and results of operations.

**We have significant exposure to counterparty risk.** We are exposed to counterparties that are involved in virtually all major industries, and we routinely execute transactions with counterparties in financial services, including brokers and dealers, central clearing counterparties, commercial banks, investment banks, mutual and hedge funds, and other institutional clients. Many of these transactions expose us to credit risk in the event of default by our counterparty or client. Our ability to engage in routine transactions to fund our operations and manage our risks could be materially adversely affected by the actions and commercial soundness of other financial services institutions. Financial institutions are necessarily interdependent because of trading, clearing, counterparty or other relationships. As a consequence, a default by, or decline in market confidence in, individual institutions, or anxiety about the financial services industry generally, can lead to further individual and/or systemic difficulties, defaults and losses.

Mandatory central clearing of over the counter derivatives, including under the Dodd-Frank Act, brings new risks to us. As a clearing member, we have financial exposure for losses incurred at a Central Counterparty ("CCP") by the default of other clearing members. Hence central clearing brings with it a new element of interconnectedness between clearing members and clients that we believe may increase rather than reduce our exposure to systemic risk. At the same time, our ability to manage such risk ourselves will be reduced because risk controls are largely managed by the CCPs themselves and it is unclear at present how, at a time of stress, regulators and resolution authorities would intervene.

In situations in which we strive to mitigate counterparty risk by taking collateral, our credit risk may remain high if the collateral we hold cannot be realized or must be liquidated at prices insufficient to recover the full amount of our exposure to the respective counterparty. There is a risk that collateral cannot be realized, including situations where this arises by change of law that may influence our ability to foreclose on collateral or otherwise enforce contractual rights.

We also have credit exposure arising from risk defeasance products such as credit default swaps ("CDSs"), and other credit derivatives, each of which is carried at fair value. The risk of default by counterparties to CDSs and other credit derivatives used as mitigants affects the fair value of these instruments depending on the valuation and the perceived credit risk of the underlying instrument against which protection has been purchased. Any such adjustments or fair value changes may have a material adverse effect on our financial condition and results of operations.

**The financial condition of our clients and counterparties, including other financial institutions, could adversely affect us.** A significant deterioration in the credit quality of one of our counterparties could lead to concerns in the market about the credit quality of other counterparties in the same industry, thereby exacerbating our credit risk exposure, and increasing the losses (including mark-to-market losses) that we could incur in our market-making and clearing businesses.

Financial services institutions are interrelated as a result of market-making, trading, clearing, counterparty, or other relationships. As a consequence, a default by, or decline in market confidence in, individual institutions, or anxiety about the financial services industry generally, can lead to further individual and/or systemic difficulties, defaults and losses. HSBC routinely executes transactions with counterparties in the financial services industry, including brokers and dealers, commercial banks, investment banks, mutual and hedge funds, and other institutional clients. Many of these transactions expose us to credit risk in the event of a default by the counterparty or client. When such a counterparty or client becomes bankrupt or insolvent, we may become involved in significant disputes or litigation with the counterparty's or client's bankruptcy estate and other creditors, or involved in regulatory investigations, each of which could increase our operational and litigation costs.

Significant or prolonged periods of market stress or illiquidity could further decrease our ability to realize the fair value of collateral held by us or make it more likely that we would liquidate collateral at prices insufficient to recover the full amount of our exposure

to the respective counterparty or client. Further, disputes with counterparties as to the valuation of collateral significantly increase in times of market stress and illiquidity.

**Increased credit risk, including as a result of a deterioration in economic conditions, could require us to increase our provision for credit losses and allowance for credit losses and could have a material adverse effect on our results of operations and financial condition.** When we loan money or commit to loan money we incur credit risk, or the risk of losses if our borrowers do not repay their loans. The credit performance of our loan portfolios significantly affects our financial results and condition. If the current economic environment were to deteriorate, more of our customers may have difficulty in repaying their loans or other obligations which could result in a higher level of credit losses and provision for credit losses. We reserve for credit losses by establishing an allowance through a charge to earnings. The amount of this allowance is based on our assessment of credit losses inherent in our loan portfolio (including unfunded credit commitments). The process for determining the amount of the allowance is critical to our financial results and condition. It requires difficult, subjective and complex judgments about the future, including forecasts of economic or market conditions that might impair the ability of our borrowers to repay their loans. We might increase the allowance because of changing economic conditions, including falling home prices and higher unemployment, or other factors. For example, changes in borrower behavior or the regulatory environment also could influence recognition of credit losses in the portfolio and our allowance for credit losses.

While we believe that our allowance for credit losses was appropriate at December 31, 2016, there is no assurance that it will be sufficient to cover future credit losses, especially if commodity prices and economic conditions in Latin America remain under pressure or if housing and employment conditions worsen. In the event of a deterioration in economic conditions, we may be required to build reserves in future periods, which would reduce our earnings.

**Concentrations of credit and market risk, including exposure to Latin American corporate clients and the oil and gas markets, could increase the potential for significant losses.** We have exposure to increased levels of risk when customers are engaged in similar business activities or activities 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. While we regularly monitor various segments of our portfolio exposures to assess potential concentration risks, our efforts to diversify or hedge our credit portfolio against concentration risks may not be successful. We have exposure to commercial customers domiciled outside of the United States and or in sectors that can be materially affected by changing economic conditions such as customers in the commodity sector. For example, a significant portion of our loan portfolio by region is concentrated with clients in Latin America and a significant portion of our loan portfolio by sector is concentrated in the oil and gas industry. In addition, disruptions in the liquidity or transparency of the financial markets may result in our inability to sell, syndicate or realize the value of our positions, thereby leading to increased concentrations.

Due to our strategy to serve the banking needs of an international customer base, a number of the loans with our owned mortgage loan portfolio was comprised of loans to borrowers without traditional U.S. credit. Despite risk management mitigation, there is inherently higher uncertainty around loss rates due to the lack of detailed historic credit information on each borrower.

**Our inability to meet funding requirements due to deposit attrition or access to the capital markets.** HSBC USA is a holding company without operations of its own and therefore relies on dividends and other distributions for a portion of its funding and liquidity. Federal and state laws limit the amount of dividends and distributions that our bank and nonbank subsidiaries may pay. Our primary source of funding is deposits, augmented by issuance of commercial paper and term debt. Adequate liquidity is critical to our ability to operate our businesses.

We also access wholesale markets in order to provide funding for entities that do not accept deposits, to align asset and liability maturities and currencies and to maintain a market presence. We issued a total of \$8,694 million of long-term debt at various points in 2016, including \$4,000 million of senior debt issued to HSBC North America. An inability to obtain financing in the unsecured long-term or short-term debt capital markets because of market factors or factors in our business could have a substantial adverse effect on our liquidity. Unfavorable macroeconomic developments, market disruptions or regulatory developments may increase our funding costs or challenge our ability to raise funds to support our businesses, materially adversely affecting our businesses, prospects, financial condition and/or results of operations.

Despite the apparent improvements in overall market liquidity and our liquidity position, future conditions that could negatively affect our liquidity include:

- an inability to maintain stable deposit balances because customers may invest in other financial instruments as an alternative;
- diminished access to capital markets because of market factors or factors in our business;
- an increased interest rate environment for our commercial paper, deposits or term debt;
- unforeseen cash or capital requirements;
- an inability to sell assets; and
- an inability to obtain expected funding from HSBC Group subsidiaries and through deposits.

These conditions could be caused by a number of factors, including internal and external factors, such as, among others:

- financial and credit market disruption;
- volatility or lack of market or customer confidence in financial markets;
- lack of market or customer confidence in HSBC or negative news about HSBC or the financial services industry generally; and
- other conditions and factors over which we have little or no control including economic conditions in the U.S. and abroad and concerns over potential government defaults and related policy initiatives.

HSBC has provided us with capital support in the past and has indicated its commitment and capacity to fund the needs of our businesses in the future. Notwithstanding, if we are unable to maintain stable deposit balances and/or raise funds in the capital markets, our liquidity position could be adversely affected and we might be unable to meet deposit withdrawals on demand or at their contractual maturity, to repay borrowings as they mature, or to fund new loans, investments and businesses. We may need to liquidate unencumbered assets to meet our liabilities. In a time of reduced liquidity, we may be unable to sell some of our assets, or we may need to sell assets at depressed prices, which in either case could materially adversely affect our businesses, prospects, results of operations and/or financial condition.

**Adverse changes in our credit ratings could have a material adverse effect on our liquidity and cost of funding.** Our credit ratings are an important part of maintaining our liquidity. We depend on access to the securities market for a portion of our funding. We issued a total of \$8,694 million of long-term debt in 2016, including \$4,000 million of senior debt issued to HSBC North America. Our credit ratings are subject to ongoing review by the rating agencies, which consider a number of factors including their assessment of our relative financial strength and results of operations, including our strategy and our management's capability, as well as factors affecting the financial services industry generally, including legal and regulatory frameworks affecting our business activities and the rights of our creditors. There can be no assurance that downgrades will not occur. Any downgrade in our credit ratings could potentially increase our borrowing costs, impact our ability to issue commercial paper and, depending on the severity of the downgrade, substantially limit our access to capital markets, require us to make cash payments or post collateral and permit termination by counterparties of certain significant contracts. Downgrades in our credit ratings also may trigger additional collateral or funding obligations which could negatively affect our liquidity, including as a result of credit-related contingent features in certain of our derivative contracts.

In March 2016, Moody's changed the rating outlook for HSBC USA and HSBC Bank USA to negative from stable following a similar change in outlook to negative from stable for HSBC. The outlook change for HSBC signifies Moody's concerns about a weakening in its intrinsic financial strength due to deteriorating operating conditions in Hong Kong, one of HSBC's key markets. In spite of their concerns, Moody's stated that HSBC's willingness to provide support to its U.S. subsidiaries remains very high. While the outlook changed, Moody's affirmed its long- and short-term supported debt and deposit ratings for HSBC USA and HSBC Bank USA.

In July 2016, Standard & Poor's Ratings Services ("S&P") took various rating agency actions on U.K. banks, including HSBC, to reflect rising economic risks for the U.K. domestic banking industry, including potential pressures arising from the U.K. vote to leave the EU. As a result, S&P changed the rating outlook for HSBC USA and HSBC Bank USA to negative from stable. While the outlook changed, S&P affirmed its long- and short-term counterparty credit ratings for HSBC USA and HSBC Bank USA.

Rating agencies continue to evaluate economic and geopolitical trends, regulatory developments, future profitability, risk management practices and litigation matters, all of which may lead to adverse ratings actions. Although we closely monitor and strive to manage factors influencing our credit ratings, there is no assurance that our credit ratings will not change in the future. At December 31, 2016, there were no pending actions in terms of changes to ratings on the debt of HSBC USA or HSBC Bank USA from any of the rating agencies.

**Financial difficulties or credit downgrades of mortgage and bond insurers may negatively affect our servicing and investment portfolios.** Our servicing portfolio includes certain mortgage loans that carry some level of insurance from one or more mortgage insurance companies. To the extent that any of these companies experience financial difficulties or credit downgrades, we may be required, as servicer of the insured loan on behalf of the investor, to obtain replacement coverage with another provider, possibly at a higher cost than the coverage we would replace. We may be responsible for some or all of the incremental cost of the new coverage for certain loans depending on the terms of our servicing agreement with the investor and other circumstances, although we do not have an additional risk of repurchase loss associated with claim amounts for loans sold to third-party investors. Similarly, some of the mortgage loans we hold for investment or for sale carry mortgage insurance. If a mortgage insurer is unable to meet its credit obligations with respect to an insured loan, we might incur higher credit losses if replacement coverage is not obtained. We also have investments in municipal bonds that are guaranteed against loss by bond insurers. The value of these bonds and the payment of principal and interest on them may be negatively affected by financial difficulties or credit downgrades experienced by the bond insurers.

**The manner in which we hold, service and enforce residential mortgage loans in our portfolio may be challenged.** We are subject to certain legal and contractual requirements for how we hold, transfer, use or enforce promissory notes, security instruments and other documents for residential mortgage loans that we service. In recent years, challenges have been raised to whether we

have adhered to these requirements, and whether, as a result in some instances, the loans can be enforced as local law otherwise would permit. Additionally, we currently use the Mortgage Electronic Registration Systems, Inc. (MERS) system for approximately half of the residential mortgage loans that remain in our servicing portfolio. Individual borrowers and certain local governments have contended that the use of MERS is improper or otherwise adversely affects the security interest. If documentation requirements were not met, or if the use of MERS or the MERS system is found not valid or effective, we could be obligated to, or choose to, take remedial actions and may be subject to additional costs or losses.

**Lawsuits and regulatory investigations and proceedings may continue and increase in the current economic and regulatory environment.** In the ordinary course of business, HSBC USA and its affiliates are routinely named as defendants in, or as parties to, various legal actions and proceedings relating to our current and/or former operations and are subject to governmental and regulatory examinations, information-gathering requests, investigations and formal and informal proceedings, as described in Note 27, "Litigation and Regulatory Matters" in the accompanying consolidated financial statements, certain of which may result in adverse judgments, settlements, fines, penalties, remediation payments, injunctions and other relief. There is no certainty that the litigation will decrease in the near future, especially in the event of a resurgent recession or additional regulatory and law enforcement investigations and proceedings by federal and state governmental agencies.

Financial service providers are at risk of regulatory sanctions or fines related to conduct of business and financial crime. The incidence of regulatory proceedings and other adversarial proceedings against financial service firms is increasing, with a corresponding increase also in civil litigation arising from or relating to issues which are subject to regulatory investigations, sanctions or fines. In the current environment of heightened regulatory scrutiny, particularly in the financial services industry, there may be additional regulatory investigations and reviews conducted by banking and other regulators, including the CFPB, CFTC, state Attorneys General or state regulatory and law enforcement agencies that, if determined adversely, may result in judgments, settlements, substantial fines, penalties, remediation payments or other results, including additional compliance requirements, which could materially adversely affect our business, financial condition or results of operations, or cause serious reputational harm. In addition, HSBC's extensive global operations also increase our compliance and regulatory risks and costs. For example, operations in emerging markets, including facilitating cross-border transactions on behalf of its clients, subjects it to higher compliance risks under U.S. regulations primarily focused on various aspects of global corporate activities, including the FCPA and AML. These risks can be more acute in less developed markets and thus require substantial investment in compliance infrastructure or could result in a reduction in certain of our affiliates' business activities. Criminal prosecutions of financial institutions for, among other alleged conduct, breaches of AML, sanctions and FCPA regulations, antitrust violations, market manipulation, aiding and abetting tax evasion, and providing unlicensed cross-border banking services, have become more commonplace and may increase in frequency due to increased media attention and higher expectations from prosecutors and the public. Any such prosecution or investigation of, or legal proceeding or regulatory action brought against, HSBC or one or more of its subsidiaries could result in substantial fines, penalties and/or forfeitures and could have a material adverse effect on our results, business and prospects, including the potential loss of key licenses, requirement to exit certain businesses and withdrawal of funding from depositors and other stakeholders. See "Failure to implement our obligations under the deferred prosecution agreements could have a material adverse effect on our results and operations" and "We may incur additional costs and expenses in ensuring that we satisfy requirements relating to our mortgage foreclosure processes" below.

We establish reserves for legal claims when payments associated with the claims become probable and the costs can be reasonably estimated. We may incur legal costs for a matter even if we have not established a reserve. In addition, the actual cost of resolving a legal claim may be substantially higher than any amounts reserved for that matter. It is inherently difficult to predict the outcome of many of the legal, regulatory and other adversarial proceedings involving our businesses, particularly those cases in which matters are brought on behalf of various classes of claimants, those which seek unspecified damages or those which involve novel legal claims. The ultimate resolution of a pending legal proceeding, depending on the remedy sought and granted, could materially adversely affect our results of operations and financial condition.

**We may incur additional costs and expenses in ensuring that we satisfy requirements relating to our mortgage foreclosure processes.** As previously reported, HSBC Bank USA entered into the OCC Servicing Consent Order with the OCC and our affiliate, HSBC Finance, and our then indirect parent, HSBC North America entered into a similar consent order with the FRB following completion of a broad horizontal review of industry foreclosure practices.

The Servicing Consent Orders required an independent review of foreclosures pending or completed between January 2009 and December 2010 to determine if any borrower was financially injured as a result of an error in the foreclosure process. We refer to this as the Independent Foreclosure Review or IFR. In 2013, HSBC Bank USA entered into an agreement with the OCC, and HSBC Finance and HSBC North America entered into an agreement with the FRB, which we refer to as the "IFR Settlement Agreements," to amend the Servicing Consent Orders, pursuant to which the Independent Foreclosure Review ceased and HSBC North America made a cash payment of \$96 million into a fund used to make payments to borrowers that were in active foreclosure during 2009 and 2010 and, in addition, is providing other assistance (e.g., loan modifications) to help eligible borrowers. As a result, in 2012, we recorded expenses of \$19 million reflecting the portion of HSBC North America's total expense we believe is allocable to us. See Note 27, "Litigation and Regulatory Matters," in the accompanying consolidated financial statements for further discussion.

In June 2015, HSBC Bank USA consented to amendments to the OCC Servicing Consent Order which set forth the OCC's conclusions that compliance with all requirements of the OCC Servicing Consent Order had not yet been achieved and imposed certain additional business restrictions on HSBC Bank USA. On January 6, 2017, the OCC terminated the OCC Servicing Consent Order, together with the 2013 and 2015 amendments thereto, after determining that HSBC Bank USA had satisfied the requirements thereunder. The OCC also assessed a \$32.5 million civil money penalty against HSBC Bank USA finding that HSBC Bank USA failed to correct deficiencies identified under the OCC Servicing Consent Order in a timely fashion. The OCC also found that HSBC Bank USA failed to file payment change notices in compliance with applicable bankruptcy rules on about 1,700 mortgage loan accounts, which resulted in approximately \$3.5 million in remediation to borrowers. An additional charge to income in the amount of \$27.5 million was taken by HSBC Bank USA in the fourth quarter of 2016 related to this matter.

Compliance related costs have permanently increased to higher levels due to the remediation requirements of the Servicing Consent Orders. In addition, the issuance of the Servicing Consent Orders, as well as the termination of the OCC Servicing Consent Order does not preclude additional enforcement actions against HSBC Bank USA or our affiliates by bank regulatory, governmental or law enforcement agencies, such as the DOJ or state Attorneys General, which could include the imposition of civil money penalties and other sanctions relating to the activities addressed by the Servicing Consent Orders.

Further, the settlement related to the Independent Foreclosure Review does not preclude future private litigation concerning these practices. Separate from the Servicing Consent Orders and the settlement related to the Independent Foreclosure Review discussed above, in February 2012, the DOJ, U.S. Department of Housing and Urban Development and state Attorneys General of 49 states announced a settlement with the five largest U.S. mortgage servicers with respect to foreclosure and other mortgage servicing practices. In February 2016, HSBC Bank USA, HSBC Finance, HSBC Mortgage Services Inc. and HSBC North America entered into an agreement with the DOJ, the U.S. Department of Housing and Urban Development, the Consumer Financial Protection Bureau, other federal agencies ("Federal Parties") and the Attorneys General of 49 states and the District of Columbia ("State Parties") to resolve civil claims related to past residential mortgage loan origination and servicing practices. The national mortgage settlement, may not, however, completely preclude other enforcement actions by state or federal agencies, regulators or law enforcement agencies related to foreclosure and other mortgage servicing practices, including, but not limited to, matters relating to the securitization of mortgages for investors, including the imposition of civil money penalties, criminal fines or other sanctions. In addition, these practices have in the past resulted in private litigation and such a settlement would not preclude further private litigation concerning foreclosure and other mortgage servicing practices.

While the housing market in the U.S. continues to recover, the strength of recovery varies by market. Certain courts and state legislatures have issued rules or statutes relating to foreclosures and scrutiny of foreclosure documentation has increased in some courts. Also in some areas, officials are requiring additional verification of information filed prior to the foreclosure proceeding. The combination of these factors has led to increased delays in several jurisdictions which will continue to take time to resolve.

**We may incur additional costs and expenses relating to mortgage loan repurchases and other mortgage loan securitization-related activities.** In connection with our loan sale and securitization activities with Federal National Mortgage Association ("Fannie Mae") and Federal Home Loan Mortgage Corporation ("Freddie Mac"), the government sponsored enterprises ("GSEs"), and loan sale and private-label securitization transactions, HUSI has made representations and warranties that the loans sold meet certain requirements. For transactions with the GSEs, these representations include type of collateral, underwriting standards, validity of certain borrower representations in connection with the loan, that primary mortgage insurance is in force for any mortgage loan with a loan-to-value ratio ("LTV") greater than 80 percent, and the use of the GSEs' standard legal documentation. We may be, and have been, required to repurchase loans and/or indemnify the GSEs and other private investors for losses due to breaches of representations and warranties.

In estimating our repurchase liability arising from breaches of representations and warranties, we consider several factors, including the level of outstanding repurchase demands in inventory and our historical defense rate, the level of outstanding requests for loan files and the related historical repurchase request conversion rate and defense rate, the level of potential future demands based on historical conversion rates of loans for which we have not received a loan file request but are two or more payments delinquent or expected to become delinquent at an estimated conversion rate, and any settlements reached with our counterparties. While we believe that our current repurchase liability reserves are adequate, the factors referred to above are dependent on economic factors, investor demand strategies, housing market trends and other circumstances, which are beyond our control and, accordingly, there can be no assurance that such reserves will not need to be increased in the future.

We have also been involved as a sponsor/seller of loans used to facilitate whole loan securitizations underwritten by our affiliate, HSI, and serve as trustee of various securitization trusts. Participants in the U.S. mortgage securitization market that purchased and repackaged whole loans have been the subject of lawsuits and governmental and regulatory investigations and inquiries, which have been directed at groups within the U.S. mortgage market, such as servicers, originators, underwriters, trustees or sponsors of securitizations, and at particular participants within these groups. As the industry's residential foreclosure issues continue, HSBC Bank USA has taken title to an increasing number of foreclosed homes as trustee on behalf of various securitization trusts. As nominal record owner of these properties, HSBC Bank USA has been sued by municipalities and tenants alleging various obligations of law, including laws regarding property upkeep and tenants' rights. While we believe and continue to maintain that the obligations

at issue and any related liability are properly those of the servicer of each trust, we continue to receive significant and adverse publicity in connection with these and similar matters, including foreclosures that are serviced by others in the name of "HSBC, as trustee." As a result, we may be subject to additional litigation and governmental and regulatory scrutiny related to our participation in the U.S. mortgage securitization market, either individually or as a member of a group.

**Changes in the method of determining the London Interbank Offered Rate ("LIBOR") or other reference rates may adversely impact the value of debt securities and other financial instruments we hold or issue that are linked to such reference rates and could adversely impact our financial condition or results of operations.** As a result of concerns about the accuracy of the calculation of the daily LIBOR, a number of British Bankers' Association member banks entered into settlements with their regulators and law enforcement agencies with respect to alleged manipulation of LIBOR, and there are ongoing investigations by regulators and governmental authorities in various jurisdictions. Methods of calculating LIBOR have been affected by new regulation, and similar changes may occur to other reference rates. Various regulators and competition and enforcement authorities are conducting investigations and reviews related to certain past submissions made by panel banks and the processes for making submissions in connection with the setting of the European interbank offered rates and other benchmark interest and foreign exchange rates. Accordingly, it is not currently possible to determine whether, or to what extent, any such changes would impact the value of any debt securities we hold or issue that are linked to LIBOR or other reference rates, or any loans, derivatives and other financial obligations or extensions of credit we hold or are due to us, or for which we are an obligor, that are linked to LIBOR or other reference rates, or whether, or to what extent, such changes would impact our financial condition or results of operations.

**Regulatory requirements in the U.S. and in non-U.S. jurisdictions to facilitate the future orderly resolution of large financial institutions could negatively impact our business structures, activities and practices.** The Dodd-Frank Act requires HSBC as a foreign bank holding company and our ultimate parent to prepare and submit annually a plan for the orderly resolution of the U.S. businesses under the U.S. Bankruptcy Code in the event of future material financial distress or failure (the Systemically Important Financial Institution Plan or "SIFI Plan"). The Dodd-Frank Act focuses on reducing risks to the U.S. financial system, requiring a plan to demonstrate how the relevant entities can be resolved in a "rapid and orderly" fashion in a manner that avoids systemic risks. Similarly, HSBC Bank USA must prepare and submit an annual resolution plan under the Federal Deposit Insurance Act (the Insured Depository Institution Plan or "IDI Plan"). HSBC Bank USA is required to regularly provide a plan to the FDIC that is executable for resolving the bank in the event of its failure that protects depositors, maximizes the net present value return on assets and minimizes the amount of any losses to creditors, including the FDIC's Deposit Insurance Fund. These plans must include information on resolution strategy, agreements with major counterparties and "interdependencies," among other things. Resolution planning requires substantial effort, time and cost across all of our businesses and geographies. The HSBC SIFI Plan is subject to review by both the FRB and the FDIC and the HSBC Bank USA IDI Plan is subject to review by the FDIC. In December 2015, HSBC and HSBC Bank USA submitted their 2015 plans and, as of the date of this report, have not received formal feedback on the 2015 plans from the agencies. During the third quarter of 2016, the next annual submission date for both the HSBC SIFI Plan and the HSBC Bank USA IDI Plan were extended to December 31, 2017.

If the FRB and the FDIC both determine that a SIFI Plan is not "credible" (which, although not defined, is generally believed to mean the regulators do not believe the plans are feasible or would otherwise allow resolution of a financial institution's U.S. businesses in a way that protects systemically important functions without severe systemic disruption and without exposing taxpayers to loss), and the deficiencies are not remedied within the required time period, an institution, including HSBC, could be required to restructure or reorganize businesses, legal entities, or operational systems and intra-company transactions in ways that could negatively impact operations, or be subject to restrictions on growth. We could also eventually be subjected to more stringent capital, leverage or liquidity requirements, or be required to divest certain assets or operations.

**The transition to the new requirements under Basel III will continue to put additional pressure on regulatory capital and liquidity.** HSBC North America is required to meet consolidated regulatory capital and liquidity requirements, including new or modified regulations and related regulatory guidance, in accordance with current regulatory timelines. In 2010, the Basel Committee issued "Basel III: A global regulatory framework for more resilient banks and banking systems" (the "Basel III Capital Framework") and "International framework for liquidity risk measurement, standards and monitoring" (the "Basel III Liquidity Framework") (together, "Basel III"). In 2013, the U.S. banking regulators published a final rule implementing the Basel III Capital Framework and the Dodd-Frank Act's phase-out of trust preferred securities from Tier 1 capital, which we refer to as the "Basel III final rule." The Basel III final rule establishes new minimum capital and buffer requirements to be phased in by 2019 and also requires the deduction of certain assets from capital, within prescribed limitations, and the inclusion of accumulated other comprehensive income (loss) ("AOCI") in capital. The Basel III final rule also increases capital requirements for counterparty credit risk and introduces a SLR with full implementation and compliance required by January 1, 2018. HSBC North America and HSBC Bank USA began complying with the effective portions of the Basel III final rule on January 1, 2014. The Basel III final rule will increase our regulatory capital requirements over the next two years as capital deductions, adjustments and buffers are phased in until full implementation on January 1, 2019.

In addition to the Basel III final rule, there continue to be numerous proposals that could significantly impact the regulatory capital standards and requirements applicable to financial institutions such as HSBC North America, as well as our ability to meet these

requirements. The Basel Committee intends to finalize reform initiatives in three areas in 2017: (i) enhancements to the risk sensitivity and robustness of the standardized approaches; (ii) review of the role of internal models in the capital framework; and (iii) finalization of the design and calibration of the leverage ratio and capital floors. These reform initiatives include adoption of revisions to the market risk capital framework and proposed consultations on revisions to the standardized approaches for operational risk and credit risk. Further revisions to the Basel III Capital Framework resulting from these initiatives could materially increase our capital requirements to the extent they are implemented by the FRB.

Further increases in regulatory capital may also be required in response to other U.S. supervisory requirements relating to capital. The exact amount, however, will depend upon our prevailing risk profile and that of our North America affiliates under various stress scenarios. Participation by HSBC North America in the FRB's CCAR stress test process also requires that HSBC North America maintain sufficient capital to meet minimum regulatory ratios over a nine-quarter forward-looking planning horizon, which could also require increased capital to withstand the application of the stress scenarios over the planning horizon. The FRB has also indicated that it is considering a new measure to replace the capital conservation buffer with a "stress capital buffer," which would equal a bank holding company's projected decline in common equity Tier 1 under the supervisory severely adverse scenario, prior to any planned capital actions, and would be reset each year based on the bank holding company's DFAST results. We are reviewing these possible changes to the capital conservation buffer in anticipation of the formal rulemaking and their potential impact on our capital planning processes specifically and our operations and results generally. We currently target internal capital levels using an approach analogous to the stress capital buffer and, therefore, we do not expect the proposal to have a significant impact on our U.S. operations or change our capital planning processes.

HSBC Bank USA is also required to participate in the OCC's DFAST. These stress testing requirements will influence our regulatory capital and liquidity planning process, and may impose additional operational and compliance costs on us.

The Basel Committee has adopted two minimum liquidity risk measures which are applicable to certain large banking institutions, including HSBC North America and HSBC Bank USA. The LCR measures the amount of a financial institution's unencumbered, HQLA relative to the net cash outflows the institution could encounter under a significant 30-day stress scenario. The NSFR measures the amount of longer-term, stable sources of funding employed by a financial institution relative to the liquidity profiles of the assets funded and the potential for contingent calls on funding liquidity arising from off-balance sheet commitments and obligations over a one-year period. The FRB, the OCC and the FDIC have adopted rules to implement the LCR with stricter requirements and a faster implementation timeline than the Basel Committee has established. Under the final rules, certain large banking institutions such as HSBC North America and HSBC Bank USA, began the LCR transition period on January 1, 2015 and were required to be fully compliant by January 1, 2017, two years ahead of the Basel Committee's timeframe for compliance by January 1, 2019. HSBC North America and HSBC Bank USA have adjusted their liquidity profiles to support compliance with these rules and may need to change their liquidity profiles to support compliance with any future final rules. In April 2016, U.S. regulators issued for public comment a proposal to implement the NSFR in the United States, applicable to certain large banking organizations, including HSBC North America and HSBC Bank USA. The NSFR proposal is generally consistent with the Basel Committee guidelines, but similar to the U.S. LCR final rule, is more stringent in several areas. Under the proposal, U.S. institutions would be required to comply with the NSFR rule by January 1, 2018, consistent with the scheduled global implementation of the Basel Committee based NSFR. HSBC North America and HSBC Bank USA may need to make further changes to their liquidity profiles to support compliance with any future final rules.

Preparation for Basel III has influenced and is likely to continue to influence our regulatory capital and liquidity planning process, and is expected to impose additional operational and compliance costs on us. We are unable at this time to determine the extent of changes HSBC USA will need to make to its liquidity or capital position, if any, and what effect, if any, such changes will have on our results of operations or financial condition. New regulatory capital and liquidity requirements may limit or otherwise restrict how we utilize our capital and may require us to increase our capital or liquidity. Any requirement that we increase our regulatory capital, regulatory capital ratios or liquidity could require us to liquidate assets or otherwise change our business and/or investment plans, which may negatively affect our financial results.

**We could incur losses or be required to hold additional capital as a result of model limitations or failure.** We use models for a range of purposes in managing our business, including regulatory capital calculations, stress testing, credit approvals, financial crime and fraud risk management and financial reporting. We could face adverse consequences as a result of decisions, which may lead to actions by management, based on models that are poorly developed, implemented or used, or as a result of the modeled outcome being misunderstood or the use of such information for purposes for which it was not designed. We hold capital for known risks and limitations of our models as appropriate. If additional weakness in a model is discovered or if a model is shown to have failed, we may be required to hold more capital. Risks arising from use of models could have a material adverse effect on our business, financial condition and/or results of operations, minimum capital requirements and reputation.

Regulatory scrutiny and supervisory concerns over the use by banks of models is considerable, particularly the internal models and assumptions used by banks in the application of the stress testing exercise and in the calculation of regulatory capital.

**Management projections, estimates and judgments based on historical performance may not be indicative of our future performance.** Our management is required to use certain estimates in preparing our financial statements, including accounting

estimates to determine loan loss reserves, reserves related to litigation, deferred tax assets and the fair market value of certain assets and liabilities, including goodwill and intangibles, among other items. In particular, loan loss reserve estimates and certain asset and liability valuations are subject to management's judgment and actual results are influenced by factors outside our control. To the extent historical averages of the progression of loans into stages of delinquency or the amount of loss realized upon charge-off are not predictive of future losses and management is unable to accurately evaluate the portfolio risk factors not fully reflected in historical models, unexpected additional losses could result. Similarly, to the extent assumptions employed in measuring fair value of assets and liabilities not supported by market prices or other observable parameters do not sufficiently capture their inherent risk, unexpected additional losses could result.

We are required to establish a valuation allowance for deferred tax assets and record a charge to income or equity if we determine, based on available evidence at the time the determination is made, that it is more likely than not that some portion or all of the deferred tax assets will not be realized. In evaluating the need for a valuation allowance, we estimate future taxable income based on management approved business plans, future capital requirements and ongoing tax planning strategies. This evaluation process involves significant management judgment about assumptions that are subject to change from period to period. The recognition of deferred tax assets requires management to make significant judgments about future earnings, the periods in which items will impact taxable income, future corporate tax rates and the application of inherently complex tax laws. The use of different estimates can result in changes in the amounts of deferred tax items recognized, which can result in equity and earnings volatility because such changes are reported in current period earnings. See Note 16, "Income Taxes," in the accompanying consolidated financial statements for additional discussion of our deferred tax assets.

**We may be adversely affected by potential changes in U.S. tax laws which could result in a significant reduction to our deferred tax assets.** The U.S. Congress and the new Administration have indicated an interest in reforming the U.S. corporate income tax code. Though the specifics and timing of any possible tax reforms are unknown, possible approaches include lowering the 35 percent corporate income tax rate, modifying the taxation of income earned outside the U.S. and limiting or eliminating various other deductions, tax credits and/or other tax preferences. We currently have \$1.8 billion of net deferred tax assets at December 31, 2016, which consists primarily of basis differences associated with certain real estate mortgage investment conduits and the allowance for credit losses. Although any reduction in the corporate income tax rate could reduce the amount of taxes we would pay in the future, a reduction in the corporate income tax rate could also result in a decrease in the value of our deferred tax assets and a reduction to our net income and total equity during the period in which any tax rate change is enacted.

**Our interpretation or application of the tax laws to which it is subject could differ from those of the relevant governmental authorities, which could result in the payment of additional taxes and penalties.** We are subject to the various tax laws of the U.S. and its states and municipalities in which we operate. These tax laws are inherently complex and we must make judgments and interpretations about the application of these laws to its entities, operations and businesses. Our interpretations and application of the tax laws could differ from that of the relevant governmental taxing authority, which could result in the potential for the payment of additional taxes, penalties or interest, which could be material.

**Our financial statements depend on our internal controls over financial reporting.** The Sarbanes-Oxley Act of 2002 requires our management to evaluate our disclosure controls and procedures and internal control over financial reporting. We are required to disclose, in our annual report on Form 10-K, the existence of any "material weaknesses" in our internal control over financial reporting. In a company as large and complex as ours, lapses or deficiencies, including significant deficiencies, in internal control over financial reporting may occur from time to time and we cannot assure you that we will not find one or more material weaknesses as of the end of any given year.

**Changes in accounting standards are beyond our control and may have a material impact on how we report our financial results and condition.** Our accounting policies and methods are fundamental to how we record and report our financial condition and results of operations. From time to time, the Financial Accounting Standards Board ("FASB"), the IASB, the SEC and our bank regulators, including the OCC and the FRB, change the financial accounting and reporting standards, or the interpretation thereof, and guidance that govern the preparation and disclosure of external financial statements. These changes are beyond our control, can be hard to predict and could materially impact how we report and disclose our financial results and condition, including our segment results. For example, the FASB's financial instruments project will likely, among other things, significantly change how we measure credit impairment on our loan portfolios, which could also affect the level of deferred tax assets that we recognize. We could be required to apply a new or revised standard retroactively, resulting in our restating prior period financial statements in material amounts. We may, in certain instances, change a business practice in order to comply with new or revised standards.

**Key employees may be difficult to attract or retain due to contraction of the business and limits on promotional activities.** Our employees are our most important resource and, in many areas of the financial services industry, competition for qualified personnel is intense. Employee fatigue, relocations, hiring freezes and external competition targeting top talent could have impacts on attrition. If we were unable to continue to attract, develop and retain qualified key employees to support the various functions of our businesses, our performance, including our competitive position, could be materially adversely affected. Our financial performance, expense reduction initiatives, and reductions in variable compensation and other benefits could raise concerns about key employees' future compensation and opportunities for promotion. Any future limitations on executive compensation imposed by legislation

or regulation could adversely affect our ability to attract and maintain qualified employees. As economic conditions continue to improve, we may face increased difficulty in retaining top performers and critical skilled employees. Severe and unrelenting demands continue to be placed on our employees. The cumulative workload arising from a regulatory reform program that is often extra-territorial and still evolving is hugely consumptive of human resources, placing increasingly complex and conflicting demands on a workforce where the required expert capabilities are in short supply and globally mobile. If key personnel were to leave us and equally knowledgeable or skilled personnel are unavailable within the HSBC Group or could not be sourced in the market, our ability to manage our business, in particular through any future difficult economic environment may be hindered or impaired.

**Significant reductions in pension assets may require additional financial contributions from us.** Certain employees are eligible to participate in the HSBC North America qualified defined benefit pension plan. At January 1, 2013, all future contributions under the Cash Balance formula ceased, thereby eliminating future benefit accruals. At December 31, 2016, plan assets were lower than projected plan liabilities resulting in an under-funded status. The accumulated benefit obligation exceeded the fair value of the plan assets by approximately \$480 million. As these obligations relate to the HSBC North America pension plan, only a portion of this deficit could be considered our responsibility. We and other HSBC North America affiliates with employees participating in this plan will be required to make up this shortfall over a number of years as specified under the Pension Protection Act. This can be accomplished through direct contributions, appreciation in plan assets and/or increases in interest rates resulting in lower liability valuations. See Note 20, "Pension and Other Postretirement Benefits," in the accompanying consolidated financial statements for further information concerning the HSBC North America defined benefit plan.

### **Item 1B. Unresolved Staff Comments**

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None.

### **Item 2. Properties**

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The principal executive offices of HSBC USA and HSBC Bank USA are located at 452 Fifth Avenue, New York, New York 10018. The main office of HSBC Bank USA is located at 1800 Tysons Blvd., Suite 50, McLean, Virginia 22102. HSBC Bank USA has 145 branches in New York, 35 branches in California, 17 branches in Florida, 9 branches in New Jersey, 7 branches in Virginia, 4 branches in Washington, 3 branches in Connecticut, 3 branches in Maryland, 2 branches in the District of Columbia, 2 branches in Pennsylvania and 1 branch in Delaware at December 31, 2016. We also have 13 representative offices in New York, 6 in California, 5 in Florida, 2 each in Texas, Illinois, New Jersey, Washington and Massachusetts, and 1 in each of the District of Columbia, Delaware, Georgia, North Carolina, Oregon, and Pennsylvania.

### **Item 3. Legal Proceedings**

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See Note 27, "Litigation and Regulatory Matters," in the accompanying consolidated financial statements for our legal proceedings disclosure, which is incorporated herein by reference.

### **Item 4. Mine Safety Disclosures**

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Not applicable.

**PART II**

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**Item 5. Market for the Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities**

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HSBC USA's common stock is not publicly traded. As of the date of this filing, HSBC North America was the sole holder of HSBC USA's common stock. No dividends were paid on the common stock outstanding during either 2016 or 2015.

**Item 6. Selected Financial Data**

On May 1, 2012, HSBC, through its wholly-owned subsidiaries HSBC Finance, HSBC USA and other wholly-owned affiliates, completed the sale of its Card and Retail Services business to Capital One Financial Corporation. The sale included our General Motors and Union Plus credit card receivables as well as our private label credit card and closed-end receivables, all of which were purchased from HSBC Finance. We have reported the results of these credit card and private label card and closed-end receivables sold as discontinued operations for all periods presented.

The following selected financial data presented below excludes the results of our discontinued operations for all periods presented unless otherwise noted:

Year Ended December 31,	2016	2015	2014	2013	2012
	(dollars are in millions)				
<b>Statement of Income (Loss) Data:</b>					
Net interest income .....	\$ 2,484	\$ 2,470	\$ 2,304	\$ 2,041	\$ 2,158
Provision for credit losses .....	372	361	188	193	293
Total other revenues .....	1,332	1,672	1,606	1,857	1,973
Operating expenses excluding goodwill impairment and expense relating to certain regulatory matters .....	3,226	3,221	3,424	3,271	3,283
Goodwill impairment .....	—	—	—	616	—
Expense relating to certain regulatory matters .....	—	—	—	—	1,381
Income (loss) from continuing operations before income tax .....	218	560	298	(182)	(826)
Income tax expense (benefit) .....	89	230	(56)	156	422
Income (loss) from continuing operations .....	129	330	354	(338)	(1,248)
Income from discontinued operations, net of tax .....	—	—	—	—	203
Net income (loss) .....	<u>\$ 129</u>	<u>\$ 330</u>	<u>\$ 354</u>	<u>\$ (338)</u>	<u>\$ (1,045)</u>
<b>Balance Sheet Data at December 31:</b>					
Loans:					
Construction and other real estate .....	\$ 10,890	\$ 10,000	\$ 10,300	\$ 9,034	\$ 8,457
Business and corporate banking <sup>(1)</sup> .....	14,080	14,365	13,878	11,016	10,932
Global banking <sup>(1)</sup> .....	26,755	34,720	30,328	25,055	21,685
Other commercial .....	2,491	3,368	3,581	3,389	3,076
Total commercial .....	<u>54,216</u>	<u>62,453</u>	<u>58,087</u>	<u>48,494</u>	<u>44,150</u>
Residential mortgages .....	17,181	17,758	16,661	15,826	15,371
Home equity mortgages .....	1,408	1,600	1,784	2,011	2,324
Credit card .....	688	699	720	854	815
Other consumer .....	382	407	489	510	598
Total consumer .....	<u>19,659</u>	<u>20,464</u>	<u>19,654</u>	<u>19,201</u>	<u>19,108</u>
Total loans .....	<u>73,875</u>	<u>82,917</u>	<u>77,741</u>	<u>67,695</u>	<u>63,258</u>
Loans held for sale .....	1,809	2,185	612	230	1,018
Total assets .....	201,301	188,278	185,539	185,487	191,446
Total tangible assets .....	199,655	186,625	183,880	183,817	189,150
Total deposits .....	129,248	118,579	116,118	112,608	117,671
Long-term debt .....	37,739	33,509	27,524	22,847	21,745
Preferred stock .....	1,265	1,265	1,565	1,565	1,565
Common equity .....	19,090	19,260	15,402	14,899	16,271
Total equity .....	20,355	20,525	16,967	16,464	17,836
Tangible common equity .....	18,062	18,014	13,744	13,388	13,185

Year Ended December 31,	2016	2015	2014	2013	2012
<b>Selected Financial Ratios:</b>					
Rate of return on average:					
Total assets.....	<b>.1%</b>	.2%	.2%	(.2)%	(.7)%
Total risk weighted assets <sup>(2)</sup> .....	<b>.1</b>	.2	.3	(.3)	(.9)
Total common equity.....	<b>.3</b>	1.4	1.8	(2.6)	(7.9)
Total equity.....	<b>.6</b>	1.7	2.1	(1.9)	(6.8)
Net interest margin.....	<b>1.28</b>	1.35	1.43	1.29	1.30
Loans to deposits ratio <sup>(3)</sup> .....	<b>75.67</b>	93.07	91.94	78.45	70.64
Efficiency ratio.....	<b>84.5</b>	77.8	87.6	99.7	112.9
Allowance as a percent of loans <sup>(4)</sup> .....	<b>1.38</b>	1.10	.87	.90	1.02
Commercial allowance as a percent of loans <sup>(4)</sup> .....	<b>1.72</b>	1.25	.85	.64	.72
Commercial net charge-off ratio <sup>(4)</sup> .....	<b>.34</b>	.10	.06	.15	.37
Consumer allowance as a percent of loans <sup>(4)</sup> .....	<b>.44</b>	.65	.96	1.55	1.73
Consumer two-months-and-over contractual delinquency .....	<b>4.05</b>	4.56	5.59	6.80	6.92
Consumer net charge-off ratio <sup>(4)</sup> .....	<b>.33</b>	.32	.43	.85	1.32
Common equity Tier 1 capital to risk weighted assets <sup>(5)</sup> .....	<b>13.7</b>	12.0	10.3	9.9	11.6
Tier 1 capital to risk weighted assets .....	<b>14.5</b>	12.6	11.4	11.7	13.6
Total capital to risk weighted assets.....	<b>18.3</b>	16.5	15.8	16.4	19.5
Tier 1 leverage ratio .....	<b>9.2</b>	9.5	8.5	7.9	7.7
Total equity to total assets.....	<b>10.1</b>	10.9	9.1	8.9	9.3
Tangible common equity to total tangible assets.....	<b>9.0</b>	9.7	7.5	7.3	7.0

<sup>(1)</sup> During the fourth quarter of 2016, we transferred certain customer relationships from CMB to GB&M as discussed further in Note 22, "Business Segments," in the accompanying consolidated financial statements. As a result, we reclassified \$4.8 billion, \$3.9 billion, \$3.4 billion and \$1.7 billion of loans from business and corporate banking to global banking at December 31, 2015, 2014, 2013 and 2012, respectively, to conform with the current year presentation.

<sup>(2)</sup> Includes the results of our discontinued operations for applicable periods.

<sup>(3)</sup> Represents period end loans, net of allowance for loan losses, as a percentage of core deposits as calculated in accordance with Federal Financial Institutions Examination Council guidelines which generally include all domestic demand, money market and other savings accounts, as well as time deposits with balances not exceeding \$100,000.

<sup>(4)</sup> Excludes loans held for sale.

<sup>(5)</sup> Basel III introduced the common equity Tier 1 ratio. For 2013 and prior, the ratio presented is the Tier 1 common ratio calculated under Basel I.

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**Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations**


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**Forward-Looking Statements**


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Certain matters discussed throughout this Form 10-K are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. In addition, we may make or approve certain statements in future filings with the United States Securities and Exchange Commission ("SEC"), in press releases, or oral or written presentations by representatives of HSBC USA Inc. ("HSBC USA" and, together with its subsidiaries, "HUSI") that are not statements of historical fact and may also constitute forward-looking statements. Words such as "may," "will," "should," "would," "could," "appears," "believe," "intends," "expects," "estimates," "targeted," "plans," "anticipates," "goal," and similar expressions are intended to identify forward-looking statements but should not be considered as the only means through which these statements may be made. These matters or statements will relate to our future financial condition, economic forecast, results of operations, plans, objectives, performance or business developments and will involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from that which was expressed or implied by such forward-looking statements.

All forward-looking statements are, by their nature, subject to risks and uncertainties, many of which are beyond our control. Our actual future results may differ materially from those set forth in our forward-looking statements. While there is no assurance that any list of risks and uncertainties or risk factors is complete, below are certain factors which could cause actual results to differ materially from those in the forward-looking statements:

- uncertain market and economic conditions in the United States and abroad, including but not limited to, a decline in housing prices, a decline in energy prices, unemployment levels, tighter credit conditions, changes in interest rates or a prolonged period of low or negative interest rates, the availability of liquidity, consequences of unexpected geopolitical events including the decision by the United Kingdom ("U.K.") to exit the European Union ("EU"), changes in consumer confidence and consumer spending, and consumer perception as to the continuing availability of credit and price competition in the market segments we serve;
- changes in laws and regulatory requirements;
- the potential impact of any legal, regulatory and policy changes effecting financial institutions and the global economy as a result of the new Administration in the U.S. (the "Administration");
- the ability to deliver on our regulatory priorities;
- extraordinary government actions as a result of market turmoil;
- capital and liquidity requirements under Basel III, the Federal Reserve Board's ("FRB") Comprehensive Capital Analysis and Review ("CCAR"), and the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 ("Dodd-Frank Act") stress testing ("DFAST"), including the U.S. FRB requirements for U.S. global systemically important banks ("G-SIBs") and U.S. intermediate holding companies ("IHCs") owned by non-U.S. G-SIBs to issue total loss-absorbing capacity ("TLAC") instruments;
- regulatory requirements in the U.S. and in non-U.S. jurisdictions to facilitate the future orderly resolution of large financial institutions;
- changes in central banks' policies with respect to the provision of liquidity support to financial markets;
- the ability of HSBC Holdings plc ("HSBC" and, together with its subsidiaries, "HSBC Group") and HSBC Bank USA, National Association ("HSBC Bank USA") to fulfill the requirements imposed by the deferred prosecution agreements with the U.S. Department of Justice ("DOJ"), the U.S. Attorney's Office for the Eastern District of New York, and the U.S. Attorney's Office for the Northern District of West Virginia, our agreement with the Office of the Comptroller of the Currency, our other consent agreements as well as guidance from regulators generally;
- the use of us as a conduit for illegal activities without our knowledge by third parties;
- the ability to successfully manage our risks;
- the financial condition of our clients and counterparties and our ability to manage counterparty risk;
- concentrations of credit and market risk, including exposure to Latin American corporate clients and the oil and gas markets;
- increases in our allowance for credit losses and changes in our assessment of our loan portfolios;
- the ability to implement our business strategies;
- the ability to successfully implement changes to our operational practices as needed and/or required from time to time;
- damage to our reputation;

- the ability to attract and retain customers and to attract and retain key employees;
- the effects of competition in the markets where we operate including increased competition for non-bank financial services companies, including securities firms;
- disruption in our operations from the external environment arising from events such as natural disasters, terrorist attacks, global pandemics, or essential utility outages;
- a failure in or a breach of our operation or security systems or infrastructure, or those of third party servicers or vendors, including as a result of cyberattacks;
- third party suppliers' and outsourcing vendors' ability to provide adequate services;
- losses suffered due to the negligence or misconduct of our employees or the negligence or misconduct on the part of employees of third parties;
- a failure in our internal controls;
- our ability to meet our funding requirements;
- adverse changes to our credit ratings;
- financial difficulties or credit downgrades of mortgage bond insurers;
- our ability to cross-sell our products to existing customers;
- changes in Financial Accounting Standards Board ("FASB") and International Accounting Standards Board ("IASB") accounting standards and their interpretation;
- heightened regulatory and government enforcement scrutiny of financial institutions, including in connection with sales practices and compensation structures related to such sales practices;
- continued heightened regulatory scrutiny with respect to existing and future residential mortgage servicing and foreclosure practices, with particular focus on loss mitigation, foreclosure prevention and outsourcing;
- changes in the methodology for determining benchmark rates;
- heightened regulatory and government enforcement scrutiny of financial markets, with a particular focus on foreign exchange;
- the possibility of incorrect assumptions or estimates in our financial statements, including reserves related to litigation, deferred tax assets and the fair value of certain assets and liabilities;
- model limitations or failure;
- the possibility of incorrect interpretations, application of or changes in tax laws to which we are subject;
- changes in bankruptcy laws to allow for principal reductions or other modifications to mortgage loan terms;
- additional financial contribution requirements to the HSBC North America Holdings Inc. ("HSBC North America") pension plan;
- unexpected and/or increased expenses relating to, among other things, litigation and regulatory matters, remediation efforts, penalties and fines; and
- the other risk factors and uncertainties described under Item 1A, "Risk Factors" in this Annual Report on Form 10-K.

Forward-looking statements are based on our current views and assumptions and speak only as of the date they are made. We undertake no obligation to update any forward-looking statement to reflect subsequent circumstances or events. For more information about factors that could cause actual results to differ materially from those in the forward-looking statements, see Item 1A, "Risk Factors," in this Annual Report on Form 10-K.

## Executive Overview

**Organization and Basis of Reporting** HSBC USA is a wholly-owned subsidiary of HSBC North America which is an indirect wholly-owned subsidiary of HSBC. Prior to November 15, 2016, HSBC USA was owned by HSBC North America Inc. ("HNAI"), an indirect wholly owned subsidiary of HSBC North America which was dissolved. HUSI may also be referred to in Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") as "we," "us" or "our."

Through our subsidiaries, we offer a comprehensive range of consumer and commercial banking products and related financial services. HSBC Bank USA, our principal U.S. banking subsidiary, is a national banking association with banking branch offices and/or representative offices in 17 states and the District of Columbia. In addition to our domestic offices, we currently maintain foreign branch offices, subsidiaries and/or representative offices in Europe, Asia and Latin America. Our customers include individuals, including high net worth and ultra-high net worth individuals, small businesses, corporations, institutions and governments. We also engage in mortgage banking and serve as an international dealer in derivative instruments denominated in U.S. dollars and other currencies, focusing on structuring of transactions to meet clients' needs.

**2016 Economic Environment** The U.S. economy continued its trend of slow growth during 2016. U.S. Gross Domestic Product ("GDP") grew at an estimated annual rate of 1.6 percent in 2016, slower than 2015's GDP growth rate of 2.6 percent. Inflation in 2016 continued to run below the Federal Reserve Board's ("FRB") 2.0 percent target inflation rate. Although the FRB has indicated that it currently expects to increase short-term interest rates during 2017, the prolonged period of low interest rates continues to put pressure on spreads earned on our deposit base. The U.S. economy added approximately 2.2 million jobs during 2016 and the total unemployment rate fell to 4.7 percent at December 2016 as compared with 5.0 percent at December 2015. However, an elevated number of part-time workers continue to seek full-time work and the number of discouraged people who have stopped looking for work remains elevated, as evidenced by the U.S. Bureau of Labor Statistics' U-6 unemployment rate of 9.2 percent at December 2016, as compared with a rate of 9.9 percent at December 2015.

Despite the continued improvement of the U.S. economy, economic uncertainty remains high in many economies outside the U.S., including China as well as Latin America and in particular Brazil, where economic activity continues to be slow. In addition, the decision by the United Kingdom in late June to exit the EU as well as the new Administration in the U.S. could potentially impact the capital markets and trade further adding to this global uncertainty. In addition, although the price of oil increased during 2016, it remains depressed compared with historical levels in part due to the strong U.S. dollar, adding pressure to portfolios where the customer base is heavily centered in commodity-based businesses. The sustainability of the economic recovery will be determined by numerous variables including consumer sentiment, energy prices, credit market volatility, employment levels and housing market conditions which will impact corporate earnings and the capital markets. These conditions in combination with global economic conditions, fiscal and monetary policy, geopolitical concerns and the level of regulatory and government scrutiny of financial institutions will continue to impact our results in 2017 and beyond.

### 2016 Events

- During 2016, we determined we no longer have the intent to hold for investment certain residential mortgage loans which had been written down to the lower of amortized cost or fair value of the collateral less cost to sell (generally 180 days past due) in accordance with our existing charge-off policies. These loans were largely originated by us prior to the implementation of our Premier strategy. As a result of this decision, during 2016, we transferred residential mortgage loans to held for sale with a total unpaid principal balance of approximately \$568 million at the time of transfer. The carrying value of these loans prior to transfer, after considering the fair value of the property less costs to sell was approximately \$473 million, including related escrow advances. We recorded an initial lower of amortized cost or fair value adjustment of \$45 million associated with newly transferred loans, all of which was attributed to non-credit factors and recorded as a component of other income (loss) in the consolidated statement of income. We also recorded \$8 million of additional lower of amortized cost or fair value adjustment on these loans held for sale as a component of other income (loss) in the consolidated statement of income as a result of a change in the estimated pricing on specific pools of loans subsequent to the initial transfer. As we plan to sell these loans to third party investors, fair value represents the price we believe a third party investor would pay to acquire the loan portfolios.
- In addition to the residential mortgage loan transfers discussed above, during the third quarter of 2016, we determined we no longer have the intent to hold for investment a portfolio of residential mortgage loans that we previously purchased from HSBC Finance Corporation ("HSBC Finance"), along with any home equity mortgage balances associated with these loans. As a result of this decision, during the third quarter of 2016, we transferred residential mortgage and home equity mortgage loans to held for sale with a total unpaid principal balance of approximately \$648 million at the time of transfer. The carrying value of these loans prior to transfer, after considering the fair value of the property less costs to sell, as applicable, was approximately \$628 million, including accrued interest. During the third quarter of 2016, we recorded an initial lower of cost or fair value adjustment of \$11 million associated with the newly transferred loans, all of which was attributed to credit factors and recorded as a component of the provision for credit losses in the consolidated statement of income. During the fourth quarter of 2016, we recorded \$4 million of additional lower of amortized cost or

fair value adjustment on these loans held for sale as a component of other income (loss) in the consolidated statement of income as a result of a change in the estimated pricing on specific pools of loans. As we plan to sell these loans to third party investors, fair value represents the price we believe a third party investor would pay to acquire the loans.

- During the fourth quarter of 2016, we sold our remaining Mortgage Servicing Rights ("MSRs") portfolio, which was in run-off for several years, and related servicing advances to a third party. The resulting loss on sale, including transaction costs, was not significant.
- In December 2016, we sold 638,219 Visa Inc. ("Visa") Class B common shares ("Class B Shares") to a third party resulting in a net pre-tax gain of approximately \$71 million which was recorded as a component of other income (loss) in the consolidated statement of income. Under the terms of the sale agreement, we entered into a swap agreement with the purchaser to retain the litigation risk associated with the Class B Shares sold until the related covered litigation is settled and the Class B Shares can be converted into Class A common shares ("Class A Shares"). This swap had a carrying value of \$14 million at December 31, 2016. As of December 31, 2016, we continued to hold approximately 2.3 million Visa Class B Shares, which are recorded at their original cost basis of zero. See Note 14, "Derivative Financial Instruments," and Note 25, "Guarantee Arrangements, Pledged Assets and Repurchase Agreements," in the accompanying consolidated financial statements for additional information about these transactions.
- In January 2017, the Office of the Comptroller of the Currency ("OCC") terminated its residential mortgage servicing related consent order against HSBC Bank USA ("the OCC Servicing Consent Order") after determining that HSBC Bank USA had satisfied the requirements of the consent order, and amendments thereto. The OCC also assessed a \$32.5 million civil money penalty against HSBC Bank USA for deficiencies in timely compliance with the consent order which was partially covered by reserves. As a result, we recorded a charge of \$27.5 million to other expenses during the fourth quarter of 2016 related to this matter. For additional discussion, see Note 27, "Litigation and Regulatory Matters," in the accompanying consolidated financial statements.
- In June 2016, voters in the United Kingdom approved a referendum to withdraw its membership from the EU. While we continue to actively monitor our portfolio to ensure that we quickly identify and manage any areas of stress, our U.K. and European capital markets exposure is limited, and we currently do not anticipate this decision will have a significant impact on our operations.
- As previously reported, as a result of the adoption of the final rules by the U.S. banking regulators implementing the Basel III regulatory capital and liquidity reforms from the Basel Committee on Banking Supervision (the "Basel Committee"), together with the impact of similar implementation by U.K. banking regulators, we continued to review the composition of our capital structure. During the second quarter of 2016, HSBC USA redeemed all of its remaining externally issued preferred stock, including its Floating Rate Non-Cumulative Series F Preferred Stock, Floating Rate Non-Cumulative Series G Preferred Stock and 6.5 percent Non-Cumulative Series H Preferred Stock, at their stated values of \$25 per share, \$1,000 per share and \$1,000 per share, respectively, resulting in a total cash payment of \$1,265 million. In connection with these redemptions, HSBC USA issued 1,265 shares of 6.0 percent Non-Cumulative Series I Preferred Stock to HSBC North America in exchange for cash consideration of \$1,265 million.
- Our operations are focused on the core activities of our four global businesses and the positioning of our activities towards international connectivity strategies, including what we believe are our unique capabilities to serve clients in the North American Free Trade Agreement trade corridor in order to improve profitability. We also continue to focus on cost optimization efforts to ensure realization of cost efficiencies. To date, we have identified and implemented various opportunities to reduce costs through organizational structure redesign, vendor spending, discretionary spending and other general efficiency initiatives which have resulted in workforce reductions. Additional cost reduction opportunities have been identified and are in the process of implementation. These efforts continue and, as a result, we may incur restructuring charges in future periods, the amount of which will depend upon the actions that ultimately are implemented. We also continue to evaluate our overall operations as we seek to optimize our risk profile and cost efficiencies as well as our liquidity, capital and funding requirements. This could result in further strategic actions that may include changes to our legal structure, asset levels, cost structure or product offerings in support of HSBC's strategic priorities.

**Performance, Developments and Trends** Net income was \$129 million during 2016 compared with \$330 million and \$354 million during 2015 and 2014, respectively. Net income in 2015 includes the impact of New York City tax reform which resulted in an increase in tax expense of \$48 million. Net income in 2014 was significantly impacted by a tax reserve release as a result of the settlement of certain State and local tax audits which resulted in an income tax benefit of \$183 million and the impact of New York State tax reform which resulted in an increase in tax expense of \$75 million.

Income before income tax was \$218 million during 2016 compared with \$560 million and \$298 million during 2015 and 2014, respectively. The decrease in income before income tax in 2016 compared with 2015 was due primarily to lower other revenues. The increase in income before income tax in 2015 compared with 2014 reflects lower operating expenses, higher net interest income and higher other revenues, partially offset by a higher provision for credit losses primarily related to oil and gas industry loan exposures.

Our reported results in all periods were impacted by certain items management believes to be significant, which distort comparability between periods. Significant items are excluded to arrive at adjusted performance because management would ordinarily identify and consider them separately to better understand underlying business trends. The following table summarizes the impact of these significant items for all periods presented:

Year Ended December 31,	2016	2015	2014
	(in millions)		
Income before income tax, as reported.....	\$ 218	\$ 560	\$ 298
Fair value movement on own fair value option debt attributable to credit spread.....	3	(194)	(6)
Costs to achieve <sup>(1)</sup> .....	113	21	—
Provision for credit losses relating to increases (decreases) in loss emergence period used in our commercial loan collective impairment calculation.....	(24)	28	178
Gain on sale of Visa Class B Shares to a third party.....	(71)	—	—
Litigation expense related to the settlement agreement with the Federal Housing Finance Agency ("FHFA").....	—	—	178
Interest benefit related to the conclusion of certain State and local tax audits resulting in the settlement of uncertain tax positions.....	—	—	(120)
Adjusted performance <sup>(2)</sup> .....	<u>\$ 239</u>	<u>\$ 415</u>	<u>\$ 528</u>

<sup>(1)</sup> Reflects transformation costs to deliver the cost reduction and productivity outcomes outlined in the HSBC Investor Update in June 2015.

<sup>(2)</sup> Represents a non-U.S. GAAP financial measure.

Excluding the collective impact of the items in the table above, our adjusted performance for 2016 declined \$176 million compared with 2015 due primarily to lower other revenues and a higher provision for credit losses which were partially offset by lower operating expenses. Lower other revenues in 2016 was driven by lower other income and lower fair value option revenue, partially offset by higher trading revenue, while lower operating expenses reflect the favorable impact of our cost management efforts. Excluding the collective impact of the items in the table above, our adjusted performance for 2015 declined \$113 million compared with 2014 as a higher provision for credit losses, largely commercial related, and lower other revenues driven primarily by lower securities gains and lower mortgage banking revenue was partially offset by higher net interest income and lower operating expenses.

See "Results of Operations" for a more detailed discussion of our operating trends. In addition, see "Balance Sheet Review" for further discussion on our asset and liability trends, "Liquidity and Capital Resources" for further discussion on funding and capital and "Credit Quality" for additional discussion on our credit trends.

**Future Prospects** Our operations are dependent upon our ability to maintain stable deposit balances and, to a lesser extent, access the global capital markets. Numerous factors, both internal and external, may impact our access to, and the costs associated with, both retail and wholesale sources of funding. These factors may include our debt ratings, overall economic conditions, overall market volatility, the counterparty credit limits of investors to the HSBC Group as a whole and the effectiveness of our management of credit risks inherent in our customer base.

Our results are also impacted by general global and domestic economic conditions, including employment levels, housing market conditions, property valuations, interest rates and legislative and regulatory changes, all of which are beyond our control. Changes in interest rates generally affect both the rates we charge to our customers and the rates we pay on our borrowings. Achieving our profitability goals in 2017 is largely dependent upon macroeconomic conditions which include the interest rate environment, housing market conditions, unemployment levels, market volatility, energy prices and our ability to attract and retain loans and deposits from customers, all of which could impact trading and other revenue, net interest income, loan volume, loss provision and ultimately our results of operations.

## Basis of Reporting

Our consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States ("U.S. GAAP").

**Group Reporting Basis** We report financial information to HSBC in accordance with HSBC Group accounting and reporting policies, which apply International Financial Reporting Standards ("IFRSs") as issued by the IASB and as endorsed by the EU and, as a result, our segment results are prepared and presented using financial information prepared on the basis of HSBC Group's

accounting and reporting policies ("Group Reporting Basis"). Because operating results on the Group Reporting Basis are used in managing our businesses and rewarding performance of employees, our management also separately monitors net income under this basis of reporting. During the fourth quarter of 2016, HSBC Group made changes to its internal management reporting and, as a result, its segment reporting which we plan to implement during the first quarter of 2017, as discussed further in this MD&A under the caption "Segment Results - Group Reporting Basis." The following table reconciles our U.S. GAAP versus Group Reporting Basis net income:

Year Ended December 31,	2016	2015	2014
	(in millions)		
Net income – U.S. GAAP basis.....	\$ 129	\$ 330	\$ 354
Adjustments, net of tax:			
Loans held for sale .....	43	9	(6)
Pension and other postretirement benefit costs .....	12	14	12
Loan impairment .....	(4)	124	112
Loan origination .....	(4)	(14)	(9)
Litigation expense .....	(5)	(1)	(79)
Property .....	(12)	(10)	(7)
Tax valuation allowances .....	—	(5)	5
Gain on sale of London Branch precious metals business to affiliate .....	—	—	60
Other .....	7	(4)	(7)
Net income – Group Reporting Basis.....	166	443	435
Tax expense (benefit) – Group Reporting Basis.....	128	312	(9)
Profit before tax – Group Reporting Basis .....	\$ 294	\$ 755	\$ 426

A summary of the differences between U.S. GAAP and Group Reporting Basis as they impact our results is presented below:

*Loans held for sale* - For loans transferred to held for sale subsequent to origination, the Group Reporting Basis requires these loans to be reported separately on the balance sheet when certain criteria are met which are generally more stringent than those under U.S. GAAP, but does not change the recognition and measurement criteria. Accordingly for the Group reporting basis, such loans continue to be accounted for and impairment continues to be measured in accordance with IAS 39, "Financial Instruments: Recognition and Measurement" ("IAS 39"), with any gain or loss recorded at the time of sale. U.S. GAAP requires loans that meet the held for sale classification requirements be transferred to a held for sale category and subsequently be measured at the lower of amortized cost or fair value. Under U.S. GAAP, the component of the lower of amortized cost or fair value adjustment upon transfer to held for sale related to credit risk is recorded in the statement of income as a provision for credit losses while the component related to interest rates and liquidity factors is reported in the statement of income in other revenues. Changes in the lower of amortized cost or fair value after the initial transfer to held for sale are reported in the statement of income in other revenues.

For loans originated with the intent to sell, the Group Reporting Basis requires these loans to be classified as trading assets and recorded at their fair value, with income recorded in trading revenue. Under U.S. GAAP, such loans are classified as loans held for sale and, with the exception of certain loans accounted for under fair value option ("FVO") accounting, are recorded at the lower of amortized cost or fair value, with changes in the lower of amortized cost or fair value adjustment recorded in other revenues.

*Pension and other postretirement benefit costs* - Pension expense under U.S. GAAP is generally higher than under the Group Reporting Basis as a result of the amortization of the amount by which actuarial losses exceeds the higher of 10 percent of the projected benefit obligation or fair value of plan assets (the corridor). In addition, under the Group Reporting Basis, pension expense is determined using a finance cost component comprising the net interest on the net defined benefit liability which does not reflect the benefit from the expectation of higher returns on plan assets. During 2015, the substantial majority of our postretirement benefit plans were amended relating to post-65 retirees which resulted in a reduction of our postretirement benefit liability as the amendments eliminated future health cost increases which were previously included in the liability. Under the Group Reporting Basis, the benefit from the amendments was recognized immediately while under U.S. GAAP the benefit is amortized to postretirement benefit expense over the remaining estimated covered period for those affected.

*Loan impairment* - The Group Reporting Basis requires a discounted cash flow methodology for estimating impairment on pools of homogeneous customer loans which requires the discounting of cash flows including recovery estimates at the original effective interest rate of the pool of customer loans. The amount of impairment relating to the discounting of future cash flows unwinds with the passage of time, and is recognized in interest income. Under U.S. GAAP, a discounted cash flow methodology on pools

of homogeneous loans is applied only to the extent loans are considered troubled debt restructurings ("TDR Loans"). Also under the Group Reporting Basis, if the fair value on secured loans previously written down increases because collateral values have improved and the improvement can be related objectively to an event occurring after recognition of the write-down, such write-down is reversed, which is not permitted under U.S. GAAP. Additionally under the Group Reporting Basis, future recoveries on charged-off loans or loans written down to fair value less cost to sell are accrued for on a discounted basis and a recovery asset is recorded. Subsequent recoveries are recorded to earnings under U.S. GAAP, but are adjusted against the recovery asset under the Group Reporting Basis. Under the Group Reporting Basis, interest on impaired loans is recorded at the effective interest rate on the customer loan balance net of impairment allowances.

For commercial loans collectively evaluated for impairment, we utilize different loss emergence periods for U.S. GAAP and the Group Reporting Basis. In 2016 and 2015, we updated the default populations utilized in determining the emergence period to include more recent defaults while dropping off the oldest defaults to maintain a consistent look-back period. These updates resulted in modest changes to our loss emergence period under U.S. GAAP which decreased our provision for credit losses by approximately \$24 million in 2016 and increased our provision for credit losses by approximately \$28 million in 2015 solely relating to these updates (in addition to differences otherwise attributable to applying the different approaches for calculating loan impairment charges discussed below), while the loss emergence period under the Group Reporting Basis did not significantly change. In 2016, loan impairment charges under the Group Reporting Basis were greater than under U.S. GAAP due to the default of certain credits where existing loan impairment allowances, prior to default, were lower under the Group Reporting Basis than under U.S. GAAP due to the shorter loss emergence period utilized for computing loan impairment allowances for commercial loans collectively evaluated for impairment under the Group Reporting Basis.

Prior to 2014, we utilized the same loss emergence period for both U.S. GAAP and the Group Reporting Basis, which resulted in a consistent calculation of loan impairment charges under the two bases of reporting. In 2014, we conducted a review of our loss emergence period estimate used for U.S. GAAP reporting purposes based upon regulatory guidance and bank industry practice in the U.S. As a result of this review, our emergence period was increased, resulting in an increase in loan impairment charges under U.S. GAAP. A separate review of our loss experience under the Group Reporting Basis was completed in 2014. This review did not significantly change the loss emergence period compared with the prior year and resulted in a deviation between U.S. GAAP and the Group Reporting Basis of approximately \$174 million on a pre-tax basis. The difference was primarily attributable to different approaches for estimating loss emergence periods for U.S. GAAP and the Group Reporting Basis. We have determined that, based on the judgment involved and the practice which has evolved in different jurisdictions, both approaches for estimating loss emergence periods result in an appropriate allowance for credit losses under the reporting basis to which each is being applied.

*Loan origination* - Certain loan fees and incremental direct loan costs, which would not have been incurred but for the origination of the loans, are deferred and amortized to earnings over the life of the loan under the Group Reporting Basis. Certain loan fees and direct incremental loan origination costs, including internal costs directly attributable to the origination of loans in addition to direct salaries, are deferred and amortized to earnings under U.S. GAAP.

Loan origination deferrals under the Group Reporting Basis are more stringent and generally result in lower costs being deferred than permitted under U.S. GAAP. In addition, all deferred loan origination fees, costs and loan premiums must be recognized based on the expected life of the loan under the Group Reporting Basis as part of the effective interest calculation while under U.S. GAAP, they may be recognized on either a contractual or expected life basis.

*Litigation expense* - Under U.S. GAAP litigation accruals are recorded when it is probable a liability has been incurred and the amount is reasonably estimable. Under the Group Reporting Basis, a present obligation and a probable outflow of economic benefits must exist for an accrual to be recorded. This creates differences in the timing of accrual recognition between the Group Reporting Basis and U.S. GAAP. Additionally under the Group Reporting Basis, legal costs to defend litigation are accrued at the time that a liability is recorded for the related litigation while under U.S. GAAP, these costs are recognized as services are performed.

*Property* - The sale and leaseback of our 452 Fifth Avenue property, including the 1 W. 39th Street building, in April 2010 resulted in the recognition of a gain under the Group Reporting Basis while under U.S. GAAP, such gain is deferred and is being recognized over the lease term (which is ten years) due to our continuing involvement.

*Tax valuation allowances* - As a result of New York State tax reform during 2014, there was an increase in the deferred tax valuation allowance under U.S. GAAP and derecognition of previously recognized deferred tax assets under the Group Reporting Basis (decreasing net deferred tax assets in both cases). The deferred tax assets affected primarily related to loan loss reserves, which are different under U.S. GAAP and the Group Reporting Basis. As such, the change in deferred tax assets was different under U.S. GAAP and the Group Reporting Basis. During 2015, this valuation allowance difference was reversed as HSBC North America and its subsidiary entities (the "HNAH Group") is able to fully recognize its New York State deferred tax assets under both U.S. GAAP and the Group Reporting Basis.

*Gain on sale of London Branch precious metals business to affiliate* - The Group Reporting Basis requires that operations be transferred to held for sale and carried at the lower of cost or fair value with gains recorded through earnings upon completion of the sale, regardless of whether the sale was to a third party or related party. Under U.S. GAAP, when the transfer of net assets is

between affiliates under common control, gains are reflected as a capital transaction upon completion of the sale. The sale was completed in 2014.

*Other* - Other includes the net impact of certain adjustments which represent differences between U.S. GAAP and the Group Reporting Basis that were not individually material, including derivatives, interest recognition, precious metals, restructuring costs, servicing assets, share-based payments and certain trading securities that were reclassified to loans and receivables under the Group Reporting Basis in 2008.

## Critical Accounting Policies and Estimates

Our consolidated financial statements are prepared in accordance with accounting standards generally accepted in the United States. We believe our policies are appropriate and fairly present the financial position and results of operations of HSBC USA.

The significant accounting policies used in the preparation of our consolidated financial statements are more fully described in Note 2, "Summary of Significant Accounting Policies and New Accounting Pronouncements," in the accompanying consolidated financial statements. Certain critical accounting policies affecting the reported amounts of assets, liabilities, revenues and expenses, are complex and involve significant judgments by our management, including the use of estimates and assumptions. As a result, changes in estimates, assumptions or operational policies could significantly affect our financial position and our results of operations. We base our accounting estimates on historical experience, observable market data, inputs derived from or corroborated by observable market data by correlation or other means and on various other assumptions that we believe to be appropriate, including assumptions based on unobservable inputs. To the extent we use models to assist us in measuring the fair value of particular assets or liabilities, we strive to use models that are consistent with those used by other market participants. Actual results may differ from these estimates due to the levels of subjectivity and judgment necessary to account for highly uncertain matters or the susceptibility of such matters to change. The impact of estimates and assumptions on the financial condition or operating performance may be material.

Of the significant accounting policies used in the preparation of our consolidated financial statements, the items discussed below involve what we have identified as critical accounting estimates based on the associated degree of judgment and complexity. Our management has reviewed these critical accounting policies as well as the associated estimates, assumptions and accompanying disclosure with the Audit Committee of our Board of Directors.

**Allowance for Credit Losses** Because we lend money to others, we are exposed to the risk that borrowers may not repay amounts owed to us when contractually due. Consequently, we maintain an allowance for credit losses that reflects our estimate of probable incurred losses in the existing loan portfolio. Allowance for credit loss estimates are reviewed periodically and adjustments are reflected through the provision for credit losses in the period they become known. Our risk and finance departments share responsibility for establishing appropriate levels of allowances for credit losses inherent in our various loan portfolios and they assess and independently approve our allowance for credit losses. We believe the accounting estimate relating to the allowance for credit losses is a "critical accounting estimate" for the following reasons:

- Changes in the provision can materially affect our financial results;
- Estimates related to the allowance for credit losses require us to project future cash flows, delinquencies and charge-offs, and, when applicable, collateral values, which are highly uncertain; and
- The allowance for credit losses is influenced by factors outside of our control such as customer payment patterns, economic conditions such as national and local trends in housing markets, interest rates, unemployment, bankruptcy trends and the effects of laws and regulations.

Because our estimates of the allowance for credit losses involve judgment and is influenced by factors outside of our control, there is uncertainty inherent in these estimates, making it reasonably possible such estimates could change. Our estimate of probable incurred credit losses is inherently uncertain because it is highly sensitive to changes in economic conditions which influence growth, industry and business performance, bankruptcy trends, trends in housing markets and interest rates, delinquency rates and the flow of loans through various stages of delinquency, the realizability of any collateral and actual loss experience. Changes in such estimates could significantly impact our allowance and provision for credit losses.

As an illustration of the effect of changes in estimates related to the allowance for credit losses, a 10 percent change in our projection of probable net credit losses on our loans would have resulted in a change of approximately \$102 million in our allowance for credit losses at December 31, 2016.

Our allowance for credit losses is based on estimates and is intended to be adequate but not excessive. The allowance for credit losses is regularly assessed for adequacy through a detailed review of the loan portfolio. The allowance for credit losses, which is carried as a reduction to loans on the balance sheet includes reserves for inherent probable credit losses associated with all loans outstanding. A reserve is also maintained for off-balance sheet risk, which is recorded in other liabilities and includes probable

and reasonably estimable credit losses arising from off-balance sheet arrangements such as letters of credit and undrawn commitments to lend.

The allowances include amounts calculated for specific individual loan balances and for collective loan portfolios depending on the nature of the exposure and the manner in which risks inherent in that exposure are managed.

- All commercial loans that exceed \$500,000 are evaluated individually for impairment. When a loan is found to be "impaired," a specific reserve is calculated. Reserves against impaired loans, including consumer and commercial loans modified in troubled debt restructurings, are determined primarily by an analysis of discounted expected cash flows with reference to independent valuations of underlying loan collateral and considering secondary market prices for distressed debt where appropriate.
- Loans that are not individually evaluated for impairment and those evaluated and found not to be impaired are pooled into homogeneous categories of loans and collectively evaluated to determine if it is deemed probable, based on historical data and other environmental factors, that a loss has been incurred even though it has not yet manifested itself in a specific loan.

We estimate probable losses for consumer loans and certain small business loans which do not qualify as TDR Loans using a roll rate migration analysis that estimates the likelihood that a loan will progress through the various stages of delinquency, or buckets and ultimately charge-off based upon recent performance experience of other loans in our portfolio. This migration analysis incorporates estimates of the period of time between a loss occurring and the confirming event of its charge-off. This analysis also considers delinquency status, loss experience and severity and takes into account whether borrowers have filed for bankruptcy or have been subject to account management actions, such as the re-age or modification of accounts. We also take into consideration the loss severity expected based on the underlying collateral, if any, for the loan in the event of default based on historical and recent trends which are updated monthly based on a rolling average of several months' data using the most recently available information and is typically in the range of 20-40 percent for residential mortgages and 70-100 percent for home equity mortgages. At both December 31, 2016 and 2015, approximately 1 percent of our second lien home equity mortgages for which the first lien residential mortgage is held or serviced by us and has a delinquency status of 90 days or more delinquent were less than 90 days delinquent and not considered to be a TDR Loan or already recorded at fair value less cost to sell.

An advanced credit risk analysis methodology is utilized to support the estimation of incurred losses inherent in pools of homogeneous commercial loans and off-balance sheet risk. This methodology uses the probability of default from the customer risk rating assigned to each counterparty together with the estimated loss emergence period (estimate of the period of time between a loss occurring and the confirming event of its charge-off) of the separate portfolios. The "Loss Given Default" rating assigned to each transaction or facility is based on the collateral securing the transaction and the measure of exposure based on the transaction. A suite of models, tools and templates is maintained using quantitative and statistical techniques, which are combined with management's judgment to support the assessment of each transaction. These were developed using internal data and supplemented with data from external sources which was judged to be consistent with our internal credit standards. These advanced measures are applied to the homogeneous credit pools to estimate the required allowance for credit losses.

In addition, loss reserves on consumer and commercial loans are maintained to reflect our judgment of portfolio risk factors which may not be fully reflected in the statistical calculations or when historical trends are not reflective of current inherent losses in the portfolio. Portfolio risk factors considered in establishing the allowance for credit losses on loans include, as appropriate, growth, including expansion into new lending markets and customer concentrations, product mix and risk selection, unemployment rates, bankruptcy trends, geographic concentrations, loan product features such as adjustable rate loans, economic conditions such as trends in housing markets, interest rates and industry and business performance, portfolio seasoning, account management policies and practices, model imprecision, changes in underwriting practices, current levels of charge-offs and delinquencies, changes in laws and regulations, customer concentration and other factors which can affect payment patterns on outstanding loans such as natural disasters. We also consider key ratios such as allowance as a percentage of loans, allowance as a percentage of nonperforming loans and allowance as a percentage of net charge-offs in developing our allowance estimates.

The results from the consumer roll rate analysis, commercial analysis and the specific impairment reserving process are reviewed each quarter by the Credit Reserve Committee. This committee also considers other observable factors, both internal and external to us in the general economy, to ensure that the estimates provided by the various models adequately include all known information at each reporting period.

**Goodwill Impairment** Goodwill is not subject to amortization but is tested for possible impairment at least annually or more frequently if events or changes in circumstances indicate that it is more likely than not that the asset might be impaired. Impairment testing requires that the fair value of each reporting unit be compared with its carrying amount, which is determined on the basis of capital invested in the unit including attributable goodwill. We determine the invested capital of a reporting unit by applying to the reporting unit's risk weighted assets a capital charge that is consistent with Basel III requirements, and additionally, allocating to each reporting unit the remaining carrying amount of HUSI's net assets. Accordingly, the entire carrying amount of HUSI's net assets is allocated to our reporting units. Significant and long-term changes in the applicable reporting unit's industry and related economic conditions are considered to be primary indicators of potential impairment due to their impact on expected future cash

flows. In addition, shorter-term changes may impact the discount rate applied to such cash flows based on changes in investor requirements or market uncertainties. In evaluating possible impairment, specific factors we consider are: (a) the observance of material changes to business plan information (e.g., financial forecasts); (b) significant increases in observed peer group discount rates; (c) significant announced or planned business divestitures; (d) the margin by which the fair value of each reporting unit exceeded the carrying amount at the previous testing date; (e) deterioration in macroeconomic, industry or market conditions that have not yet been reflected in the latest business plan information, if any, and; (f) other relevant events specific to the reporting unit (e.g., changes in management, strategy or customers, capital allocation or litigation).

The determination of fair value as part of the impairment testing of our goodwill is a "critical accounting estimate" due to the significant judgment required in the use of the fair value approaches. We utilize market approaches and the discounted cash flow method to determine fair value. The market approach focuses on valuation multiples for reasonably similar publicly traded companies and also considers recent market transactions. The discounted cash flow method includes such variables as revenue growth rates, expense trends, interest rates and terminal values. Based on an evaluation of key data and market factors, management's judgment is required to select the specific variables to be incorporated into the models. Additionally, the estimated fair value can be significantly impacted by the risk adjusted cost of capital percentage used to discount future cash flows. The risk adjusted cost of capital percentage is derived from an appropriate capital asset pricing model, which itself depends on a number of financial and economic variables which are established on the basis of those believed to be used by market participants. Because our fair value estimate involves judgment and is influenced by factors outside our control, it is reasonably possible such estimate could change. When management's judgment is that the anticipated cash flows have decreased and/or the cost of capital percentage has increased, the effect will be a lower estimate of fair value. If the fair value of the reporting unit is determined to be lower than the carrying amount, an impairment charge may be recorded and net income will be negatively impacted.

Impairment testing of goodwill requires that the fair value of each reporting unit be compared with its carrying amount, including goodwill. Reporting units were identified based upon an analysis of each of our individual operating segments. A reporting unit is defined as an operating segment or any distinct, separately identifiable component one level below an operating segment for which complete, discrete financial information is available that management regularly reviews. Goodwill was allocated to the carrying amount of each reporting unit based on its relative fair value. Movements of businesses across reporting units may result in a reallocation of goodwill.

We have established July 1 of each year as the date for conducting our annual goodwill impairment assessment. We have decided not to elect the option to apply a qualitative assessment to our goodwill impairment testing and, therefore continue to utilize a two-step process. The first step, used to identify potential impairment, involves comparing each reporting unit's fair value to its carrying amount, including goodwill. If the fair value of a reporting unit exceeds its carrying amount, including allocated goodwill, there is no indication of impairment and no further procedures are required. If the carrying amount including allocated goodwill of the reporting unit exceeds the unit's fair value, a second step is performed to quantify the impairment amount, if any. If the implied fair value of goodwill as determined using the same methodology as used in a business combination is less than the carrying amount of goodwill, an impairment charge is recorded for the excess. Any impairment charge recognized cannot exceed the amount of goodwill assigned to a reporting unit. Subsequent reversals of goodwill impairments are not permitted. During the third quarter of 2016, we completed our annual impairment test of goodwill and determined that the fair value of all of our reporting units exceeded their carrying amounts, with the fair value of each reporting unit being 125 percent or more of book value, including allocated goodwill. During the fourth quarter of 2016, we performed an interim impairment test of the goodwill associated with our Commercial Banking reporting unit as a result of the transfer of certain customer relationships to Global Banking and Markets. As a result of this testing, the fair value of our Commercial Banking reporting unit continued to exceed its carrying value, including goodwill, in excess of 125 percent.

Our goodwill impairment testing is highly sensitive to certain assumptions and estimates used as discussed above. We continue to perform periodic analyses of the risks and strategies of our business and product offerings. If a significant deterioration in economic and credit conditions, a change in the strategy or performance of our business or product offerings, or an increase in the capital requirements of our business occurs, interim impairment tests for reporting units could be required which may indicate that goodwill at one or more of our reporting units is impaired, in which case we would be required to recognize an impairment charge.

**Valuation of Financial Instruments** A significant portion of our financial assets and liabilities are carried at fair value. These include trading assets and liabilities, derivatives held for trading or used for hedging, securities available-for-sale and loans held for sale. Furthermore, we have elected to measure specific assets and liabilities at fair value under the fair value option, including certain commercial loans held for sale, certain securities sold under repurchase agreements, structured deposits, structured notes, and certain own debt issuances. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Where available, we use quoted prices to determine fair value. If quoted prices are not available, we base fair value on models using inputs that are either directly observable or are derived from and corroborated by market data.

*Valuation Governance Framework* - We have established a control framework to ensure fair values are either determined or validated by a function independent of the risk-taker. Controls over the valuation process are summarized in this MD&A under the caption "Fair Value."

*Valuation of Major Classes of Assets and Liabilities* - Fair value measurement accounting principles establish a fair value hierarchy structure that prioritizes the inputs to determine the fair value of an asset or liability (the "Fair Value Framework"). The Fair Value Framework establishes a three-tiered fair value hierarchy with Level 1 representing quoted prices (unadjusted) in active markets for identical assets or liabilities. Fair values determined by Level 2 inputs are inputs that are observable for the identical asset or liability, either directly or indirectly. Level 2 inputs include quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are inactive, and inputs other than quoted prices that are observable for the asset or liability, such as interest rates and yield curves that are observable at commonly quoted intervals. Level 3 inputs are unobservable inputs for the asset or liability and include situations where there is little, if any, market activity for the asset or liability. Classification within the fair value hierarchy is based on the lowest hierarchical level input that is significant to the fair value measurement. As such, the classification of a financial asset or liability within the fair value hierarchy is dynamic in that the asset or liability could be transferred to other hierarchy levels in each reporting period as a result of price discovery. We review and update our fair value hierarchy classifications quarterly. Changes from one quarter to the next related to the observability of the inputs into a fair value measurement may result in a reclassification between hierarchy levels. Level 3 assets as a percentage of total assets measured at fair value were approximately 4.1 percent at December 31, 2016.

Imprecision in estimating unobservable market inputs can impact the amount of revenue, loss or other comprehensive income recorded for a particular financial instrument. While we believe our valuation methods are appropriate, the use of different methodologies or assumptions to determine the fair value of certain financial assets and liabilities could result in a different estimate of fair value at the reporting date. For a more detailed discussion of the determination of fair value for individual financial assets and liabilities carried at fair value see Note 26, "Fair Value Measurements," in the accompanying consolidated financial statements. The following is a description of the significant estimates used in the valuation of financial assets and liabilities for which quoted market prices and observable market parameters are not available.

- *Derivatives* - We manage groups of derivative instruments with offsetting market and credit risks. Accordingly, we measure the fair value of each group of derivative instruments based on the exit price of the group's net risk position. The fair value of a net risk position is determined using internal models that utilize multiple market inputs. The majority of the market inputs can be validated through market consensus data. For complex or long-dated derivative products where market data is not available, fair value is sensitive to the limitation of the valuation model (model risk), the liquidity of the product (liquidity risk) and the assumptions about inputs not obtainable through price discovery process (data uncertainty risk). Accordingly, we make valuation adjustments to capture the risks and uncertainties. Because of the interrelated nature, we do not separately make an explicit adjustment to the fair value for each of these risks. Instead, we apply a range of assumptions to the valuation input that we believe implicitly incorporates adjustments for liquidity, model and data uncertainty risks.

We also include a credit risk adjustment to reflect the credit risk associated with the net derivative positions. In estimating the credit valuation adjustment, we net the derivative positions by counterparties. The fair value for a net long credit risk position is adjusted for the counterparty's credit risk referred to as credit valuation adjustment (CVA) whereas the fair value for a net short credit risk position is adjusted for HUSI's own credit risk referred to as debit valuation adjustment (DVA). We calculate the credit risk adjustment by applying the probability of default of the counterparty to the expected exposure, and multiplying the result by the expected loss given default. We estimate the implied probability of default based on the credit spreads of the specific counterparties observed in the credit default swap market. Where credit default spread of the specific counterparty is not available, we use the credit default spread of a specific proxy (e.g., the CDS spread of the parent). Where specific proxy credit default swap is not available, we apply a blended approach based on a combination of credit default swaps referencing to credit names of similar credit standing in the same industry sector and the historical rating-based probability of default.

Historically, we valued uncollateralized derivatives by discounting expected future cash flows at a benchmark interest rate, typically the London Interbank Offered Rate ("LIBOR") or its equivalent. In line with evolving industry practice, we changed this approach during the fourth quarter of 2014. We now view the Overnight Indexed Swap ("OIS") curve as the base discounting curve for all derivatives, both collateralized and uncollateralized, and have adopted a funding fair value adjustment ("FFVA") to reflect the estimated present value of the future market funding cost or benefit associated with funding uncollateralized derivative exposure at rates other than the OIS rate. This is an area in which a full industry consensus has not yet emerged. We will continue to monitor industry evolution and refine the calculation methodology as necessary.

- *Valuation of Securities* - For the majority of our trading and available-for-sale securities, we obtain fair value for each security instrument from multiple independent pricing vendors ("IPV") and brokers, if available. We have established adequate controls in pricing vendor selection and fair value validation. The validation methods include but are not limited to comparisons among IPV prices for the same instrument, review and challenge of IPV valuation methodologies, inputs

and assumptions, and the elapsed time between the date to which market data relates and the measurement date. For securities that are difficult to value, we use internal pricing models which estimate the fair value based on our assumptions in funding risk, default risk and loss upon default. We exercise significant judgment in estimating these assumptions and inputs to the valuation model. Nonetheless, we believe these model inputs reflect market participants' assumptions about risks and the risk premium required to compensate for undertaking risks. For certain non-recourse instruments, we use the fair value of the collateral as a proxy to the measurement.

- *Consumer loans Held for Sale* - Consumer loans held for sale are recorded at the lower of amortized cost or fair value. The fair value estimates of consumer loans held for sale are determined primarily using the discounted cash flow method using assumptions consistent with those which would be used by market participants in valuing such loans. Valuation inputs include estimates of prepayment rates, default rates, loss severities, collateral values and market rates of return. We also may hold discussions on value directly with potential investors. Where available, we measure residential mortgage whole loans held for sale based on transaction prices of loan portfolios of similar characteristics observed in the whole loan market. Adjustments are made to reflect differences in collateral location, loan-to-value ratio, FICO scores, vintage year, default rates, the completeness of the loan documentation and other risk characteristics.
- *Commercial loans held for sale* - Commercial loans held for sale (that are not designated under FVO as discussed below) are recorded at the lower of amortized cost or fair value. The fair value estimates of commercial loans held for sale are determined primarily using observable market consensus pricing obtained from independent sources, relevant broker quotes or observed market prices of instruments with similar characteristics. We also may hold discussions on value directly with potential investors.
- *Commercial Loans Held for Sale Designated Under Fair Value Option* - Where available, fair value is based on observable market consensus pricing obtained from independent sources, relevant broker quotes or observed market prices of instruments with similar characteristics. Where observable market parameters are not available, fair value is determined based on contractual cash flows adjusted for estimates of prepayment rates, expected default rates and loss severity discounted at management's estimate of the expected rate of return required by market participants. We also consider loan specific risk mitigating factors such as collateral arrangements in determining the fair value estimate.
- *Structured Notes and Deposits* - Structured notes and deposits are hybrid instruments containing embedded derivatives. The valuation of the hybrid instruments is predominantly driven by the derivative features embedded within the instruments and own credit risk. Depending on the complexity of the embedded derivative, the same risk elements of valuation adjustments described in the derivative section above would also apply to hybrid instruments. In addition, cash flows for the funded notes and deposits are discounted at the relevant interest rates for the duration of the instrument adjusted for our own credit spreads. The credit spreads so applied are determined with reference to our own debt issuance rates observed in primary and secondary markets, internal funding rates and the structured note rates in recent executions.

Except for structured notes and deposits with embedded credit derivative features, the associated risks embedded in the hybrid instruments issued to customers are economically hedged with our affiliates through a freestanding derivative. As a result, HUSI is market risk neutral in substantially all of the structured notes and deposits.

- *Long-Term Debt (Own Debt Issuances)* - The fair value of own debt issuances is based on the observed price for the identical or similar instruments transacted in the secondary market. However, the secondary market could become inactive or price quotes could be stale or differ among market participants. In those circumstances, we use inputs to value the interest rate and the credit spread components of the debt. Changes in such estimates, and in particular the own credit spread estimates could be volatile and markedly impact the total mark-to-market on debt designated at fair value recorded in our consolidated statement of income. For example, a 10 percent change in the value of our debt designated at fair value would have resulted in a change to our reported mark-to-market of approximately \$1,038 million for the year ended December 31, 2016.

Because the fair value of certain financial assets and liabilities are significantly impacted by the use of estimates, the use of different assumptions can result in changes in the estimated fair value of those assets and liabilities, which can result in equity and earnings volatility as follows:

- Changes in the fair value of trading assets and liabilities (including derivatives held for trading) are recorded in current period earnings;
- Changes in the fair value of a derivative that has been designated and qualifies as a fair value hedge, along with the changes in the fair value of the hedged asset or liability (including losses or gains on firm commitments, if any), are recorded in current period earnings;
- Changes in the fair value of a derivative that has been designated and qualifies as a cash flow hedge are recorded in other comprehensive income, net of tax, to the extent of its effectiveness, until earnings are impacted by the variability of cash flows from the hedged item. Any ineffectiveness is recognized in current period earnings;
- Changes in the fair value of securities available-for-sale are recorded in other comprehensive income;

- Changes in the fair value of loans held for sale when their cost exceeds fair value are recorded in current period earnings; and
- Changes in the fair value of certain commercial loans held for sale, certain securities sold under repurchase agreements, structured deposits, structured notes and long-term debt that we have elected to measure at fair value under the fair value option are recorded in current period earnings. Beginning in 2017, for financial liabilities measured under the fair value option, we will recognize the change in fair value attributable to our own credit risk in other comprehensive income.

**Derivatives Held for Hedging** Derivatives designated as qualified hedges are tested for hedge effectiveness. For these transactions, assessments are made at the inception of the hedge and on a recurring basis, whether the derivative used in the hedging transaction has been and is expected to continue to be highly effective in offsetting changes in fair values or cash flows of the hedged item. This assessment is conducted using statistical regression analysis.

If we determine as a result of this assessment that a derivative is no longer a highly effective hedge, hedge accounting is discontinued as of the quarter in which such determination was made. The assessment of the effectiveness of the derivatives used in hedging transactions is considered to be a "critical accounting estimate" due to the use of statistical regression analysis in making this determination. Inputs to statistical regression analysis require the use of estimates regarding the amount and timing of future cash flows which are susceptible to significant changes in future periods based on changes in market rates as well as the selection of a convention for the treatment of credit spreads in the analysis. Statistical regression analysis also involves the use of additional assumptions including the determination of the period over which the analysis should occur.

The outcome of the statistical regression analysis serves as the foundation for determining whether or not a derivative is highly effective as a hedging instrument. This can result in earnings volatility as the mark-to-market on derivatives which do not qualify as effective hedges and the ineffectiveness associated with qualifying hedges are recorded in current period earnings. For example, a 10 percent adverse change in the value of our derivatives that do not qualify as effective hedges would have reduced revenue by approximately \$232 million for the year ended December 31, 2016.

**Deferred Tax Asset Valuation Allowance** We recognize deferred tax assets and liabilities for the future tax consequences related to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and for tax credits and State net operating losses. Our net deferred tax assets, including deferred tax liabilities, totaled \$1.8 billion and \$1.5 billion at December 31, 2016 and 2015, respectively. We evaluate our deferred tax assets for recoverability considering negative and positive evidence, including our historical financial performance, projections of future taxable income, future reversals of existing taxable temporary differences, tax planning strategies and any carryback availability. We are required to establish a valuation allowance for deferred tax assets and record a charge to earnings or equity if we determine, based on available evidence at the time the determination is made, that it is more likely than not that some portion or all of the deferred tax assets will not be realized. In evaluating the need for a valuation allowance, we estimate future taxable income based on management approved business plans. This process involves significant management judgment about assumptions that are subject to change from period to period. Because the recognition of deferred tax assets requires management to make significant judgments about future earnings, the periods in which items will impact taxable income and the application of inherently complex tax laws, we have identified the assessment of deferred tax assets and the need for any related valuation allowance as a critical accounting estimate.

We are included in HSBC North America's consolidated U.S. Federal income tax return and in various combined State tax returns. We have entered into a tax allocation agreement with the HNAH Group which governs the current amount of taxes to be paid or received by the various entities and, therefore, we look at HSBC North America and its affiliates in reaching conclusions on recoverability. Based on our forecasts of future taxable income, we currently anticipate that our continuing operations will generate sufficient taxable income to allow us to realize our deferred tax assets.

The use of different assumptions of future earnings, the periods in which items will impact taxable income and the application of inherently complex tax laws can result in changes in the amounts of deferred tax items recognized, which can result in equity and earnings volatility because such changes are reported in current period earnings. Furthermore, if future events differ from our current forecasts, valuation allowances may need to be established or adjusted, which could have a material adverse effect on our results of operations, financial condition and capital position. We will continue to update our assumptions and forecasts of future taxable income and assess the need and adequacy of any valuation allowance.

Our interpretations of tax laws are subject to examination by the Internal Revenue Service and State taxing authorities. Resolution of disputes over interpretations of tax laws may result in us being assessed additional income taxes. We regularly review whether we may be assessed such additional income taxes and recognize liabilities for such potential future tax obligations as appropriate.

The carrying value of our net deferred tax assets is also determined by the enacted U.S. corporate income tax rate. Consequently, any changes in the U.S. corporate income tax rate will impact the carrying value of our net deferred tax asset. The new Administration has indicated an interest in significantly reducing the U.S. corporate income tax rate. Because we do not yet know the details of the new Administration's corporate tax plan, it is not possible to quantify the one-time impact from a re-measurement of deferred tax assets and liabilities that might ultimately result upon tax reform enactment. However, a reduction in the corporate income tax rate could result in a decrease in the carrying value of our deferred tax assets and a reduction to our net income and total equity

during the period in which any tax rate change is enacted. For example, a hypothetical 1 percent (100 basis point) decrease in the corporate income tax rate from 35 percent to 34 percent at December 31, 2016 would result in a write-down of our net deferred tax asset of approximately \$50 million.

Additional detail on our assumptions with respect to the judgments made in evaluating the realizability of our deferred tax assets and on the components of our deferred tax assets and deferred tax liabilities at December 31, 2016 and 2015 can be found in Note 16, "Income Taxes," in the accompanying consolidated financial statements.

**Contingent Liabilities** Both we and certain of our subsidiaries are parties to various legal proceedings resulting from ordinary business activities relating to our current and/or former operations. These actions include assertions concerning violations of laws and/or unfair treatment of consumers. We have also been subject to various governmental and regulatory proceedings.

We estimate and provide for potential losses that may arise out of litigation and regulatory proceedings to the extent that such losses are probable and can be reasonably estimated. Significant judgment is required in making these estimates and our final liabilities may ultimately be materially different from those estimates. Our total estimated liability in respect of litigation and regulatory proceedings is determined on a case-by-case basis and represents an estimate of probable losses after considering, among other factors, the progress of each case or proceeding, our experience and the experience of others in similar cases or proceedings and the opinions and views of legal counsel.

Litigation and regulatory exposure is a critical accounting estimate because it represents a key area of judgment and is subject to uncertainty and certain factors outside of our control. Due to the inherent uncertainties and other factors involved in such matters, we cannot be certain that we will ultimately prevail in each instance. Such uncertainties impact our ability to determine whether it is probable that a liability exists and whether the amount can be reasonably estimated. Also, as the ultimate resolution of these proceedings is influenced by factors that are outside of our control, it is reasonably possible our estimated liability under these proceedings may change. We will continue to update our accruals for these legal, governmental and regulatory proceedings as facts and circumstances change. For further details, see Note 27, "Litigation and Regulatory Matters," in the accompanying consolidated financial statements.

## Balance Sheet Review

We utilize deposits and borrowings from various sources to provide liquidity, fund our balance sheet, meet cash and capital needs, and fund investments in subsidiaries. The following table provides balance sheet totals at December 31, 2016 and increases (decreases) since December 31, 2015:

	December 31, 2016	Increase (Decrease) From December 31, 2015	
		Amount	%
(dollars are in millions)			
Period end assets:			
Short-term investments .....	\$ 51,496	\$ 23,203	82.0%
Loans, net .....	72,858	(9,147)	(11.2)
Loans held for sale .....	1,809	(376)	(17.2)
Trading assets .....	16,850	(235)	(1.4)
Securities .....	49,719	(78)	(.2)
Other assets .....	8,569	(344)	(3.9)
	<u>\$ 201,301</u>	<u>\$ 13,023</u>	<u>6.9%</u>
Period end liabilities:			
Total deposits .....	\$ 129,248	\$ 10,669	9.0%
Trading liabilities .....	4,908	(2,547)	(34.2)
Short-term borrowings .....	5,101	106	2.1
Long-term debt .....	37,739	4,230	12.6
All other liabilities .....	3,950	735	22.9
Total equity .....	20,355	(170)	(.8)
	<u>\$ 201,301</u>	<u>\$ 13,023</u>	<u>6.9%</u>

**Short-Term Investments** Short-term investments include cash and due from banks, interest bearing deposits with banks and federal funds sold and securities purchased under agreements to resell. Balances may fluctuate from period to period depending upon our liquidity position at the time and our strategy for deploying liquidity. Short-term investments increased since December 31, 2015 driven by our conservative liquidity management practices, where we raise funds in advance of their usage and opportunistically deploy them to maximize returns.

**Loans, Net** The following summarizes our loan balances at December 31, 2016 and increases (decreases) since December 31, 2015:

	December 31, 2016	Increase (Decrease) From December 31, 2015	
		Amount	%
(dollars are in millions)			
Commercial loans:			
Construction and other real estate .....	\$ 10,890	\$ 890	8.9 %
Business and corporate banking <sup>(1)</sup> .....	14,080	(285)	(2.0)
Global banking <sup>(1)(2)</sup> .....	26,755	(7,965)	(22.9)
Other commercial .....	2,491	(877)	(26.0)
Total commercial .....	<u>54,216</u>	<u>(8,237)</u>	<u>(13.2)</u>
Consumer loans:			
Residential mortgages .....	17,181	(577)	(3.2)
Home equity mortgages .....	1,408	(192)	(12.0)
Credit cards .....	688	(11)	(1.6)
Other consumer .....	382	(25)	(6.1)
Total consumer .....	<u>19,659</u>	<u>(805)</u>	<u>(3.9)</u>
Total loans .....	<u>73,875</u>	<u>(9,042)</u>	<u>(10.9)</u>
Allowance for credit losses .....	1,017	105	11.5
Loans, net .....	<u>\$ 72,858</u>	<u>\$ (9,147)</u>	<u>(11.2)%</u>

<sup>(1)</sup> During the fourth quarter of 2016, we transferred certain customer relationships from CMB to GB&M as discussed further in Note 22, "Business Segments," in the accompanying consolidated financial statements. As a result, we reclassified \$4.8 billion of loans from business and corporate banking to global banking at December 31, 2015 to conform with the current year presentation.

<sup>(2)</sup> Represents large multinational firms including globally focused U.S. corporate and financial institutions, U.S. dollar lending to multinational banking customers managed by HSBC on a global basis and complex large business customers supported by GB&M relationship managers. Also includes loans to HSBC affiliates which totaled \$3,274 million and \$4,815 million at December 31, 2016 and 2015, respectively.

Commercial loans decreased compared with December 31, 2015 largely due to paydowns and maturities exceeding new loan originations as we focused efforts on improving returns through disciplined lending and expanding existing customer relationships into other products. The decrease also reflects lower loans to affiliates and the transfer of certain global banking loans with a carrying value of \$1,088 million to held for sale, partially offset by the transfer of certain commercial real estate loans with a carrying value of \$612 million from held for sale to held for investment during 2016. The decline in commercial non-affiliate loans, including the impact of transfers, was primarily in the banking, oil and gas, mining, food and health care industries.

Consumer loans decreased compared with December 31, 2015 due primarily to the transfers of certain residential mortgage loans with a carrying value of \$1,023 million to held for sale during 2016 as discussed below, partially offset by an increase in residential mortgage loans as we continue to target new residential mortgage loan originations towards our Premier and Advance customer relationships and sell newly originated conforming loans to PHH Mortgage Corporation ("PHH Mortgage"). Home equity mortgages also decreased reflecting net paydowns as our focus continues to shift towards residential mortgage loans. The declines in credit card receivables and other consumer loans reflects paydowns.

We have seen a general improvement in the loan-to-value ("LTV") ratios for our residential mortgage loan portfolio. The following table presents LTVs for our residential mortgage loan portfolio, excluding mortgage loans held for sale:

	LTV Ratios <sup>(1)(2)</sup>			
	December 31, 2016		December 31, 2015	
	First Lien	Second Lien	First Lien	Second Lien
LTV < 80%.....	96.8%	83.6%	94.9%	78.7%
80% ≤ LTV < 90%.....	1.9	9.7	2.9	11.0
90% ≤ LTV < 100%.....	.8	4.8	1.4	6.5
LTV ≥ 100%.....	.5	1.9	.8	3.8
Average LTV for portfolio.....	52.8	56.4	54.9	59.1

(1) LTVs for first liens are calculated using the loan balance as of the reporting date. LTVs for second liens are calculated using the loan balance as of the reporting date plus the senior lien amount at origination. Current estimated property values are derived from the property's appraised value at the time of loan origination updated by the change in the Federal Housing Finance Agency's house pricing index ("HPI") at either a Core Based Statistical Area or state level. The estimated value of the homes could differ from actual fair values due to changes in condition of the underlying property, variations in housing price changes within metropolitan statistical areas and other factors. As a result, actual property values associated with loans that end in foreclosure may be significantly lower than the estimates used for purposes of this disclosure.

(2) Current estimated property values are calculated using the most current HPIs available and applied on an individual loan basis, which results in an approximate three month delay in the production of reportable statistics. Therefore, the information in the table above reflects current estimated property values using HPIs at September 30, 2016 and 2015, respectively.

**Loans Held for Sale** The following table summarizes loans held for sale at December 31, 2016 and increases (decreases) since December 31, 2015:

	December 31, 2016	Increase (Decrease) From December 31, 2015	
		Amount	%
(dollars are in millions)			
Commercial loans:			
Construction and other real estate.....	\$ 17	\$ (1,878)	(99.1)%
Global banking.....	827	627	*
Total commercial.....	844	(1,251)	(59.7)
Consumer loans:			
Residential mortgages.....	890	879	*
Home equity mortgages.....	4	4	*
Other consumer.....	71	(8)	(10.1)
Total consumer.....	965	875	*
Total loans held for sale.....	\$ 1,809	\$ (376)	(17.2)%

\* Not meaningful.

Commercial loans held for sale decreased compared with December 31, 2015. In 2016, we sold \$1,161 million of commercial real estate loans to a third party and recognized a loss on sale of approximately \$3 million, including transaction costs. Upon completion of the sale, certain loans which had a carrying value of \$612 million were transferred back to held for investment as we now intend to hold these loans for the foreseeable future.

Global banking loans held for sale includes commercial loans that we originate in connection with our participation in a number of syndicated credit facilities with the intent of selling them to unaffiliated third parties as well as commercial loans that we purchase from the secondary market and hold as hedges against our exposure to certain total return swaps. The fair value of these loans, which we have elected to designate under the fair value option, totaled \$725 million and \$151 million at December 31, 2016 and 2015, respectively. Balances will fluctuate from period to period depending on the volume and level of activity.

Global banking loans held for sale also includes certain loans that we no longer intend to hold for investment and were transferred to held for sale which totaled \$102 million and \$49 million at December 31, 2016 and 2015, respectively.

We recorded lower of amortized cost or fair value adjustments associated with the write-down of commercial loans held for sale of \$35 million, \$16 million and \$5 million during 2016, 2015 and 2014, respectively, as a component of other income (loss) in the consolidated statement of income.

Consumer loans held for sale increased compared with December 31, 2015. As previously disclosed, we continue to evaluate our overall operations as we seek to optimize our risk profile and cost efficiencies, as well as our liquidity, capital and funding requirements. As part of this on-going evaluation, as well as continued market demand for non-performing residential mortgage loans, during 2016 we determined we no longer have the intent to hold for investment certain residential mortgage loans which had been written down to the lower of amortized cost or fair value of the collateral less cost to sell (generally 180 days past due) in accordance with our existing charge-off policies. These loans were largely originated by us prior to the implementation of our Premier strategy. As a result of this decision, during 2016, we transferred residential mortgage loans to held for sale with a total unpaid principal balance of approximately \$568 million at the time of transfer. The carrying value of these loans prior to transfer, after considering the fair value of the property less costs to sell, was approximately \$473 million, including related escrow advances.

In addition to the residential mortgage loan transfers discussed above, during the third quarter of 2016, we determined we no longer have the intent to hold for investment a portfolio of residential mortgage loans that we previously purchased from HSBC Finance, along with any home equity mortgage balances associated with these loans. As a result of this decision, during the third quarter of 2016, we transferred residential mortgage and home equity mortgage loans to held for sale with a total unpaid principal balance of approximately \$648 million at the time of transfer. The carrying value of these loans prior to transfer, after considering the fair value of the property less costs to sell, as applicable, was approximately \$628 million, including accrued interest.

We also continue to sell all our agency eligible residential mortgage loan originations servicing released directly to PHH Mortgage. Residential mortgage loans held for sale also includes subprime residential mortgage loans with a fair value of \$3 million at both December 31, 2016 and 2015 which were previously acquired from unaffiliated third parties and from HSBC Finance with the intent of securitizing or selling the loans to third parties.

Other consumer loans held for sale reflects student loans which we no longer originate.

Excluding the commercial loans designated under fair value option discussed above, loans held for sale are recorded at the lower of amortized cost or fair value, with adjustments to fair value being recorded as a valuation allowance through other revenues. The valuation allowance on consumer loans held for sale was \$57 million and \$13 million at December 31, 2016 and 2015, respectively. The valuation allowance on commercial loans held for sale was \$55 million and \$21 million at December 31, 2016 and 2015, respectively.

**Trading Assets and Liabilities** The following table summarizes trading assets and liabilities at December 31, 2016 and increases (decreases) since December 31, 2015:

	December 31, 2016	Increase (Decrease) From December 31, 2015	
		Amount	%
(dollars are in millions)			
Trading assets:			
Securities <sup>(1)</sup> .....	\$ 10,667	\$ (488)	(4.4)%
Precious metals .....	1,772	992	*
Derivatives, net <sup>(2)</sup> .....	4,411	(739)	(14.3)
	<u>\$ 16,850</u>	<u>\$ (235)</u>	<u>(1.4)%</u>
Trading liabilities:			
Securities sold, not yet purchased .....	\$ 1,060	\$ 661	*
Payables for precious metals .....	62	(588)	(90.5)
Derivatives, net <sup>(3)</sup> .....	3,786	(2,620)	(40.9)
	<u>\$ 4,908</u>	<u>\$ (2,547)</u>	<u>(34.2)%</u>

\* Not meaningful.

<sup>(1)</sup> See Note 3, "Trading Assets and Liabilities," in the accompanying consolidated financial statements for a breakout of trading securities by category.

<sup>(2)</sup> At December 31, 2016 and 2015, the fair value of derivatives included in trading assets has been reduced by \$4,462 million and \$4,652 million, respectively, relating to amounts recognized for the obligation to return cash collateral received under master netting agreements with derivative counterparties.

<sup>(3)</sup> At December 31, 2016 and 2015, the fair value of derivatives included in trading liabilities has been reduced by \$3,826 million and \$1,530 million, respectively, relating to amounts recognized for the right to reclaim cash collateral paid under master netting agreements with derivative counterparties.

Securities balances decreased compared with December 31, 2015 due primarily to decreases in municipal bonds and foreign sovereign positions which were partially offset by an increase in U.S. Treasury positions and the impact of favorable market valuations of foreign sovereign positions. Securities positions are held as economic hedges of interest rate and credit derivative products issued to customers of domestic and emerging markets. Balances of securities sold, not yet purchased increased compared with December 31, 2015 due to an increase in short U.S. Treasury positions related to economic hedges of derivatives in the interest rate trading portfolio.

Precious metals trading assets increased compared with December 31, 2015 driven largely by increases in our own gold and palladium inventory positions held as hedges for client activity as well as higher spot prices. Payables for precious metals were lower reflecting a decrease in borrowing of gold and silver inventory. Precious metal positions may not represent our net underlying exposure as we may use derivatives contracts to reduce our risk associated with these positions, the fair value of which would appear in derivatives in the table above.

Derivative asset and liability balances both decreased compared with December 31, 2015 mainly from market movements which resulted in lower valuations of interest rate and credit derivatives, partially offset by higher valuations of equity and commodity derivatives. Market movements on foreign exchange derivatives were mixed resulting in lower derivative asset valuations, but higher derivative liability valuations. The decrease in derivative liability balances also reflects the impact of higher netting driven by an increase in cash collateral posted.

**Securities** Securities include securities available-for-sale and securities held-to-maturity. Securities balances were relatively flat compared with December 31, 2015 as a decrease in securities held-to-maturity driven by paydowns of U.S. Government mortgage-backed securities was offset by an increase in securities available-for-sale. The increase in securities available-for-sale reflects net purchases of longer term U.S. Treasury and U.S. Government sponsored mortgage-backed securities, partially offset by net sales of U.S. Government agency mortgage-backed securities as part of a continuing strategy to maximize returns while balancing the securities portfolio for risk management purposes based on the current interest rate environment and liquidity needs and, to a lesser extent, unfavorable market valuations.

See Note 4, "Securities," in the accompanying consolidated financial statements for information regarding our securities portfolios at December 31, 2016 and 2015. At December 31, 2014, our securities available-for-sale portfolio, which totaled \$30,140 million, consisted of \$25,165 million of U.S. Treasury, U.S. Government agency and sponsored enterprise obligations, \$667 million of U.S. state and political subdivision obligations and \$4,308 million of other available-for-sale securities and our securities held-to-maturity portfolio, which totaled \$13,469 million, consisted of \$13,435 million of U.S. Government agency and sponsored enterprise obligations, \$23 million of U.S. state and political subdivision obligations and \$11 million of other held-to-maturity securities.

**Other Assets** Other assets includes intangibles and goodwill. Other assets decreased compared with December 31, 2015 largely due to lower outstanding settlement balances related to security sales and lower intangible assets, partially offset by higher derivative balances associated with hedging activities and higher tax assets. During the fourth quarter of 2016, we sold our remaining MSRs portfolio to a third party. See Note 9, "Intangible Assets," in the accompanying consolidated financial statements for additional details.

**Deposits** The following summarizes deposit balances by major depositor categories at December 31, 2016 and increases (decreases) since December 31, 2015:

	December 31, 2016	Increase (Decrease) From December 31, 2015	
		Amount	%
(dollars are in millions)			
Individuals, partnerships and corporations.....	\$ 110,290	\$ 7,437	7.2%
Domestic and foreign banks .....	17,572	3,406	24.0
U.S. government and states and political subdivisions .....	597	(126)	(17.4)
Foreign governments and official institutions .....	789	(48)	(5.7)
Total deposits.....	<u>\$ 129,248</u>	<u>\$ 10,669</u>	<u>9.0%</u>
Total core deposits <sup>(1)</sup> .....	<u>\$ 98,671</u>	<u>\$ 8,208</u>	<u>9.1%</u>

<sup>(1)</sup> Core deposits, as calculated in accordance with Federal Financial Institutions Examination Council ("FFIEC") guidelines, generally include all domestic demand, money market and other savings accounts, as well as time deposits with balances not exceeding \$100,000.

Deposit balances increased since December 31, 2015 driven largely by higher deposits from affiliates and, to a lesser extent, growth in commercial savings and demand deposits which reflects executing a key strategy to grow our Global Liquidity and Cash Management business through our international network. These increases were partially offset by lower deposits from a few large

Private Banking customers as well as a decrease in wholesale time deposits. The strategy for our core retail banking business includes building relationship deposits across multiple markets, channels and segments. This strategy involves various initiatives, such as:

- HSBC Premier, a comprehensive banking and wealth management proposition for the internationally minded mass affluent client with a dedicated premier relationship manager. Total Premier deposits increased to \$24,351 million at December 31, 2016 as compared with \$23,498 million at December 31, 2015; and
- Expanding our existing customer relationships by needs-based sales of wealth, banking and mortgage products.

We continue to actively manage our balance sheet to increase profitability while maintaining adequate liquidity.

**Short-Term Borrowings** Short-term borrowings increased slightly compared with December 31, 2015 as an increase in securities sold under repurchase agreements due to the impact of lower netting was largely offset by lower commercial paper outstanding.

**Long-Term Debt** Long-term debt increased compared with December 31, 2015 reflecting the impact of debt issuances, including \$4,000 million of senior debt issued to HSBC North America during the third quarter of 2016 and increased borrowings from the Federal Home Loan Bank of New York ("FHLB"), partially offset by debt retirements. Debt issuances during 2016 totaled \$8,694 million, of which \$5,107 million was issued by HSBC Bank USA.

Incremental issuances from our shelf registration statement with the SEC totaled \$3,587 million of senior structured notes during 2016. Total long-term debt outstanding under this shelf was \$22,235 million and \$21,415 million at December 31, 2016 and 2015, respectively.

Incremental issuances from the HSBC Bank USA Global Bank Note Program totaled \$7 million during 2016. Total debt outstanding under this program was \$4,443 million and \$4,476 million at December 31, 2016 and 2015, respectively. We anticipate using the Global Bank Note Program more in the future as part of our efforts designed to minimize overall funding costs while accessing diverse funding channels.

Borrowings from the FHLB totaled \$5,700 million and \$5,600 million at December 31, 2016 and 2015, respectively.

**All Other Liabilities** All other liabilities increased compared with December 31, 2015 due primarily to an increase in tax liabilities, higher outstanding settlement balances related to security purchases and higher derivative balances associated with hedging activities.

**Total Equity** During the second quarter of 2016, HSBC USA redeemed all of its remaining externally issued preferred stock, including its Floating Rate Non-Cumulative Series F Preferred Stock, Floating Rate Non-Cumulative Series G Preferred Stock and 6.5 percent Non-Cumulative Series H Preferred Stock, totaling \$1,265 million. In connection with these redemptions, HSBC USA issued \$1,265 million of 6.0 percent Non-Cumulative Series I Preferred Stock to HSBC North America. See Note 23, "Retained Earnings and Regulatory Capital Requirements," in the accompanying consolidated financial statements for additional details.

## Results of Operations

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**Net Interest Income** Net interest income is the total interest income on earning assets less the total interest expense on deposits and borrowed funds. In the discussion that follows, interest income and rates are presented and analyzed on a taxable equivalent basis to permit comparisons of yields on tax-exempt and taxable assets. An analysis of consolidated average balances and interest rates on a taxable equivalent basis is presented in this MD&A under the caption "Consolidated Average Balances and Interest Rates."

The significant components of net interest margin are summarized in the following table:

Year Ended December 31,	2016	2016 Compared to 2015		2015	2015 Compared to 2014		2014
		Increase (Decrease) Volume	Increase (Decrease) Rate		Increase (Decrease) Volume	Increase (Decrease) Rate	
(dollars are in millions)							
Interest income:							
Short-term investments.....	\$ 365	\$ 26	\$ 231	\$ 108	\$ 30	\$ 1	\$ 77
Trading securities .....	262	(10)	(68)	340	8	79	253
Securities .....	957	66	(19)	910	18	109	783
Commercial loans.....	1,537	(41)	212	1,366	223	(52)	1,195
Consumer loans .....	747	18	(1)	730	29	(12)	713
Other .....	43	(7)	(9)	59	(6)	24	41
Total interest income .....	<u>3,911</u>	<u>52</u>	<u>346</u>	<u>3,513</u>	<u>302</u>	<u>149</u>	<u>3,062</u>
Interest expense:							
Deposits .....	468	25	183	260	26	89	145
Short-term borrowings.....	79	(14)	47	46	(15)	25	36
Long-term debt .....	864	107	48	709	179	(120)	650
Tax liabilities and other .....	15	4	(5)	16	19	85	(88)
Total interest expense .....	<u>1,426</u>	<u>122</u>	<u>273</u>	<u>1,031</u>	<u>209</u>	<u>79</u>	<u>743</u>
Net interest income – taxable equivalent basis.....	<u>2,485</u>	<u>\$ (70)</u>	<u>\$ 73</u>	<u>2,482</u>	<u>\$ 93</u>	<u>\$ 70</u>	<u>2,319</u>
Less: tax equivalent adjustment.....	<u>1</u>			<u>12</u>			<u>15</u>
Net interest income – non taxable equivalent basis.....	<u>\$2,484</u>			<u>\$2,470</u>			<u>\$2,304</u>
Yield on total interest earning assets .....	<u>2.02%</u>			1.91%			1.89%
Cost of total interest bearing liabilities.....	<u>.99</u>			.76			.61
Interest rate spread.....	<u>1.03</u>			1.15			1.28
Benefit from net non-interest paying funds <sup>(1)</sup> .....	<u>.25</u>			.20			.15
Net interest margin on average earning assets.....	<u>1.28%</u>			<u>1.35%</u>			<u>1.43%</u>

<sup>(1)</sup> Represents the benefit associated with interest earning assets in excess of interest bearing liabilities. Increased percentages reflect growth in this excess, while decreased percentages reflect a reduction in this excess.

During 2016, net interest income increased slightly as the favorable impact of higher short-term market rates and higher interest income from securities was largely offset by higher interest expense from wholesale time deposits and long-term debt as well as lower interest income from trading securities and the impact of lower average commercial loan balances. Higher short-term market rates resulted in higher short-term investment and variable rate loan interest income, partially offset by higher wholesale time deposit and short-term borrowing interest expense while retail and commercial deposit account pricing was largely unchanged. Net interest income in 2014 reflects a \$120 million benefit to tax liabilities interest expense related to the conclusion of certain State and local tax audits. See Note 16, "Income Taxes," in the accompanying consolidated financial statements for additional information. Excluding the impact of this item, net interest income increased \$286 million during 2015 driven by higher interest income in all categories, primarily commercial loans as well as securities and trading securities, partially offset by higher interest expense due primarily to increased expense from deposits and long-term debt.

*Short-term investments* Higher interest income during 2016 was due to a shift in mix towards higher yielding securities purchased under agreements to resell, higher yields on interest bearing deposits with banks driven by the impact of the Federal Reserve Bank rate increase in December 2015 and, to a lesser extent, higher average balances. During 2015, interest income increased driven by higher average balances.

*Trading securities* Interest income declined during 2016 driven primarily by increased investments in lower yielding U.S. Treasury securities and, to a lesser extent, lower average balances overall as the increase in U.S. Treasury positions was more than offset by decreases in municipal bonds and foreign sovereign positions. During 2015, interest income was higher driven primarily by a shift in mix to longer-term, higher yielding securities and, to a lesser extent, higher average balances. Securities in the trading portfolio are managed as economic hedges against the derivative activity of our customers. As a result, interest income associated

with trading securities was partially offset within trading revenue by the performance of the associated derivatives as discussed further below.

*Securities* Interest income was higher during 2016 due to higher average balances, partially offset by lower yields. Higher average balances reflects net purchases of U.S. Treasury and U.S. Government sponsored mortgage-backed securities, partially offset by net sales and paydowns of U.S. Government agency mortgage-backed securities. During 2015, interest income was higher due primarily to a shift in mix towards longer-term, higher yielding securities and, to a lesser extent, higher average balances driven largely by the purchases of U.S. Treasury and U.S. Government agency mortgage-backed securities.

*Commercial loans* Interest income increased during 2016 due to higher yields reflecting the impact of rate increases on variable rate products, partially offset by lower average balances driven by paydowns, maturities and loan sales exceeding new loan originations as we focused efforts on improving returns through disciplined lending and expanding existing customer relationships into other products. During 2015, interest income increased driven by higher average balances due to loan growth, partially offset by lower yields on newly originated loans and refinanced loans.

*Consumer loans* Interest income was higher during 2016 and 2015 due to higher average balances driven by growth in residential mortgages. The increase was partially offset in 2015 by lower yields on newly originated loans.

*Other* Lower interest income during 2016 reflects a lower dividend rate earned on Federal Reserve Bank stock and lower average balances due to a decline in cash collateral posted. During 2015, interest income was higher reflecting a shift in mix to higher yielding assets due primarily to increased investments in Federal Home Loan Bank and Federal Reserve Bank stock, partially offset by lower average balances.

*Deposits* Interest expense increased during 2016 due primarily to higher rates paid on wholesale time deposits and foreign bank deposits reflecting the impact of rate increases, higher average interest-bearing deposit balances overall and, to a lesser extent, higher rates paid on savings accounts driven by promotional offers to our retail customers. During 2015, interest expense increased due largely to a shift in mix towards higher priced wholesale time deposits driven by new issuances, higher rates paid on savings accounts driven by promotional offers to our Premier customers and, to a lesser extent, higher average interest-bearing deposit balances.

*Short-term borrowings* Higher interest expense during 2016 and 2015 was driven by higher rates paid on these borrowings, partially offset by lower average borrowings.

*Long-term debt* Interest expense was higher during 2016 largely due to higher average borrowings and higher rates paid reflecting the impact of rate increases on variable rate borrowings and new issuances. During 2015, interest expense increased driven by higher average borrowings, partially offset by a shift in mix towards lower priced non-subordinated debt.

*Tax liabilities and other* Interest expense was relatively flat during 2016. Excluding the one-time benefit related to the conclusion of certain State and local tax audits discussed above, interest expense decreased during 2015 as the conclusion of these audits resulted in lower interest-bearing tax liability balances.

**Provision for Credit Losses** The following table summarizes the provision for credit losses associated with our various loan portfolios:

Year Ended December 31,	2016	2015	2014
	(dollars are in millions)		
Commercial:			
Construction and other real estate .....	\$ —	\$ 2	\$ 2
Business and corporate banking .....	10	215	157
Global banking .....	348	136	64
Other commercial .....	(6)	(2)	(7)
Total commercial .....	<u>352</u>	<u>351</u>	<u>216</u>
Consumer:			
Residential mortgages .....	(9)	(15)	(40)
Home equity mortgages .....	(1)	(4)	(14)
Credit cards .....	26	20	23
Other consumer .....	4	9	3
Total consumer .....	<u>20</u>	<u>10</u>	<u>(28)</u>
Total provision for credit losses .....	<u>\$ 372</u>	<u>\$ 361</u>	<u>\$ 188</u>
Provision as a percentage of average loans .....	<u>.5%</u>	<u>.4%</u>	<u>.3%</u>

Our provision for credit losses increased \$11 million during 2016 due to a higher provision for credit losses in our consumer loan portfolio while the provision for credit losses in our commercial loan portfolio was flat. During 2015, our provision for credit losses increased \$173 million driven by a higher provision for credit losses in our commercial loan portfolio and, to a lesser extent, a higher provision for credit losses in our consumer loan portfolio. During 2016, 2015 and 2014, we increased our allowance for credit losses as the provision for credit losses was higher than net charge-offs by \$105 million, \$232 million and \$74 million, respectively.

The provision for credit losses in our commercial loan portfolio was flat during 2016, as lower provisions associated with oil and gas industry loan exposures, a favorable impact associated with a slight improvement in loss emergence as discussed more fully below and lower provisions for risk factors associated with expansion market loan exposures were offset by higher provisions associated with the continued deterioration of a single mining customer relationship and, to a lesser extent, other downgrades reflecting weaknesses in the financial condition of certain customer relationships, including mining and other industry loan exposures. We will continue to monitor our exposure with regard to the mining customer relationship discussed above and, as a result, further adjustments to our credit loss reserves may be required in future periods. During 2015, the provision for credit losses in our commercial loan portfolio increased \$135 million due primarily to higher provisions associated with oil and gas industry loan exposures and, to a lesser extent, downgrades in other industry loan exposures reflecting weaknesses in the financial circumstances of certain customer relationships as well as higher provisions due to loan growth. These increases were partially offset by a lower impact associated with loss emergence as discussed more fully below and releases of reserves associated with maturities of lower quality loans. Crude oil prices declined sharply during 2015 and as a result of these market conditions, we increased our allowance for credit losses associated with oil and gas industry loan exposures by \$295 million.

During the fourth quarters of 2016 and 2015, we updated the default populations utilized in determining the emergence period to include more recent defaults while dropping off the oldest defaults to maintain a consistent look-back period. These updates resulted in modest changes to the loss emergence period used in our commercial loan collective impairment calculation which decreased our provision for credit losses by approximately \$24 million in 2016 and increased our provision for credit losses by approximately \$28 million in 2015 solely relating to these updates. Our provision for credit losses in 2014 reflects revisions to certain estimates used in our commercial loan impairment calculation, including estimates of loss emergence, which resulted in an incremental provision for credit losses of approximately \$178 million. See "Basis of Reporting" in this MD&A for further discussion.

As previously discussed, during the third quarter of 2016 we transferred certain mortgages to held for sale and, as a result, recorded a lower of cost or fair value adjustment of \$11 million related to credit factors as a component of the provision for credit losses. Excluding the impact of this item, the provision for credit losses on residential mortgages and home equity mortgages decreased \$2 million during 2016 reflecting the positive impacts of continued improvements in economic and credit conditions and the continued origination of higher quality Premier mortgages which are an increasingly larger portion of the portfolio. During 2015, the provision for credit losses on residential mortgages including home equity mortgages increased \$35 million due primarily to the non-recurrence of a \$21 million reduction to our residential mortgage allowance for credit losses that was recorded in 2014 as a result of our determination that delays in the processing of certain operational transactions were overstating our estimate of residential mortgage loan loss severity. In addition, the positive impacts from lower severity estimates due to improvements in home prices and continued improvements in economic and credit conditions including lower dollars of delinquency on accounts less than 180 days contractually delinquent were more pronounced in 2014. These increases in 2015 were partially offset by lower loss estimates associated with the remediation of certain mortgage servicing activities.

The provision for credit losses associated with credit cards increased \$6 million during 2016 and decreased \$3 million during 2015 as the positive impacts from continued improvements in economic and credit conditions and lower average receivable levels were more pronounced in 2015.

The provision for credit losses associated with other consumer loans decreased \$5 million during 2016 and increased \$6 million during 2015 as 2015 reflects a lower of cost or fair value adjustment associated with the transfer of a small student loan portfolio to held for sale.

Our methodology and accounting policies related to the allowance for credit losses are presented under the caption "Critical Accounting Policies and Estimates" in this MD&A and in Note 2, "Summary of Significant Accounting Policies and New Accounting Pronouncements," in the accompanying consolidated financial statements. See "Credit Quality" in this MD&A for additional discussion on the allowance for credit losses associated with our various loan portfolios.

**Other Revenues** The following table summarizes the components of other revenues:

Year Ended December 31,	2016	2015	2014
	(in millions)		
Credit card fees .....	\$ 52	\$ 43	\$ 51
Trust and investment management fees .....	153	170	135
Other fees and commissions .....	721	743	743
Trading revenue.....	227	74	105
Net other-than-temporary impairment losses	—	—	(11)
Other securities gains, net .....	70	48	113
Servicing and other fees from HSBC affiliates.....	217	213	199
Residential mortgage banking revenue .....	16	62	112
Gain (loss) on instruments designated at fair value and related derivatives.....	(71)	264	75
Other income (loss):			
Valuation of loans held for sale.....	(83)	(14)	(2)
Insurance .....	20	21	17
Miscellaneous income .....	10	48	69
Total other income (loss).....	(53)	55	84
Total other revenues.....	\$ 1,332	\$ 1,672	\$ 1,606

*Credit card fees* Credit card fees were higher during 2016 due primarily to lower cost estimates associated with our credit card rewards program. In 2015, we began reporting credit card late fees in interest income, which totaled \$7 million. Excluding the impact of this item, credit card fees were relatively flat in 2015.

*Trust and investment management fees* Trust and investment management fees decreased during 2016 driven by a decline in assets under management in Private Banking as well as lower asset management fees from fixed income funds reflecting a shift in product mix. In 2015, trust and investment management fees increased driven by growth in average assets under management principally from emerging market bond funds. In addition, in 2015 we began reporting certain investment management fees associated with our Private Banking business in trust and investment management fees. As a result, we reported \$14 million of Private Banking fees in trust and investment management fees during 2015 that previously would have been reported in other fees and commissions.

*Other fees and commissions* The following table summarizes the components of other fees and commissions:

Year Ended December 31,	2016	2015	2014
	(in millions)		
Account services.....	\$ 276	\$ 286	\$ 296
Credit facilities.....	349	347	290
Custodial fees.....	21	22	40
Other fees.....	75	88	117
Total other fees and commissions.....	\$ 721	\$ 743	\$ 743

Other fees and commissions were lower during 2016 due to lower account service fees and other fee based income reflecting the impact of a slowdown in commercial lending activity compared with 2015. In 2015, other fees and commissions were flat as higher credit facility fees resulting from increased commercial lending activity were offset by lower custodial fees due to a decrease in precious metals average inventory held under custody as well as lower average metals prices, lower other fees which reflects the impact of Private Banking investment management fees reporting change discussed above and lower account service fees due primarily to declines in non-sufficient funds and late fees.

*Trading revenue* Trading revenue is generated by participation in the foreign exchange, rates, credit, equities and precious metals markets. The following table presents trading revenue by business activity. Not included in the table below is the impact of net interest income related to trading activities which is an integral part of trading activities' overall performance. Net interest income related to trading activities is recorded in net interest income in the consolidated statement of income. Trading revenues related to the mortgage banking business are included in residential mortgage banking revenue.

Year Ended December 31,	2016	2015	2014
	(in millions)		
<b>Business Activities:</b>			
Derivatives <sup>(1)</sup> .....	\$ (35)	\$ (172)	\$ (141)
Balance Sheet Management.....	(27)	(18)	(24)
Foreign Exchange .....	210	213	213
Precious Metals.....	90	55	63
Global Banking.....	(11)	(2)	—
Other trading.....	—	(2)	(6)
<b>Total trading revenue.....</b>	<b>\$ 227</b>	<b>\$ 74</b>	<b>\$ 105</b>

<sup>(1)</sup> Includes derivative contracts related to credit default and cross-currency swaps, equities, interest rates and structured credit products.

*2016 Compared with 2015* Trading revenue increased during 2016 largely driven by the improved performance of Derivatives and Precious Metals, partially offset by lower revenue from Balance Sheet Management, Global Banking and Foreign Exchange.

Trading revenue from Derivatives improved during 2016 from higher new deal activity in interest rate swaps, higher valuations of legacy structured credit exposures and the improved performance of emerging markets products. These improvements were partially offset by the impact of debit valuation adjustments associated with movements in our own credit spreads. Derivatives trading revenue does not reflect associated net interest income as certain derivatives, such as total return swaps, were economically hedged by holding the underlying interest bearing referenced assets.

Trading revenue related to Balance Sheet Management activities decreased during 2016 due to the performance of economic hedge positions used to manage interest rate risk.

Foreign Exchange trading revenue declined during 2016 from reduced client trade activity.

Precious Metals trading revenue increased during 2016 due to increased client trading activity, primarily financing related trading activity.

Global Banking trading revenue decreased during 2016 reflecting higher losses related to valuation adjustments on credit default swap economic hedge positions.

*2015 Compared with 2014* Trading revenue decreased during 2015 driven by the performance of Derivatives and Precious Metals, partially offset by improved results in Balance Sheet Management.

Trading revenue from Derivatives decreased during 2015 driven primarily by the performance of emerging markets products. The negative derivative trading revenue associated with these products was more than offset within net interest income, as the total return swaps were economically hedged by holding the underlying interest bearing referenced assets. Partially offsetting this reduction was improved results related to our legacy structured credit products, as 2014 reflects losses on the transfer of risk associated with portions of our credit derivatives portfolio, as well as improved revenue from the impact of debit valuation adjustments associated with movements in our own credit spreads on derivative liabilities.

Trading revenue related to Balance Sheet Management activities improved during 2015 due to the performance of economic hedge positions used to manage interest rate risk.

Foreign Exchange trading revenue was flat during 2015 reflecting relatively stable trade volumes.

Precious Metals trading revenue decreased during 2015 due to declining trade volumes from reduced investor demand for this asset class.

Global Banking trading revenue was relatively flat during 2015.

*Net other-than-temporary impairment losses* During 2016 and 2015, there were no other-than-temporary impairment losses recognized. During 2014, the debt securities held by a consolidated variable interest entity ("VIE") otherwise known as Bryant Park, which were previously determined to be other-than-temporarily impaired, had changes to their other-than-temporary impairment estimates related to the credit component which were recognized in earnings. Bryant Park was closed during the fourth quarter of 2014.

*Other securities gains, net* We maintain securities portfolios as part of our balance sheet diversification and risk management strategies. During 2016, 2015 and 2014, we sold \$19,462 million, \$15,149 million and \$29,906 million, respectively, of primarily U.S. Treasury and U.S. Government agency mortgage-backed securities as part of a continuing strategy to maximize returns while balancing the securities portfolio for risk management purposes based on the current interest rate environment and liquidity needs. Other securities gains, net increased in 2016 driven by the non-recurrence of losses associated with the sale of certain foreign debt securities during 2015 which we had held since 2011 as part of a strategy to support the realization of certain foreign tax credits before they expired and, to a lesser extent, gains from the sale of certain longer term state municipal bonds as we reduced these positions in 2016. These increases in 2016 were partially offset by lower gains from the sales of U.S. Treasury and U.S. Government agency mortgage-backed securities associated with rebalancing the portfolio for risk management purposes.

During 2015, other securities gains, net declined due primarily to lower gains from the sale of U.S. Treasury securities as we rebalanced the portfolio to improve interest income in 2014 and, to a lesser extent, losses associated with the sale of certain foreign debt securities during 2015 as discussed above. These decreases in 2015 were partially offset by non-recurring losses realized in 2014 including from the sale of certain legacy asset-backed securities and from the sale of the securities underlying Bryant Park in connection with closing the Bryant Park facility. The gross realized gains and losses from sales of securities in all periods, which is included as a component of other securities gains, net above, are summarized in Note 4, "Securities," in the accompanying consolidated financial statements.

*Servicing and other fees from HSBC affiliates* Affiliate income was higher in 2016 due to higher fee income associated with trading activity booked on the balance sheets of other HSBC affiliates, higher sales commissions and a \$6 million loan prepayment fee from HSBC Finance that was recorded in December 2016. These increases were partially offset by lower fees associated with residential mortgage servicing activities performed on behalf of HSBC Finance, lower billings associated with shared services performed on behalf of other HSBC affiliates and, to a lesser extent, lower fees related to supporting growth initiatives in the Global Liquidity and Cash Management business. In 2015, affiliate income increased due primarily to higher fees related to supporting growth initiatives in the Global Liquidity and Cash Management business, higher income related to certain performance based trading activity booked on the balance sheets of other HSBC affiliates and higher sales commissions, partially offset by lower fees associated with residential mortgage servicing activities performed on behalf of HSBC Finance.

*Residential mortgage banking revenue* The following table presents the components of residential mortgage banking revenue. Net interest income related to residential mortgage banking is recorded in net interest income in the consolidated statement of income. During the fourth quarter of 2016, we sold our remaining MSRs portfolio, which was in run-off for several years, and related servicing advances to a third party.

Year Ended December 31,	2016	2015	2014
	(in millions)		
Servicing related income:			
Servicing fee income.....	\$ 36	\$ 57	\$ 68
Changes in fair value of MSRs due to:			
Changes in valuation inputs or assumptions .....	(27)	(5)	(38)
Customer payments .....	(17)	(20)	(30)
Trading – Derivative instruments used to offset changes in value of MSRs.....	32	26	67
Total servicing related income.....	<u>24</u>	<u>58</u>	<u>67</u>
Originations and sales related loss:			
Losses on sales of residential mortgages .....	(14)	(12)	(6)
Recovery for repurchase obligations .....	3	9	41
Total originations and sales related income (loss).....	<u>(11)</u>	<u>(3)</u>	<u>35</u>
Other mortgage income .....	<u>3</u>	<u>7</u>	<u>10</u>
Total residential mortgage banking revenue.....	<u>\$ 16</u>	<u>\$ 62</u>	<u>\$ 112</u>

Total residential mortgage banking revenue decreased in 2016 due primarily to lower servicing related income which reflects the impact of the planned run-off and sale of our serviced portfolio as discussed above. Also contributing to the decrease in 2016 were lower recoveries for repurchase obligations associated with loans previously sold and, to a lesser extent, higher losses associated with the execution of certain Community Reinvestment Act activities.

During 2015, total residential mortgage banking revenue was lower largely due to a lower recovery for repurchase obligations associated with loans previously sold, lower servicing fees resulting from the planned run-off of our serviced portfolio and higher losses associated with the execution of certain Community Reinvestment Act activities. During 2014, we entered into a settlement with the Federal Home Loan Mortgage Corporation ("FHLMC") for \$25 million which settled our liability for substantially all loans sold to the FHLMC from January 1, 2000 through 2013. The settlement and a reassessment of the residual exposure resulted

in a release of reserves. We continue to maintain repurchase reserves for exposure associated with residual risks not covered by the settlement agreements.

*Gain (loss) on instruments designated at fair value and related derivatives* We have elected to apply fair value option accounting to certain commercial loans held for sale, certain securities purchased and sold under resale and repurchase agreements, certain own fixed-rate debt issuances and all of our hybrid instruments issued, including structured notes and deposits. We also use derivatives to economically hedge the interest rate and other risks associated with certain financial liabilities for which fair value option accounting has been elected. Gain (loss) on instruments designated at fair value and related derivatives decreased during 2016 and increased during 2015 attributable primarily to movements in credit spreads associated with our own debt and structured notes and deposits. The decrease in 2016 also reflects unfavorable movements related to the economic hedging of interest rate and other risks on our own debt and structured notes and deposits which were partially offset by favorable fair value adjustments on loans designated at fair value and the non-recurrence of a net loss recorded in 2015 related to changes in estimates associated with the valuation techniques used to measure the fair value of certain structured notes and deposits. See Note 15, "Fair Value Option," in the accompanying consolidated financial statements for additional information including a breakout of these amounts by individual component.

*Other income (loss)* In December 2016, we sold a portion of our Visa Class B Shares to a third party resulting in a net pre-tax gain of approximately \$71 million. Excluding this item, other income (loss) remained lower during 2016 due primarily to losses of \$70 million in 2016 associated with credit default swap protection which largely reflects the hedging of a single client exposure compared with gains of \$43 million in 2015 and higher losses from valuation write-downs on loans held for sale, partially offset by a gain of \$9 million from the renegotiation of excess leased space in 2016 and higher income related to bank owned life insurance. In 2015, other income (loss) decreased due primarily to the non-recurrence of a gain of \$16 million from the sale of certain commercial MSRs in 2014, losses from valuation write-downs on a commercial loan held for sale and lower income related to bank owned life insurance, partially offset by higher income associated with credit default swap protection as discussed above.

**Operating Expenses** The following table summarizes the components of operating expenses:

Year Ended December 31,	2016	2015	2014
	(dollars are in millions)		
Salary and employee benefits .....	\$ 981	\$ 1,000	\$ 930
Support services from HSBC affiliates:			
Fees paid to HSBC Markets (USA) Inc. ("HMUS").....	176	256	248
Fees paid to HSBC Technology & Services (USA) ("HTSU").....	994	999	1,103
Fees paid to other HSBC affiliates .....	193	180	198
Total support services from HSBC affiliates.....	<u>1,363</u>	<u>1,435</u>	<u>1,549</u>
Occupancy expense, net.....	<u>231</u>	230	227
Other expenses:			
Equipment and software .....	58	48	52
Marketing .....	57	60	53
Outside services.....	120	89	42
Professional fees.....	98	117	123
Off-balance sheet credit reserves .....	44	33	8
Federal Deposit Insurance Corporation ("FDIC") assessment fee.....	168	120	104
Miscellaneous.....	106	89	336
Total other expenses.....	<u>651</u>	<u>556</u>	<u>718</u>
Total operating expenses.....	<u>\$ 3,226</u>	<u>\$ 3,221</u>	<u>\$ 3,424</u>
Personnel - average number .....	<u>5,734</u>	6,034	6,116
Efficiency ratio.....	<u>84.5%</u>	77.8%	87.6%

*Salaries and employee benefits* Salaries and employee benefits were lower during 2016 due primarily to lower incentive compensation expense. While continued cost management efforts including targeted staff reductions across all of our businesses to optimize staffing and improve efficiency as well as a reduction in staff performing residential mortgage servicing activities on behalf of HSBC Finance resulted in a decline in the average number of personnel, the impact of these decreases was largely offset by the addition of higher cost personnel associated with growth initiatives in certain businesses, strengthening controls and the implementation of the highest and most effective global standards in combating financial crime ("Global Standards"). In 2015, salaries and employee benefits increased despite a decline in the average number of personnel as the impact of cost management efforts was more than offset by higher incentive compensation expense due to improved business performance and the addition

of higher cost personnel associated with growth initiatives in certain businesses, strengthening controls and the implementation of Global Standards.

*Support services from HSBC affiliates* Support services from HSBC affiliates decreased during 2016 due primarily to the favorable impact of cost management efforts including staff optimization in our technology and support service functions, lower costs associated with business systems reflecting the completion of certain projects and lower corporate real estate expense. These decreases in 2016 were partially offset by higher fee expense associated with trading activity booked on our balance sheet by other HSBC affiliates. In 2015, support services from HSBC affiliates decreased primarily due to changing the billing process for certain third-party loan servicing costs from support service fees paid to HTSU in 2014 to a direct expense in 2015 and lower compliance costs, partially offset by increased costs associated with our investment in process enhancements and infrastructure to improve and modernize our legacy business systems and increased staffing associated with stress testing and reporting activities. A summary of the activities charged to us from various HSBC affiliates is included in Note 21, "Related Party Transactions," in the accompanying consolidated financial statements.

*Occupancy expense, net* Occupancy expense was relatively flat during 2016 and 2015.

*Other expenses* Other expenses increased during 2016 reflecting higher deposit insurance assessment fees, higher outside services expense due in part to activities related to the sale of our MSR, an expense of \$27.5 million recorded during the fourth quarter related to the civil money penalty that was assessed in conjunction with the termination of the OCC Servicing Consent Order, higher expense associated with settlements of certain compensatory fee exposures which resulted in expense of \$7 million in 2016 compared with a benefit of \$14 million in 2015, higher off-balance sheet credit reserves due to downgrades and lower levels of expense capitalization related to internally developed software, including an impairment charge of \$11 million. These increases in 2016 were partially offset by lower professional fees, lower litigation expense, lower losses associated with card fraud and lower travel expenses. Other expenses in 2014 reflects \$178 million of litigation expense related to the settlement of the FHFA matter. Excluding the impact of this item, other expenses increased in 2015 primarily reflecting higher outside services expense due to changing the billing process for certain third-party loan servicing costs as discussed above, an increase to our off-balance sheet credit reserves associated with oil and gas industry exposures of \$43 million and higher deposit insurance assessment fees. These increases in 2015 were partially offset by lower expense associated with our expectation of compensatory fees payable to government sponsored enterprises ("GSEs") as a result of the settlement of certain exposures which resulted in a net benefit of \$14 million in 2015 compared with net expense of \$25 million in 2014, lower losses associated with card fraud, lower litigation expense and higher levels of expense capitalization related to internally developed software.

*Efficiency ratio* Our efficiency ratio was 84.5 percent during 2016, compared with 77.8 percent during 2015 and 87.6 percent during 2014. Our efficiency ratio was impacted in each period by the change in the fair value of our own debt attributable to credit spread for which we have elected fair value option accounting which is reported as a component of total other revenues. Excluding the impact of this item, our efficiency ratio remained higher during 2016 and decreased during 2015. The increase in 2016 was due primarily to lower other revenues, partially offset by higher net interest income. The improvement in 2015 was due to lower operating expenses primarily driven by lower litigation expense and higher net interest income, partially offset by lower other revenues.

*Income taxes* Our effective tax rate was 40.8 percent in 2016 compared with 41.1 percent in 2015 and (18.8) percent in 2014. For a complete analysis of the differences between effective tax rates based on the total income tax provision attributable to pretax income and the statutory U.S. Federal income tax rate, see Note 16, "Income Taxes," in the accompanying consolidated financial statements.

In April 2016, the U.S. Treasury and the Internal Revenue Service released proposed regulations intended to discourage corporate inversions by re-characterizing certain intercompany debt as equity, effectively eliminating the tax deduction for interest paid to related parties under certain circumstances. Final and temporary regulations were released in October 2016 that exempt regulated financial groups such as HSBC and its affiliates from those re-characterization rules. Certain documentation rules included in the regulations will apply to HSBC and its affiliates, and we will analyze the requirements in order to implement on a timely basis in accordance with the rules. We do not anticipate a significant financial accounting impact upon implementation of the regulations.

In April 2015, New York Governor Cuomo signed legislation related to the 2015-2016 budget containing amendments to reform New York City's corporate tax rules. These reforms align New York City's corporate tax rules with New York State following the changes previously enacted to the latter in 2014. The legislation is retroactively effective as of January 1, 2015, which is the same general effective date for the New York State corporate tax reform. These changes will have a significant and positive long-term impact on HSBC entities with activity taxed in New York, including us. Notwithstanding the positive long-term impact, the changes to the New York City and New York State tax rules resulted in a decrease to our net deferred tax asset of approximately \$48 million and \$75 million in 2015 and 2014, respectively.

During 2014, certain State and local tax audits were concluded resulting in the settlement of significant uncertain tax positions covering a number of years. As a result, tax reserves previously maintained in relation to the periods and issues under review were

released which resulted in an income tax benefit of \$183 million. In addition, we released our accrued interest associated with the tax reserves released which resulted in a \$120 million benefit to interest expense.

## Segment Results – Group Reporting Basis

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We have four distinct business segments that are utilized for management reporting and analysis purposes which are aligned with HSBC's global business strategy: Retail Banking and Wealth Management ("RBWM"), Commercial Banking ("CMB"), Global Banking and Markets ("GB&M") and Private Banking ("PB"). See Item 1, "Business," in this Form 10-K for a description of our segments, which are generally based upon customer groupings and global businesses, including a discussion of the main business activities of the segments and a summary of their products and services.

We previously announced that with effect from January 1, 2016, a portion of our Business Banking client group, generally representing those small business customers with \$3 million or less in annual revenue (now referred to as Retail Business Banking), would be better managed as part of RBWM rather than CMB given the similarities in their banking activities with the RBWM customer base. Therefore, to coincide with the change in our management reporting effective beginning in the first quarter of 2016, we have included the results of Retail Business Banking in the RBWM segment for all periods presented. As a result, loss before tax for the RBWM segment was increased \$33 million and \$48 million during the years ended December 31, 2015 and 2014, respectively.

During 2016, we determined that a portion of our Large Corporate client group, generally representing those large business customers with more complex banking activities which require the levels of support routinely provided by relationship managers in GB&M, would be better managed as part of GB&M rather than CMB, effective October 1, 2016. Therefore, to coincide with the change in our management reporting effective beginning in the fourth quarter of 2016, we have included the results of the transferred client relationships in the GB&M segment for all periods presented. As a result, profit before tax for the GB&M segment was increased \$83 million and \$53 million during the years ended December 31, 2015 and 2014, respectively. In addition, loans and deposits for the GB&M segment were increased \$4.8 billion and \$2.8 billion, respectively, at December 31, 2015 and \$3.8 billion and \$1.1 billion, respectively, at December 31, 2014.

There have been no other changes in the basis of our segmentation or measurement of segment profit as compared with the presentation in our 2015 Form 10-K.

Net interest income of each segment represents the difference between actual interest earned on assets and interest incurred on liabilities of the segment, adjusted for a funding charge or credit. Segments are charged a cost to fund assets (e.g. customer loans) and receive a funding credit for funds provided (e.g. customer deposits) based on equivalent market rates. The objective of these charges/credits is to transfer interest rate risk from the segments to one centralized unit in Balance Sheet Management and more appropriately reflect the profitability of the segments.

Certain other revenue and operating expense amounts are also apportioned among the business segments based upon the benefits derived from this activity or the relationship of this activity to other segment activity. These inter-segment transactions are accounted for as if they were with third parties.

We report financial information to our ultimate parent, HSBC, in accordance with HSBC Group accounting and reporting policies, which apply IFRSs as issued by the IASB and as endorsed by the EU, and, as a result, our segment results are prepared and presented using financial information prepared on the Group Reporting Basis as operating results are monitored and reviewed, trends are evaluated and decisions about allocating resources, such as employees, are primarily made on this basis. However, we continue to monitor capital adequacy and report to regulatory agencies on a U.S. GAAP basis. During the fourth quarter of 2016, HSBC Group made changes to its internal management reporting and, as a result, its segment reporting which we plan to implement during the first quarter of 2017, as discussed below. The significant differences between U.S. GAAP and the Group Reporting Basis as they impact our results are summarized in Note 22, "Business Segments," and under the caption "Basis of Reporting" in the MD&A section of this Form 10-K.

In January 2017, we made the decision to implement changes to our internal management reporting for certain activities and functions and report them within a new Corporate Center segment. These activities and functions include Balance Sheet Management and our legacy structured credit products which are both currently reported in GB&M, as well as a portfolio of residential mortgage loans previously purchased from HSBC Finance, including certain loan servicing activities performed on behalf of HSBC Finance, which are currently reported in RBWM. In addition, we have reviewed central costs currently reported in the Other segment and will reallocate these costs to the global businesses where appropriate. Remaining residual costs will be reported in the Corporate Center along with all other remaining items currently reported in the Other segment. As a result, beginning in the first quarter of 2017, we will align our segment reporting with the changes made to our internal management reporting and begin to report these changes as part of the newly created Corporate Center segment for all periods presented. The following table summarizes the estimated impact on reported segment profit before tax and total assets for 2016 and 2015:

Year Ended December 31,	2016	2015
	(in millions)	
<b>Expected increase (decrease) in segment profit before tax:</b>		
RBWM.....	\$ 7	\$ (4)
CMB .....	13	8
GB&M .....	(192)	(144)
PB .....	5	4
Proposed Corporate Center.....	167	136
<b>Expected increase (decrease) in segment total assets at December 31:</b>		
RBWM.....	\$ (585)	\$ (696)
GB&M .....	(107,780)	(78,783)
Proposed Corporate Center.....	108,365	79,479

**Retail Banking and Wealth Management** RBWM provides a full range of banking and wealth products and services to individuals and certain small businesses, focusing on internationally minded clients in large metropolitan centers on the West and East coasts.

During 2016, we continued to direct resources towards the development and delivery of premium service. Particular focus has been placed on HSBC Premier, HSBC's global banking service which offers customers a seamless international service, and HSBC Advance, a proposition directed towards the emerging affluent client in the initial stages of wealth accumulation.

Consistent with our strategy, the growth of our residential mortgage portfolio is driven primarily by lending to our Premier and Advance customers. During the fourth quarter of 2016, we sold our remaining MSRs portfolio, which was in run-off for several years.

The following table summarizes the Group Reporting Basis results for our RBWM segment:

Year Ended December 31,	2016	2015	2014
	(in millions)		
Net interest income.....	\$ 807	\$ 793	\$ 820
Other operating income .....	370	336	417
Total operating income <sup>(1)</sup> .....	1,177	1,129	1,237
Loan impairment charges .....	60	65	29
Net operating income .....	1,117	1,064	1,208
Operating expenses.....	1,144	1,185	1,294
Loss before tax .....	\$ (27)	\$ (121)	\$ (86)

<sup>(1)</sup> The following table summarizes the impact of key activities on the total operating income of the RBWM segment:

Year Ended December 31,	2016	2015	2014
	(in millions)		
Current accounts, savings and deposits .....	\$ 539	\$ 510	\$ 540
Mortgages, credit cards and other personal lending .....	373	410	462
Wealth and asset management products.....	120	135	113
Other <sup>(2)</sup> .....	145	74	122
Total operating income .....	<u>\$ 1,177</u>	<u>\$ 1,129</u>	<u>\$ 1,237</u>

<sup>(2)</sup> Other primarily includes fees associated with residential mortgage servicing activities performed on behalf of HSBC Finance, revenue associated with certain residential mortgage loans that we previously purchased from HSBC Finance and, in 2016, a gain on the sale of Visa Class B Shares as discussed below.

*2016 loss before tax compared with 2015* Our RBWM segment loss before tax improved during 2016 due to higher net interest income, higher other operating income, lower loan impairment charges and lower operating expenses.

Net interest income increased during 2016 largely driven by higher net interest income from deposits due to higher average balances and improved spreads, partially offset by lower net interest income from lending. Net interest income from lending declined as the favorable impact of growth in residential mortgage average balances was more than offset by a declining home equity mortgage portfolio and lower spreads.

In December 2016, we sold a portion of our Visa Class B Shares to a third party resulting in a net pre-tax gain of approximately \$71 million. Excluding this item, other operating income decreased during 2016 due largely to lower servicing fees resulting from the planned run-off and sale of our serviced portfolio, a lower recovery for repurchase obligations associated with loans previously sold, lower fees associated with residential mortgage servicing activities performed on behalf of HSBC Finance and reduced asset management fees from fixed income funds reflecting a shift in product mix. These decreases were partially offset by a gain of \$9 million from the renegotiation of excess leased space in 2016.

Loan impairment charges were lower during 2016 reflecting lower loss estimates for residential mortgages driven by the positive impacts of continued improvements in economic and credit conditions and the continued origination of higher quality Premier mortgages which are an increasingly larger portion of the portfolio. This decrease was partially offset by higher loss estimates for credit cards as the positive impacts of improvements in economic and credit conditions were more pronounced in 2015.

Operating expenses in 2016 reflects \$27.5 million of expense recorded during the fourth quarter related to the civil money penalty that was assessed in conjunction with the termination of the OCC Servicing Consent Order. Excluding the impact of this item, operating expenses remained lower in 2016 due primarily to lower litigation expense and the impact of continued cost management efforts including targeted staff reductions to optimize staffing and improve efficiency. These improvements were partially offset by higher expense associated with settlements of certain compensatory fee exposures which resulted in expense of \$7 million in 2016 compared with a benefit of \$14 million in 2015 and higher outside services expense due in part to activities related to the sale of our MSRs.

*2015 loss before tax compared with 2014* Our RBWM segment reported a higher loss before tax during 2015 due to lower net interest income, lower other operating income and higher loan impairment charges, partially offset by lower operating expenses.

Net interest income in 2014 reflects an \$11 million release of accrued interest related to uncertain tax positions which were settled with the taxing authorities. Excluding the impact of this item, net interest income remained lower during 2015 due to higher amortization of deferred origination costs due to higher prepayments, lower net interest income from a declining home equity mortgage portfolio as well as lower net interest income from deposits due to lower spreads and a higher mix of saving balances. This decrease was partially offset by higher net interest income driven by growth in residential mortgage average outstanding balances.

Other operating income decreased in 2015 due primarily to a lower recovery for mortgage loan repurchase obligations associated with previously sold loans, as 2014 reflects a release of reserves due primarily to a settlement with FHLMC which settled our liability for substantially all loans sold to FHLMC, as well as lower fees associated with residential mortgage servicing activities performed on behalf of HSBC Finance, higher losses associated with the execution of certain Community Reinvestment Act activities and lower servicing fees due to a decline in our average serviced portfolio. These decreases were partially offset by higher investment management fees driven by growth in assets under management.

Loan impairment charges increased during 2015 as the positive impacts from lower severity estimates due to improvements in home prices and continued improvements in economic and credit conditions including lower dollars of delinquency on accounts less than 180 days contractually delinquent were more pronounced in 2014. In addition, 2014 reflects a revision to our loss severity calculation which reduced our residential mortgage allowance for credit losses by \$20 million. These increases were partially offset by lower loss estimates associated with the remediation of certain mortgage servicing activities.

Other operating expenses decreased in 2015 driven largely by lower litigation expense and lower expense associated with our expectation of compensatory fees payable to GSEs as 2015 reflects a settlement of certain exposures which resulted in a benefit of \$14 million in 2015 compared with expense of \$25 million in 2014. Also contributing to the decrease was the impact of several cost reduction initiatives relating to our retail branch network, primarily optimizing staffing and administrative areas.

**Commercial Banking** CMB offers a full range of commercial financial services and tailored solutions to enable customers to grow their businesses, focusing on key markets with high concentrations of international connectivity.

While total average loans outstanding, including loans held for sale, decreased 3 percent as compared with 2015 as we focused efforts on improving returns through disciplined lending and expanding existing customer relationships into other products. Total average deposits outstanding increased 4 percent as compared with 2015 which reflects executing a key strategy to grow the Global Liquidity and Cash Management business through our international network.

The following table summarizes the Group Reporting Basis results for our CMB segment:

Year Ended December 31,	2016	2015	2014
	(in millions)		
Net interest income.....	\$ 735	\$ 736	\$ 703
Other operating income.....	227	244	272
Total operating income <sup>(1)</sup> .....	962	980	975
Loan impairment charges.....	50	139	36
Net operating income.....	912	841	939
Operating expenses.....	588	608	561
Profit before tax.....	\$ 324	\$ 233	\$ 378

<sup>(1)</sup> The following table summarizes the impact of key activities on the total operating income of the CMB segment:

Year Ended December 31,	2016	2015	2014
	(in millions)		
Lending and Transaction Management.....	\$ 501	\$ 486	\$ 470
Global Liquidity and Cash Management, current accounts and savings deposits.....	375	377	369
Global Trade and Receivables Finance.....	50	79	78
Investment banking products and other.....	36	38	58
Total operating income.....	\$ 962	\$ 980	\$ 975

*2016 profit before tax compared with 2015* Our CMB segment reported a higher profit before tax during 2016 primarily due to lower loan impairment charges and lower operating expenses, partially offset by lower other operating income.

Net interest income was relatively flat during 2016 as the favorable impacts of growth in deposit balances in Global Liquidity and Cash Management and improved lending spreads, were offset by lower loan balances in Lending and Transaction Management and higher funding costs.

Other operating income was lower during 2016 due primarily to lower fee based income reflecting a slowdown in commercial lending activity compared with 2015 and lower transaction volume in investment banking products.

Loan impairment charges were lower during 2016 due primarily to lower provisions for oil and gas industry loan exposures and risk factors associated with expansion market loan exposures, partially offset by higher loss estimates associated with downgrades reflecting weaknesses in the financial condition of certain customer relationships.

Operating expenses were lower during 2016 driven by the impact of cost management efforts including targeted staff reductions to optimize staffing and improve efficiency, partially offset by higher deposit insurance assessment fees.

*2015 profit before tax compared with 2014* Our CMB segment reported a lower profit before tax during 2015 due to lower other operating income, higher loan impairment charges and higher operating expenses, partially offset by higher net interest income.

Net interest income increased in 2015 due to the favorable impacts of higher loan balances in Lending and Transaction Management, primarily in key growth markets, as well as growth in Global Liquidity and Cash Management balances. These improvements were partially offset by lower yields on newly originated loans and refinanced loans.

Other operating income in 2014 reflects a gain of \$16 million from the sale of certain commercial MSRs. Excluding the impact of this item, other operating income remained lower in 2015 driven primarily by lower gains on asset sales in Commercial Real Estate.

Loan impairment charges were higher during 2015 driven largely by higher provisions for oil and gas industry exposures.

Operating expenses increased during 2015 driven by higher salaries expense related to additional staff hired to support growth, higher loan origination costs and higher technology and corporate function support service costs.

**Global Banking and Markets** GB&M provides tailored financial solutions to major government, corporate and institutional clients worldwide.

We continue to target U.S. companies with international banking requirements and foreign companies with banking needs in the Americas. Consistent with our global strategy, we are also focused on identifying opportunities to offer our products to CMB, PB and RBWM customers.

The following table summarizes the Group Reporting Basis results for our GB&M segment:

Year Ended December 31,	2016	2015	2014
	(in millions)		
Net interest income .....	\$ 780	\$ 621	\$ 457
Other operating income.....	766	1,017	1,067
Total operating income <sup>(1)</sup> .....	1,546	1,638	1,524
Loan impairment charges.....	384	65	70
Net operating income .....	1,162	1,573	1,454
Operating expenses .....	987	1,055	1,363
Profit before tax .....	\$ 175	\$ 518	\$ 91

<sup>(1)</sup> The following table summarizes the impact of key activities on the total operating income of the GB&M segment:

Year Ended December 31,	2016	2015	2014
	(in millions)		
Credit <sup>(2)</sup> .....	\$ 111	\$ 15	\$ (47)
Rates.....	67	16	121
Foreign Exchange and Metals.....	285	248	287
Equities .....	(36)	115	35
Total Global Markets .....	427	394	396
Global Banking .....	380	452	382
Global Liquidity and Cash Management .....	447	423	372
Securities Services .....	22	14	13
Global Trade and Receivables Finance.....	63	63	52
Balance Sheet Management <sup>(3)</sup> .....	273	315	240
Debit Valuation Adjustment.....	(5)	14	(15)
Other <sup>(4)</sup> .....	(61)	(37)	84
Total operating income .....	\$ 1,546	\$ 1,638	\$ 1,524

<sup>(2)</sup> Credit includes gains of \$51 million in 2016, compared with gains of \$15 million and losses of \$30 million in 2015 and 2014, respectively, of operating income related to structured credit products and mortgage loans held for sale which we no longer offer.

<sup>(3)</sup> Balance Sheet Management includes gains on the sale of securities of \$65 million in 2016, compared with gains of \$91 million and \$123 million in 2015 and 2014, respectively.

<sup>(4)</sup> Other includes corporate funding charges, net interest income on capital held in the business and not assigned to products, and interest rate transfer pricing differences.

**2016 profit before tax compared with 2015** Our GB&M segment reported lower profit before tax during 2016 due to lower other operating income and higher loan impairment charges, partially offset by higher net interest income and lower operating expenses.

Credit revenue improved during 2016 due to higher revenue from collateralized financing related activity and higher valuations of legacy structured credit exposures. Changes in the fair value of legacy structured credit products resulted in gains of \$51 million during 2016 compared with gains of \$15 million during 2015. Included in the changes in fair value from structured credit products was an increase in fair value of \$28 million during 2016 related to exposures to monoline insurance companies compared with an increase of \$3 million during 2015.

Revenue from Rates improved during 2016 from higher new deal activity in interest rate swaps and the non-recurrence of a loss recorded in 2015 related to changes in estimates associated with the valuation techniques used to measure the fair value of certain

rate linked structured notes. These improvements were partially offset by the impact of fair value adjustments on certain rate linked structured notes related to movements in our own credit spreads.

Foreign Exchange and Metals revenue increased during 2016 primarily due to higher Metals client related activity and improvements in Foreign Exchange trading volumes and price volatility.

The decrease in Equities revenue during 2016 was due primarily to fair value adjustments on certain equity linked structured liabilities, including the impact of movements in our own credit spreads and the non-recurrence of a gain recorded in 2015 related to changes in estimates associated with the valuation techniques used to measure the fair value of these liabilities.

Global Banking revenue decreased during 2016 due to losses in 2016 associated with credit default swap protection which largely reflects the hedging of a single client exposure compared with gains in 2015 and lower financing fees, partially offset by higher net interest income driven by improved loan spreads.

Global Liquidity and Cash Management revenue increased during 2016 driven by higher net interest income due to an increase in high quality deposit balances as well as the impact of the Federal Reserve Bank rate increase in December 2015, partially offset by decreased fee income due to lower transaction volumes.

Balance Sheet Management revenue declined in 2016 due to higher losses related to the performance of economic hedge positions used to manage interest rate risk and lower gains from asset sales, partially offset by higher interest income from increased investments and higher income related to bank owned life insurance.

Debit valuation adjustments resulted in lower revenue during 2016 compared with 2015 driven by movements of both our own credit spreads and our derivative liability balances.

Other revenue decreased during 2016 due to higher corporate funding charges, partially offset by higher net interest income on unassigned capital.

Loan impairment charges were higher during 2016 due largely to higher loss estimates associated with a single mining customer relationship and higher loss estimates associated with oil and gas industry loan exposures as well as other downgrades reflecting weaknesses in the financial condition of certain customer relationships, including mining and other industry loan exposures. Higher loss estimates associated with oil and gas industry loan exposures were driven primarily by the downgrade of a large customer relationship and the establishment of specific reserves related to two large loans which became impaired.

Operating expenses were lower during 2016 due primarily to lower corporate function cost allocations from affiliates, partially offset by higher deposit insurance assessment fees.

*2015 profit before tax compared with 2014* Our GB&M segment reported a higher profit before tax during 2015 due primarily to higher net interest income and lower operating expenses, partially offset by lower other operating income.

Credit revenue improved during 2015 from the performance of legacy credit products. Changes in the fair value of legacy structured credit products resulted in gains of \$15 million during 2015 compared with losses of \$34 million during 2014 which reflects losses on the transfer of risk associated with portions of our credit derivatives portfolio in 2014. Included in the changes in fair value from structured credit products was an increase in fair value of \$3 million during 2015 related to exposures to monoline insurance companies compared with an increase of \$12 million during 2014.

Revenue from Rates decreased during 2015 due to fair value adjustments on certain rate linked structured notes, including a loss related to changes in estimates associated with the valuation techniques used to measure the fair value of these liabilities as discussed above and the impact of movements in our own credit spreads, as well as weaker revenue from emerging markets related products which were impacted by less stable economic conditions in Latin America.

Foreign Exchange and Metals revenue decreased during 2015 due to lower custody fee income from Metals following the sale of our GB&M London Branch precious metals custody and clearing business to an HSBC affiliate during 2014 as well as lower metals related client trading volumes driven by reduced investor demand.

The increase in Equities revenue during 2015 was driven by the impact of fair value adjustments on certain equity linked structured liabilities, including the impact of movements in our own credit spreads and a gain related to changes in estimates associated with the valuation techniques used to measure the fair value of these liabilities as discussed above.

Global Banking revenue increased during 2015 primarily due to higher fees and net interest income from project financing and asset-backed finance lending activities, higher revenue associated with customer relationships managed outside the United States and gains associated with credit default swap protection which largely reflects the hedging of a single client exposure.

Global Liquidity and Cash Management revenue increased during 2015 driven by higher net interest income from higher deposit balances and increased fee income as volumes increased related to supporting growth initiatives.

Global Trade and Receivables Finance revenue increased reflecting growth in receivables financing products.

Balance Sheet Management revenue increased during 2015 from increased interest income driven by higher yielding investments and lower losses related to the performance of economic hedge positions used to manage interest rate risk, partially offset by lower gains from asset sales.

Debit valuation adjustments resulted in gains during 2015 compared with losses in 2014 driven by movements of both our own credit spreads and our derivative liability balances.

Other revenue in 2014 reflects a gain from the sale of our GB&M London Branch precious metals custody and clearing business to an affiliate. Excluding this item, other revenue remained lower during 2015 reflecting lower net interest income on unassigned capital and lower revenue related to transfer pricing differences.

Loan impairment charges were relatively flat during 2015 as a higher expected loss on a single name exposure in 2014 was largely offset by higher provisions for oil and gas industry exposures.

Operating expenses in 2014 reflects \$297 million of litigation expense related to the settlement of the FHFA matter. Excluding the impact of this item, operating expenses remained lower during 2015 due primarily to lower corporate function cost allocations from affiliates.

**Private Banking** PB serves high net worth and ultra-high net worth individuals and families with complex needs domestically and abroad.

Client deposit levels decreased \$2,209 million or 16 percent as compared with December 31, 2015. Total loans decreased \$645 million or 10 percent as compared with December 31, 2015, primarily in the commercial portfolio. Overall period end client assets were \$2,254 million lower than December 31, 2015, largely driven by lower client deposit levels which were negatively impacted by client outflows.

The following table provides additional information regarding client assets during 2016 and 2015:

Year Ended December 31,	2016	2015
	(in millions)	
Client assets at beginning of period.....	\$ 42,716	\$ 44,102
Net new money (outflows).....	(3,113)	271
Value change.....	859	(1,657)
Client assets at end of period.....	<u>\$ 40,462</u>	<u>\$ 42,716</u>

The following table summarizes the Group Reporting Basis results for our PB segment:

Year Ended December 31,	2016	2015	2014
	(in millions)		
Net interest income.....	\$ 202	\$ 201	\$ 199
Other operating income.....	89	99	104
Total operating income.....	<u>291</u>	<u>300</u>	<u>303</u>
Loan impairment recoveries.....	—	(5)	(8)
Net operating income.....	<u>291</u>	<u>305</u>	<u>311</u>
Operating expenses.....	<u>232</u>	<u>245</u>	<u>238</u>
Profit before tax.....	<u>\$ 59</u>	<u>\$ 60</u>	<u>\$ 73</u>

*2016 profit before tax compared with 2015* Our PB segment profit before tax was relatively flat during 2016 as lower other operating income and lower loan impairment recoveries was largely offset by lower operating expenses.

Net interest income was relatively flat during 2016 as improved spreads due to market rates and the favorable impact of higher deposit balances was largely offset by lower loan balances and higher funding costs.

Other operating income decreased during 2016 due to lower fees and commissions reflecting a decline in managed and investment product balances.

Loan impairment recoveries were lower during 2016 as 2015 reflects releases of reserves due to paydowns.

Operating expenses decreased during 2016 reflecting lower litigation expense and lower corporate function cost allocations from affiliates.

*2015 profit before tax compared with 2014* Our PB segment profit before tax decreased during 2015 primarily due to lower other operating income, lower loan impairment recoveries and higher operating expenses.

Net interest income was relatively flat during 2015 as the impact of loan growth was offset by the non-recurrence of a gain in 2014 related to the recognition of deferred revenue on a prepaid troubled debt restructuring loan.

Other operating income decreased during 2015 due to lower fees and commissions reflecting a decline in managed and investment product balances.

Loan impairment recoveries were lower during 2015 as 2014 reflects recoveries related to the payoff of a troubled debt restructure loan and higher releases of reserves due to paydowns.

Operating expenses increased during 2015 reflecting higher litigation costs and higher technology and corporate function support service costs.

**Other** The other segment primarily includes changes in the fair value of certain debt issued for which fair value option accounting was elected and related derivatives, income and expense associated with certain affiliate transactions, certain corporate function costs including costs to achieve, adjustments to the fair value of HSBC shares held for stock plans, interest expense associated with certain tax exposures and income associated with other tax related investments.

The following table summarizes the Group Reporting Basis results for our Other segment:

Year Ended December 31,	2016	2015	2014
	(in millions)		
Net interest income (expense) .....	\$ (51)	\$ (22)	\$ 60
Gain (loss) on own fair value option debt attributable to credit spread .....	(3)	194	6
Other operating income .....	72	45	30
Total operating income .....	<u>18</u>	<u>217</u>	<u>96</u>
Loan impairment charges .....	—	—	—
Net operating income .....	<u>18</u>	<u>217</u>	<u>96</u>
Operating expenses .....	255	152	126
Profit (loss) before tax .....	<u>\$ (237)</u>	<u>\$ 65</u>	<u>\$ (30)</u>

*2016 profit before tax compared with 2015* Our Other segment reported a loss before tax during 2016 compared with profit before tax during 2015 primarily due to lower operating income from changes in the fair value of our own debt and related derivatives for which fair value option accounting was elected and lower net interest income largely driven by the new liquidity framework we adopted in preparation for the planned implementation of the Net Stable Funding Ratio ("NSFR") which provides a temporary cap on the net liquidity charge to GB&M until the NSFR becomes effective in 2018. See "Risk Management" in this MD&A for additional discussion of NSFR. Also contributing to the loss in 2016 was higher operating expenses driven by higher costs to achieve charges and lower levels of expense capitalization related to internally developed software. These decreases were partially offset by the non-recurrence of losses recorded in 2015 associated with the sale of certain foreign debt securities.

*2015 profit before tax compared with 2014* Net interest income in 2014 reflects an \$87 million release of accrued interest related to uncertain tax positions which were settled with the taxing authorities. Excluding the impact of this item, profit (loss) before tax remained higher during 2015 primarily due to higher operating income from changes in the fair value of our own debt and related derivatives for which fair value option accounting was elected and higher rental income from affiliates. These improvements were partially offset by losses associated with the sale of certain foreign debt securities during 2015 as discussed above and higher operating expenses driven largely by higher staff costs and higher technology and corporate function support service costs.

**Reconciliation of Segment Results** As previously discussed, segment results are reported on a Group Reporting Basis. See Note 22, "Business Segments," in the accompanying consolidated financial statements for a discussion of the differences between the Group Reporting Basis and U.S. GAAP. For segment reporting purposes, inter-segment transactions have not been eliminated, and we generally account for transactions between segments as if they were with third parties. Also see Note 22, "Business Segments," in the accompanying consolidated financial statements for a reconciliation of our Group Reporting Basis segment results to U.S. GAAP consolidated totals.

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## Credit Quality

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In the normal course of business, we enter into a variety of transactions that involve both on and off-balance sheet credit risk. Principal among these activities is lending to various commercial, institutional, governmental and individual customers. We participate in lending activity throughout the U.S. and, on a limited basis, internationally.

***Allowance for Credit Losses*** Commercial loans are monitored on a continuous basis with a formal assessment completed, at a minimum, annually. As part of this process, a credit grade and loss given default are assigned and an allowance is established for these loans based on a probability of default estimate associated with each credit grade under the allowance for credit losses methodology. Credit Review, a function independent of the business, provides an ongoing assessment of lending activities that includes independently assessing credit grades and loss given default estimates for sampled credits across various portfolios. When it is deemed probable based upon known facts and circumstances that full interest and principal on an individual loan will not be collected in accordance with its contractual terms, the loan is considered impaired. An impairment reserve is then established based on the present value of expected future cash flows, discounted at the loan's original effective interest rate, or as a practical expedient, the loan's observable market price or the fair value of the collateral if the loan is collateral dependent. Updated appraisals for collateral dependent loans are generally obtained only when such loans are considered troubled and the frequency of such updates are generally based on management judgment under the specific circumstances on a case-by-case basis. In addition, loss reserves on commercial loans are maintained to reflect our judgment of portfolio risk factors which may not be fully reflected in the reserve calculations.

Our probability of default estimates for commercial loans are mapped to our credit grade master scale. These probability of default estimates are validated on an annual basis using back-testing of actual default rates and benchmarking of the internal ratings with external rating agency data like Standard and Poor's ("S&P") ratings and default rates. Substantially all appraisals in connection with commercial real estate loans are ordered by the independent real estate appraisal review unit at HSBC. The appraisal must be reviewed and accepted by this unit. For loans greater than \$250,000, an appraisal is generally ordered when the loan is classified as Substandard as defined by the OCC. On average, it takes approximately four weeks from the time the appraisal is ordered until it is completed and the values accepted by HSBC's independent appraisal review unit. Subsequent provisions or charge-offs are completed shortly thereafter, generally within the quarter in which the appraisal is received.

In situations where an external appraisal is not used to determine the fair value of the underlying collateral of impaired loans, current information such as rent rolls and operating statements of the subject property are reviewed and presented in a standardized format. Operating results such as net operating income and cash flows before and after debt service are established and reported with relevant ratios. Third-party market data is gathered and reviewed for relevance to the subject collateral. Data is also collected from similar properties within the portfolio. Actual sales levels of properties, operating income and expense figures and rental data on a square foot basis are derived from existing loans and, when appropriate, used as comparables for the subject property. Property specific data, augmented by market data research, is used to project a stabilized year of income and expense to create a 10-year cash flow model to be discounted at appropriate rates to present value. These valuations are then used to determine if any impairment on the underlying loans exists and an appropriate allowance is recorded when warranted.

For TDR Loans, an allowance for credit losses is maintained based on the present value of expected future cash flows discounted at the loans' original effective interest rate or in the case of certain loans which are solely dependent on the collateral for repayment, the estimated fair value of the collateral less costs to sell. The circumstances in which we perform a loan modification involving a TDR Loan at a then current market interest rate for a borrower with similar credit risk would include other changes to the terms of the original loan made as part of the restructuring (e.g. principal reductions, collateral changes, etc.) in order for the loan to be classified as a TDR Loan.

For pools of homogeneous consumer loans and certain small business loans which do not qualify as TDR Loans, we estimate probable losses using a roll rate migration analysis that estimates the likelihood that a loan will progress through the various stages of delinquency, or buckets, and ultimately charge-off based upon recent historical performance experience of other loans in our portfolio. This migration analysis incorporates estimates of the period of time between a loss occurring and the confirming event of its charge-off. This analysis considers delinquency status, loss experience and severity and takes into account whether borrowers have filed for bankruptcy or have been subject to account management actions, such as the re-age or modification of accounts. We also take into consideration the loss severity expected based on the underlying collateral, if any, for the loan in the event of default based on historical and recent trends which are updated monthly based on a rolling average of several months' data using the most recently available information.

The roll rate methodology is a migration analysis based on contractual delinquency and rolling average historical loss experience which captures the increased likelihood of an account migrating to charge-off as the past due status of such account increases. The roll rate models used were developed by tracking the movement of delinquencies by age of delinquency by "bucket" over a specified time period. Each bucket represents a period of delinquency in 30-day increments. The roll from the last delinquency bucket results in charge-off. Contractual delinquency is a method for determining aging of past due accounts based on the status of payments

under the loan. Average roll rates are developed to avoid temporary aberrations caused by seasonal trends in delinquency experienced by some product types. We have determined that a 12-month average roll rate balances the desire to avoid temporary aberrations, while at the same time analyzing recent historical data. The roll rate calculations are performed monthly and are done consistently from period to period. We regularly monitor our portfolio to evaluate the period of time utilized in our roll rate migration analysis and perform a formal review on an annual basis. In addition, loss reserves on consumer loans are maintained to reflect our judgment of portfolio risk factors which may not be fully reflected in the statistical roll rate calculation.

Our allowance for credit losses methodology and our accounting policies related to the allowance for credit losses are presented in further detail under the caption "Critical Accounting Policies and Estimates" in this MD&A and in Note 2, "Summary of Significant Accounting Policies and New Accounting Pronouncements," in the accompanying consolidated financial statements. Our approach toward credit risk management is summarized under the caption "Risk Management" in this MD&A.

The following table sets forth the allowance for credit losses for the periods indicated:

At December 31,	2016	2015	2014	2013	2012
	(dollars are in millions)				
<b>Allowance for credit losses</b> .....	<b>\$ 1,017</b>	<b>\$ 912</b>	<b>\$ 680</b>	<b>\$ 606</b>	<b>\$ 647</b>
<b>Ratio of Allowance for credit losses to:</b>					
Loans: <sup>(1)</sup>					
Commercial:					
Non-affiliates.....	<b>1.83%</b>	1.35%	.92%	.71%	.80%
Affiliates.....	—	—	—	—	—
Total commercial.....	<b>1.72</b>	1.25	.85	.64	.72
Consumer:					
Residential mortgages .....	<b>.15</b>	.38	.64	1.18	1.37
Home equity mortgages .....	<b>1.42</b>	1.50	1.79	2.44	1.94
Credit cards .....	<b>4.94</b>	4.58	5.42	5.85	6.75
Other consumer .....	<b>1.83</b>	2.21	2.04	2.55	3.34
Total consumer.....	<b>.44</b>	.65	.96	1.55	1.73
Total .....	<b>1.38%</b>	1.10%	.87%	.90%	1.02%
Net charge-offs: <sup>(2)</sup>					
Commercial <sup>(3)</sup> .....	<b>463%</b>	1,217%	1,538%	434%	220%
Consumer .....	<b>132</b>	205	229	183	135
Total .....	<b>381%</b>	707%	596%	259%	166%
Nonperforming loans: <sup>(1)(4)</sup>					
Commercial.....	<b>118%</b>	293%	351%	118%	63%
Consumer .....	<b>17</b>	15	20	28	28
Total .....	<b>77%</b>	78%	63%	46%	39%

(1) Ratios exclude loans held for sale as these loans are carried at the lower of amortized cost or fair value.

(2) Ratios reflect full year net charge-offs.

(3) Our commercial net charge-off coverage ratio for 2016, 2015, 2014, 2013 and 2012 was 56 months, 146 months, 185 months, 52 months and 26 months, respectively. The net charge-off coverage ratio represents the commercial allowance for credit losses at year end divided by average monthly commercial net charge-offs during the year.

(4) Represents our commercial and consumer allowance for credit losses, as appropriate, divided by the corresponding outstanding balance of total nonperforming loans held for investment. Nonperforming loans include accruing loans contractually past due 90 days or more.

The following table summarizes the changes in the allowance for credit losses by product and the related loan balance by product during the years ended December 31, 2016, 2015, 2014, 2013 and 2012:

	Commercial				Consumer				Total
	Construction and Other Real Estate	Business and Corporate Banking <sup>(1)</sup>	Global Banking <sup>(1)</sup>	Other Comm'l	Residential Mortgages	Home Equity Mortgages	Credit Cards	Other Consumer	
(in millions)									
<b>Year Ended December 31, 2016:</b>									
Allowance for credit losses – beginning of period.....	\$ 86	\$ 407	\$ 267	\$ 19	\$ 68	\$ 24	\$ 32	\$ 9	\$ 912
Provision charged (credited) to income <sup>(2)</sup> .....	—	10	348	(6)	(9)	(1)	26	4	372
Charge-offs <sup>(2)(3)</sup> .....	(1)	(110)	(107)	—	(45)	(8)	(30)	(8)	(309)
Recoveries.....	7	10	—	—	12	5	6	2	42
Net (charge-offs) recoveries.....	6	(100)	(107)	—	(33)	(3)	(24)	(6)	(267)
Allowance for credit losses – end of period	\$ 92	\$ 317	\$ 508	\$ 13	\$ 26	\$ 20	\$ 34	\$ 7	\$ 1,017
<b>Year Ended December 31, 2015:</b>									
Allowance for credit losses – beginning of period.....	\$ 89	\$ 251	\$ 131	\$ 21	\$ 107	\$ 32	\$ 39	\$ 10	\$ 680
Provision charged (credited) to income.....	2	215	136	(2)	(15)	(4)	20	9	361
Charge-offs.....	(10)	(69)	—	(1)	(35)	(8)	(32)	(12)	(167)
Recoveries.....	5	10	—	1	11	4	5	2	38
Net (charge-offs) recoveries.....	(5)	(59)	—	—	(24)	(4)	(27)	(10)	(129)
Allowance for credit losses – end of period	\$ 86	\$ 407	\$ 267	\$ 19	\$ 68	\$ 24	\$ 32	\$ 9	\$ 912
<b>Year Ended December 31, 2014:</b>									
Allowance for credit losses – beginning of period.....	\$ 108	\$ 105	\$ 75	\$ 20	\$ 186	\$ 49	\$ 50	\$ 13	\$ 606
Provision charged (credited) to income.....	2	157	64	(7)	(40)	(14)	23	3	188
Charge-offs.....	(24)	(19)	(8)	(1)	(55)	(13)	(41)	(8)	(169)
Recoveries.....	3	8	—	9	16	10	7	2	55
Net (charge-offs) recoveries.....	(21)	(11)	(8)	8	(39)	(3)	(34)	(6)	(114)
Allowance for credit losses – end of period	\$ 89	\$ 251	\$ 131	\$ 21	\$ 107	\$ 32	\$ 39	\$ 10	\$ 680
<b>Year Ended December 31, 2013:</b>									
Allowance for credit losses – beginning of period.....	\$ 162	\$ 92	\$ 46	\$ 17	\$ 210	\$ 45	\$ 55	\$ 20	\$ 647
Provision charged (credited) to income.....	(7)	46	28	(5)	42	54	32	3	193
Charge-offs.....	(62)	(42)	—	—	(78)	(52)	(41)	(13)	(288)
Recoveries.....	15	9	1	8	12	2	4	3	54
Net (charge-offs) recoveries.....	(47)	(33)	1	8	(66)	(50)	(37)	(10)	(234)
Allowance for credit losses – end of period	\$ 108	\$ 105	\$ 75	\$ 20	\$ 186	\$ 49	\$ 50	\$ 13	\$ 606
<b>Year Ended December 31, 2012:</b>									
Allowance for credit losses – beginning of period.....	\$ 212	\$ 72	\$ 137	\$ 21	\$ 192	\$ 52	\$ 39	\$ 18	\$ 743
Provision charged (credited) to income.....	(33)	49	13	(10)	114	72	67	21	293
Charge-offs.....	(36)	(37)	(105)	(1)	(107)	(79)	(62)	(25)	(452)
Recoveries.....	19	8	1	7	11	—	11	6	63
Net (charge-offs) recoveries.....	(17)	(29)	(104)	6	(96)	(79)	(51)	(19)	(389)
Allowance for credit losses – end of period	\$ 162	\$ 92	\$ 46	\$ 17	\$ 210	\$ 45	\$ 55	\$ 20	\$ 647

<sup>(1)</sup> During the fourth quarter of 2016, we transferred certain customer relationships from CMB to GB&M as discussed further in Note 22, "Business Segments," in the accompanying consolidated financial statements. As a result, we reclassified \$27 million, \$24 million, \$7 million, \$5 million and \$6 million of allowance for credit losses from business and corporate banking to global banking at December 31, 2015, 2014, 2013, 2012 and 2011, respectively, to conform with the current year presentation.

<sup>(2)</sup> The provision for credit losses and charge-offs for residential mortgage loans during 2016 includes \$11 million related to the lower of amortized cost or fair value adjustment attributable to credit factors for loans transferred to held for sale. See Note 7, "Loans Held for Sale," in the accompanying consolidated financial statements for additional information.

- <sup>(3)</sup> For collateral dependent loans that are transferred to held for sale, the existing allowance for credit losses at the time of transfer are recognized as a charge-off. We transferred to held for sale certain residential mortgage loans during 2016 and, accordingly, we recognized the existing allowance for credit losses on these loans as additional charge-offs totaling \$22 million during 2016.

The allowance for credit losses at December 31, 2016 increased \$105 million or 12 percent as compared with December 31, 2015 due to higher loss estimates in our commercial loan portfolio, partially offset by lower loss estimates in our consumer loan portfolio. Our commercial allowance for credit losses increased \$151 million or 19 percent as compared with December 31, 2015 primarily due to higher loss estimates associated with the continued deterioration of a single mining customer relationship and, to a lesser extent, other downgrades reflecting weaknesses in the financial condition of certain customer relationships, including mining and other industry loan exposures. These increases were partially offset by charge-offs associated with oil and gas industry loan exposures, including a large impaired oil and gas industry loan that was sold during the second quarter, lower loss estimates associated with a modest decrease in the loss emergence period used in our commercial loan collective impairment calculation as a result of updating our default population as well as lower loss estimates for risk factors associated with expansion market loan exposures. Our consumer allowance for credit losses decreased \$46 million or 35 percent as compared with December 31, 2015 primarily due to charge-offs associated with the transfers of mortgages to held for sale as well as releases of reserves related to certain residential mortgages serviced by others as a result of updated information regarding the underlying loan characteristics being reported by the servicers and improved loss estimates associated with certain home equity mortgages. The decrease also reflects lower loss estimates driven by continued improvements in economic and credit conditions and the continued origination of higher quality Premier mortgages which are an increasingly larger portion of the portfolio.

The allowance for credit losses at December 31, 2015 increased \$232 million or 34 percent as compared with December 31, 2014 due to higher loss estimates in our commercial loan portfolio, partially offset by lower loss estimates in our consumer loan portfolio. Our commercial allowance for credit losses increased \$287 million or 58 percent as compared with December 31, 2014 reflecting higher loss estimates associated with oil and gas industry loan exposures and, to a lesser extent, downgrades in other industry loan exposures reflecting weaknesses in the financial circumstances of certain customer relationships as well as higher allowances associated with a modest increase in the loss emergence period used in our commercial loan collective impairment calculation as a result of updating our default population and loan growth. These increases were partially offset by releases of reserves associated with maturities of lower quality loans and managed reductions in certain exposures. Our consumer allowance for credit losses decreased \$55 million or 29 percent as compared with December 31, 2014 reflecting lower loss estimates in our residential mortgage and home equity mortgage loan portfolios driven by lower severity estimates, continued improvements in economic and credit conditions including lower delinquency levels and the continued origination of higher quality Premier mortgages which are an increasingly larger portion of the portfolio as well as lower loss estimates associated with the remediation of certain mortgage servicing activities and a lower allowance for credit losses in our credit card portfolio reflecting lower receivable levels and improved delinquency roll rates.

The allowance for credit losses at December 31, 2014 increased \$74 million or 12 percent as compared with December 31, 2013 due to higher loss estimates in our commercial loan portfolio, partially offset by lower loss estimates in our consumer loan portfolio. Our commercial allowance for credit losses increased \$184 million or 60 percent as compared with December 31, 2013 primarily due to revisions to certain estimates used in our commercial loan impairment calculation, including estimates of loss emergence, as previously discussed. Excluding this item, our commercial allowance for credit losses increased \$6 million as compared with December 31, 2013 driven by higher allowances associated with loan growth and increased levels of reserves for risk factors not fully reflected in the statistical reserve calculation including large loan as well as emerging and expansion markets loan exposure was partially offset by improvements in economic and credit conditions, including lower specific customer loss allowances which led to lower levels of delinquency and nonperforming loans, as well as the sale, charge-off or payoff of certain commercial exposures. Our consumer allowance for credit losses decreased \$110 million or 37 percent as compared with December 31, 2013 reflecting lower loss estimates in our residential mortgage loan portfolio driven by lower severity estimates, continued improvements in economic and credit conditions including lower delinquency levels and the continued origination of higher quality Premier mortgages which are an increasingly larger portion of the portfolio. These improvements were partially offset by increased loss estimates associated with the remediation of certain mortgage servicing activities. Also contributing to the decrease was a lower allowance for credit losses for our credit card portfolio due to improved economic conditions, including lower dollars of delinquency and lower receivable levels.

The allowance for credit losses at December 31, 2013 decreased \$41 million, or 6 percent as compared with December 31, 2012 due to lower loss estimates in both our consumer and commercial loan portfolios. Our consumer allowance for credit losses decreased \$32 million in 2013, driven primarily by lower loss estimates in our residential mortgage loan portfolio due to continued improvements in credit quality including lower delinquency levels on accounts less than 180 days contractually delinquent and improvements in loan delinquency roll rates. Also contributing to the decrease was lower loss estimates in our credit card portfolio due to improvements in credit quality including improved loan delinquency roll rates. Reserve levels for all consumer loan categories however continued to be impacted by the slow pace of the economic recovery in the U.S. economy, including elevated unemployment rates and, as it relates to residential mortgage loans, a housing market which was in the early stages of recovery. Our commercial allowance for credit losses decreased \$9 million in 2013 due to reductions in certain loan exposures including the charge-off of

certain client relationships and continued improvements in economic conditions which led to lower levels of non-performing loans and criticized assets. These reductions were partially offset by higher allowances for certain portfolio risk factors associated primarily with our increased exposure to individually significant loans.

Our residential mortgage loan allowance for credit losses in all periods reflects consideration of risk factors relating to trends such as recent portfolio performance as compared with average roll rates and economic uncertainty, including housing market trends as well as second lien exposure.

The allowance for credit losses as a percentage of total loans at December 31, 2016, 2015, 2014 and 2013 increased or decreased compared with their respective prior year periods for the reasons discussed above.

The allowance for credit losses as a percentage of net charge-offs decreased as compared with December 31, 2015 due to higher dollars of net charge-offs in our commercial loan portfolio largely driven by higher charge-offs associated with oil and gas industry loan exposures, including a large impaired oil and gas industry loan that was sold during the second quarter and, to a lesser extent, a lower allowance for credit losses on our consumer loan portfolio while net charge-offs remained relatively flat. These decreases were partially offset by an increase in our commercial loan allowance for credit losses for the reasons discussed above. In 2015, the allowance for credit losses as a percentage of net charge-offs increased driven by higher loss estimates in our commercial loan portfolio, partially offset by higher dollars of net charge-offs in this portfolio. In 2014, the allowance for credit losses as a percentage of net charge-offs increased due to lower dollars of net charge-offs in both our commercial and consumer loan portfolios, while our overall allowance for credit losses increased for the reasons discussed above. In 2013, the allowance for credit losses as a percentage of net charge-offs increased largely due to lower net charge-offs in both our commercial and consumer portfolios as the decline outpaced the decrease in the allowance.

The following table presents the allowance for credit losses by major loan categories, excluding loans held for sale:

At December 31,	% of Loans to Total Loans		% of Loans to Total Loans		% of Loans to Total Loans <sup>(1)</sup>		% of Loans to Total Loans <sup>(1)</sup>		% of Loans to Total Loans <sup>(1)</sup>	
	Amount		Amount		Amount		Amount		Amount	
	2016		2015		2014		2013		2012	
(dollars are in millions)										
Commercial <sup>(1)</sup> .....	\$ 930	73.4%	\$ 779	75.3%	\$ 492	74.7%	\$ 308	71.6%	\$ 317	69.8%
Consumer:										
Residential mortgages .	26	23.3	68	21.5	107	21.4	186	23.4	210	24.3
Home equity mortgages .....	20	1.9	24	1.9	32	2.3	49	3.0	45	3.7
Credit cards .....	34	.9	32	.8	39	.9	50	1.3	55	1.3
Other consumer .....	7	.5	9	.5	10	.7	13	.7	20	.9
Total consumer .....	87	26.6	133	24.7	188	25.3	298	28.4	330	30.2
Total .....	\$ 1,017	100.0%	\$ 912	100.0%	\$ 680	100.0%	\$ 606	100.0%	\$ 647	100.0%

<sup>(1)</sup> See Note 6, "Allowance for Credit Losses," in the accompanying consolidated financial statements for components of the commercial allowance for credit losses.

**Reserves for Off-Balance Sheet Credit Risk** We also maintain a separate reserve for credit risk associated with certain commercial off-balance sheet exposures, including letters of credit, unused commitments to extend credit and financial guarantees. The following table summarizes this reserve, which is included in other liabilities on the consolidated balance sheet. The related provision is recorded as a component of other expense within operating expenses.

At December 31,	2016	2015	2014	2013	2012
(in millions)					
Off-balance sheet credit risk reserve .....	\$ 134	\$ 99	\$ 68	\$ 60	\$ 139

The increase in off-balance sheet reserves in 2016 reflects the impact of downgrades in oil and gas industry and other industry loan exposures. The increase in off-balance sheet reserves in 2015 reflects higher loss estimates associated with oil and gas industry exposures. The increase in off-balance sheet reserves in 2014 largely reflects growth in customer activity. The decrease in off-balance sheet reserves in 2013 largely reflects the impact of an upgrade to an individual monoline which resulted in an improvement to our expectation of cash flows from an off-balance sheet liquidity facility and the consolidation of Bryant Park in 2013 which resulted in the reclassification of \$61 million of this reserve to held-to-maturity investment securities on our balance sheet. Off-

balance sheet exposures are summarized under the caption "Off-Balance Sheet Arrangements, Credit Derivatives and Other Contractual Obligations" in this MD&A.

**Delinquency** The following table summarizes dollars of two-months-and-over contractual delinquency and two-months-and-over contractual delinquency as a percent of total loans and loans held for sale ("delinquency ratio"):

	2016				2015			
	Dec. 31	Sept. 30	June 30	Mar. 31	Dec. 31	Sept. 30	June 30	Mar. 31
	(dollars are in millions)							
<b>Delinquent loans:</b>								
Commercial.....	\$ 90	\$ 124	\$ 42	\$ 49	\$ 91	\$ 40	\$ 49	\$ 42
Consumer:								
Residential mortgages <sup>(1)(2)</sup> .....	765	774	801	835	858	868	903	957
Home equity mortgages <sup>(1)(2)</sup> .....	46	47	49	48	56	54	56	60
Credit cards .....	14	13	12	13	13	13	13	14
Other consumer.....	11	10	9	10	11	13	11	13
Total consumer.....	836	844	871	906	938	948	983	1,044
Total.....	\$ 926	\$ 968	\$ 913	\$ 955	\$ 1,029	\$ 988	\$ 1,032	\$ 1,086
<b>Delinquency ratio:</b>								
Commercial.....	.16%	.21%	.07%	.08%	.14%	.06%	.08%	.07%
Consumer:								
Residential mortgages <sup>(1)(2)</sup> .....	4.23	4.28	4.44	4.66	4.83	4.97	5.23	5.62
Home equity mortgages <sup>(1)(2)</sup> .....	3.26	3.22	3.24	3.11	3.50	3.29	3.32	3.50
Credit cards .....	2.03	1.95	1.80	1.97	1.86	1.91	1.88	2.06
Other consumer.....	2.43	2.20	1.81	2.11	2.26	2.64	2.21	2.53
Total consumer.....	4.05	4.09	4.20	4.40	4.56	4.67	4.88	5.24
Total.....	1.22%	1.22%	1.12%	1.12%	1.21%	1.16%	1.23%	1.33%

<sup>(1)</sup> At December 31, 2016, and 2015, consumer mortgage loan delinquency includes \$711 million and \$793 million, respectively, of loans that are carried at the lower of amortized cost or fair value of the collateral less costs to sell, including \$358 million and \$3 million, respectively, relating to loans held for sale.

<sup>(2)</sup> The following table reflects dollars of contractual delinquency and delinquency ratios for interest-only loans and adjustable rate mortgage loans:

	2016				2015			
	Dec. 31	Sept. 30	June 30	Mar. 31	Dec. 31	Sept. 30	June 30	Mar. 31
	(dollars are in millions)							
<b>Dollars of delinquent loans:</b>								
Interest-only loans .....	\$ 46	\$ 54	\$ 58	\$ 68	\$ 63	\$ 67	\$ 66	\$ 66
ARM loans .....	237	246	241	252	253	249	260	272
<b>Delinquency ratio:</b>								
Interest-only loans .....	1.28%	1.49%	1.58%	1.88%	1.73%	1.84%	1.81%	1.85%
ARM loans .....	1.94	2.00	1.96	2.06	2.08	2.06	2.18	2.31

Compared with September 30, 2016, our two-months-and-over contractual delinquency ratio remained flat as lower dollars of delinquency in both our commercial and consumer loan portfolios was offset by lower outstanding loan balances in our commercial loan portfolio. Compared with December 31, 2015, our two-months-and-over contractual delinquency ratio remained relatively flat as lower dollars of delinquency in our consumer loan portfolio was more than offset by lower outstanding loan balances in our commercial loan portfolio.

Compared with September 30, 2016, our commercial two-months-and-over contractual delinquency ratio decreased 5 basis points largely due to the sale of a single mining industry exposure, partially offset by a single exposure which became greater than 60 days delinquent during the fourth quarter and lower outstanding loan balances. Compared with December 31, 2015, our commercial two-months-and-over contractual delinquency ratio increased 2 basis points driven by lower outstanding loan balances while dollars of delinquency were relatively flat.

Our consumer loan two-month-and-over contractual delinquency ratio decreased 4 basis points and 51 basis points from September 30, 2016 and December 31, 2015, respectively, due to lower levels of residential mortgage loan delinquency driven by continued

improvements in economic and credit conditions and the continued origination of higher quality Premier mortgages which are an increasingly larger portion of the portfolio. Home equity mortgage loan delinquency was also lower due to improved collections. Residential mortgage loan delinquency levels however continue to be impacted by an elongated foreclosure process which has resulted in loans which would otherwise have been foreclosed and transferred to Real Estate Owned remaining in the loan account and, consequently, in delinquency.

Residential mortgage delinquency is higher than home equity mortgage delinquency in all periods largely due to the inventory of loans which are held at the lower of amortized cost or fair value of the collateral less cost to sell and are in the foreclosure process. Given the extended foreclosure time lines, particularly in those states where HUSI has a large footprint, the residential mortgage portfolio has a substantial inventory of loans which are greater than 180 days past due and have been written down to the fair value of the collateral less cost to sell. There is a substantially lower volume of home equity mortgage loans where we pursue foreclosure less frequently given the generally subordinate position of the lien. In addition, our legacy business, originated through broker channels and loan transfers from HSBC Finance, is of a lower credit quality and, therefore, contributes to an overall higher weighted average delinquency rate for our residential mortgages. Both of these factors are expected to continue to diminish in future periods as the foreclosure backlog resulting from extended foreclosure time lines is managed down and the portfolio mix continues to shift to higher quality loans as the legacy broker originated business and prior loan transfers run off or sell.

**Net Charge-offs of Loans** The following table summarizes net charge-off (recovery) dollars as well as the net charge-off (recovery) of loans for the quarter, annualized, as a percentage of average loans, excluding loans held for sale, ("net charge-off ratio"):

	2016					2015					2014 Full Year
	Full Year	Quarter Ended				Full Year	Quarter Ended				
		Dec. 31	Sept. 30	June 30	Mar. 31		Dec. 31	Sept. 30	June 30	Mar. 31	
(dollars are in millions)											
<b>Net Charge-off Dollars:</b>											
Commercial:											
Construction and other real estate .....	\$ (6)	\$ —	\$ (6)	\$ —	\$ —	\$ 5	\$ 7	\$ (1)	\$ (2)	\$ 1	\$ 21
Business and corporate banking .....	100	43	23	8	26	59	13	9	33	4	11
Global banking .....	107	15	7	78	7	—	—	—	—	—	8
Other commercial .....	—	—	—	—	—	—	(1)	—	—	1	(8)
Total commercial .....	201	58	24	86	33	64	19	8	31	6	32
Consumer:											
Residential mortgages .....	33	—	31	(2)	4	24	5	1	6	12	39
Home equity mortgages ..	3	(2)	3	—	2	4	1	—	2	1	3
Credit cards .....	24	5	6	7	6	27	7	7	6	7	34
Other consumer .....	6	1	1	3	1	10	1	1	4	4	6
Total consumer .....	66	4	41	8	13	65	14	9	18	24	82
Total .....	\$ 267	\$ 62	\$ 65	\$ 94	\$ 46	\$ 129	\$ 33	\$ 17	\$ 49	\$ 30	\$ 114
<b>Net Charge-off Ratio:</b>											
Commercial:											
Construction and other real estate .....	(.06)%	—%	(.22)%	—%	—%	.04%	.23%	(.03)%	(.07)%	.04%	.22%
Business and corporate banking .....	.55	1.17	.65	.22	.70	.39	.34	.23	.86	.11	.09
Global banking .....	.45	.25	.09	.96	.08	—	—	—	—	—	.03
Other commercial .....	—	—	—	—	—	—	(.12)	—	—	.11	(.27)
Total commercial .....	.34	.41	.16	.57	.21	.10	.12	.05	.20	.04	.06
Consumer:											
Residential mortgages .....	.19	—	.70	(.05)	.09	.14	.12	.02	.14	.29	.24
Home equity mortgages ..	.20	(.56)	.81	—	.51	.24	.25	—	.47	.23	.16
Credit cards .....	3.59	2.98	3.59	4.23	3.58	3.98	3.83	4.11	3.51	4.06	4.95
Other consumer .....	1.53	1.04	1.11	2.87	.99	2.34	.73	.73	3.78	3.50	1.28
Total consumer .....	.33	.08	.81	.16	.26	.32	.27	.18	.36	.49	.43
Total .....	.33 %	.32%	.33 %	.47%	.22%	.16%	.15%	.08 %	.24 %	.15%	.16%

Our net charge-off ratio as a percentage of average loans increased 17 basis points for the full year of 2016 compared with the full year of 2015 due to higher levels of net charge-offs in our commercial loan portfolio largely driven by higher charge-offs associated with oil and gas industry loan exposures, including a large impaired oil and gas industry loan that was sold during the second quarter. Net charge-offs in our consumer loan portfolio were relatively flat for the full year of 2016 compared with the full year of 2015 as higher charge-offs driven by the transfers of mortgages to held for sale were offset by lower charge-offs due to continued improvements in economic and credit conditions, including the impact of lower levels of delinquency on accounts less than 180 days delinquent, as well as the continued origination of higher quality Premier mortgages which are an increasingly larger portion of the portfolio.

Our net charge-off ratio as a percentage of average loans remained relatively flat for the full year of 2015 compared with the full year of 2014 as higher levels of net charge-offs in our commercial loan portfolio were largely offset by lower levels of net charge-offs in our consumer loan portfolio. The increase in commercial net charge-offs reflects higher charge-offs in business and corporate banking driven by a single customer relationship. The decrease in consumer net charge-offs was driven by lower charge-offs in residential mortgages due to continued improvement in economic and credit conditions, including the impact of lower levels of delinquency on accounts less than 180 days delinquent and continued improvements in housing market conditions, as well as the continued origination of higher quality Premier mortgages which are an increasingly larger portion of the portfolio.

**Nonperforming Assets** Nonperforming assets consisted of the following:

At December 31,	2016	2015	2014
	(in millions)		
<b>Nonaccrual loans:</b>			
Commercial:			
Construction and other real estate.....	\$ 56	\$ 53	\$ 65
Business and corporate banking .....	187	167	74
Global banking.....	546	44	—
Other commercial .....	1	1	—
Commercial nonaccrual loans held for sale.....	11	26	43
Total commercial.....	<u>801</u>	<u>291</u>	<u>182</u>
Consumer:			
Residential mortgages <sup>(1)(2)(3)(4)</sup> .....	435	814	847
Home equity mortgages <sup>(1)(2)</sup> .....	75	71	68
Consumer nonaccrual loans held for sale <sup>(4)</sup> .....	369	3	4
Total consumer.....	<u>879</u>	<u>888</u>	<u>919</u>
<b>Total nonaccruing loans</b> .....	<u>1,680</u>	<u>1,179</u>	<u>1,101</u>
<b>Accruing loans contractually past due 90 days or more:</b>			
Commercial:			
Business and corporate banking .....	1	1	1
Total commercial.....	<u>1</u>	<u>1</u>	<u>1</u>
Consumer:			
Credit cards.....	10	9	10
Other consumer.....	7	7	10
Total consumer.....	<u>17</u>	<u>16</u>	<u>20</u>
<b>Total accruing loans contractually past due 90 days or more</b> .....	<u>18</u>	<u>17</u>	<u>21</u>
<b>Total nonperforming loans</b> .....	<u>1,698</u>	<u>1,196</u>	<u>1,122</u>
Other real estate owned <sup>(5)</sup> .....	27	29	31
<b>Total nonperforming assets</b> .....	<u>\$ 1,725</u>	<u>\$ 1,225</u>	<u>\$ 1,153</u>

<sup>(1)</sup> At December 31, 2016, 2015 and 2014, nonaccrual consumer mortgage loans held for investment include \$382 million, \$768 million and \$817 million, respectively, of loans that are carried at the lower of amortized cost or fair value of the collateral less cost to sell.

<sup>(2)</sup> Nonaccrual consumer mortgage loans held for investment include all loans which are 90 or more days contractually delinquent as well as loans discharged under Chapter 7 bankruptcy and not re-affirmed and second lien loans where the first lien loan that we own or service is 90 or more days contractually delinquent.

<sup>(3)</sup> Nonaccrual consumer mortgage loans for all periods does not include guaranteed loans purchased from the Government National Mortgage Association. Repayment of these loans are predominantly insured by the Federal Housing Administration and as such, these loans have different risk characteristics from the rest of our customer loan portfolio.

<sup>(4)</sup> The trend in nonaccrual loans reflects the impact of transfers of certain residential mortgage loans to held for sale during 2016.

<sup>(5)</sup> Includes \$1 million or less of commercial other real estate owned at December 31, 2016, 2015 and 2014, respectively.

Nonaccrual loans at December 31, 2016 increased as compared with December 31, 2015 due to higher levels of commercial nonaccrual loans driven by the downgrade of a single mining customer relationship as well as other downgrades reflecting weaknesses in the financial condition of certain customer relationships. Our consumer nonaccrual loans decreased slightly compared with December 31, 2015 reflecting the impact of continued improvements in economic and credit conditions. Residential mortgage nonaccrual loan levels continue to be impacted by an elongated foreclosure process as previously discussed. Accruing loans past due 90 days or more remained flat compared with December 31, 2015.

Nonaccrual loans at December 31, 2015 increased as compared with December 31, 2014 due to higher levels of commercial nonaccrual loans, partially offset by lower levels of consumer nonaccrual loans. The increase in commercial nonaccrual loans was largely driven by downgrades in business and corporate banking reflecting weaknesses in the financial circumstances of certain customer relationships, predominantly oil and gas related, as well as the downgrade of a single customer relationship in global banking. Our consumer nonaccrual loans decreased compared with December 31, 2014 driven primarily by lower residential mortgage nonaccrual loans due to continued improvements in economic and credit conditions. Residential mortgage nonaccrual loan levels however continue to be impacted by an elongated foreclosure process as previously discussed. Accruing loans past due 90 days or more remained relatively flat compared with December 31, 2014.

Accrued but unpaid interest on loans placed on nonaccrual status generally is reversed and reduces current income at the time loans are so categorized. Interest income on these loans may be recognized to the extent of cash payments received. Our policies and practices for problem loan management and placing loans on nonaccrual status are summarized in Note 2, "Summary of Significant Accounting Policies and New Accounting Pronouncements," in the accompanying consolidated financial statements.

**Impaired Commercial Loans** A commercial loan is considered to be impaired when it is deemed probable that not all principal and interest amounts due according to the contractual terms of the loan agreement will be collected. Probable losses from impaired loans are quantified and recorded as a component of the overall allowance for credit losses. Generally, impaired commercial loans include loans in nonaccrual status, loans that have been assigned a specific allowance for credit losses, loans that have been partially charged off and TDR Loans. The following table summarizes impaired commercial loan statistics:

At December 31,	2016	2015	2014
	(in millions)		
Impaired commercial loans:			
Balance at end of period.....	\$ 1,053	\$ 453	\$ 295
Amount with impairment reserve .....	596	171	92
Impairment reserve .....	308	54	30

Commercial impaired loans increased in both 2016 and 2015 largely due to higher nonaccrual loans for the reasons discussed above and, to a lesser extent, higher TDR Loans reflecting the restructuring of certain customer relationships.

**Criticized Loans** Criticized loan classifications presented in the table below are determined by the assignment of various criticized facility grades based on the risk rating standards of our regulator. The following facility grades are deemed to be criticized:

- *Special Mention* – generally includes loans that are protected by collateral and/or the credit worthiness of the customer, but are potentially weak based upon economic or market circumstances which, if not checked or corrected, could weaken our credit position at some future date.
- *Substandard* – includes loans that are inadequately protected by the underlying collateral and/or general credit worthiness of the customer. These loans present a distinct possibility that we will sustain some loss if the deficiencies are not corrected.
- *Doubtful* – includes loans that have all the weaknesses exhibited by substandard loans, with the added characteristic that the weaknesses make collection or liquidation in full of the recorded loan highly improbable. However, although the possibility of loss is extremely high, certain factors exist which may strengthen the credit at some future date, and therefore the decision to charge-off the loan is deferred. Loans graded as doubtful are required to be placed in nonaccruing status.

The following table summarizes criticized commercial loans:

At December 31,	2016	2015	2014
	(in millions)		
Special mention.....	\$ 1,941	\$ 2,250	\$ 3,082
Substandard.....	3,439	3,214	676
Doubtful .....	358	65	29
Total.....	<u>\$ 5,738</u>	<u>\$ 5,529</u>	<u>\$ 3,787</u>

Criticized loans at December 31, 2016 increased slightly compared with December 31, 2015 as the impact of downgrades were largely offset by paydowns and loan sales.

Criticized loans at December 31, 2015 increased compared with December 31, 2014 reflecting downgrades of certain oil and gas industry loan exposures and other downgrades reflecting weaknesses in the financial circumstances of certain customer relationships. In addition, the majority of the increase in substandard was due to the downgrade of a single customer relationship which was in special mention at December 31, 2014.

**Concentration of Credit Risk** A concentration of credit risk is defined as a significant credit exposure with an individual or group engaged in similar activities or affected similarly by economic conditions. We enter into a variety of transactions in the normal course of business that involve both on and off-balance sheet credit risk. Principal among these activities is lending to various commercial, institutional, governmental and individual customers throughout the United States and internationally. We manage the varying degrees of credit risk associated with on and off-balance sheet transactions through specific credit policies and procedures which provide for a strict approval, monitoring and reporting process. It is our policy to require collateral when it is deemed appropriate. Varying degrees and types of collateral are secured depending upon management's credit evaluation.

Our consumer loan portfolio includes the following types of loans:

- Interest-only loans – A loan which allows a customer to pay the interest-only portion of the monthly payment for a period of time which results in lower payments during the initial loan period.

- Adjustable rate mortgage ("ARM") loans – A loan which allows us to adjust pricing on the loan in line with market movements.

The following table summarizes the balances of interest-only and ARM loans in our loan portfolios, including certain loans held for sale, at December 31, 2016 and 2015. Each category is not mutually exclusive and loans may appear in more than one category below.

At December 31,	2016	2015
	(in millions)	
Interest-only residential mortgage and home equity mortgage loans .....	\$ 3,589	\$ 3,645
ARM loans <sup>(1)</sup> .....	12,219	12,180

<sup>(1)</sup> During 2017 and 2018, approximately \$740 million and \$927 million, respectively, of the ARM loans will experience their first interest rate reset.

The following table summarizes the concentrations of first and second liens within the outstanding residential mortgage and home equity mortgage portfolios. Amounts in the table exclude residential mortgage loans held for sale of \$890 million and \$11 million at December 31, 2016 and 2015, respectively, and home equity mortgage loans held for sale of \$4 million at December 31, 2016.

At December 31,	2016	2015
	(in millions)	
Closed end:		
First lien.....	\$ 17,181	\$ 17,758
Second lien .....	64	89
Revolving <sup>(1)</sup> .....	1,344	1,511
Total.....	<u>\$ 18,589</u>	<u>\$ 19,358</u>

<sup>(1)</sup> A majority of revolving are second lien mortgages.

*Geographic Concentrations* The following table reflects regional exposure at December 31, 2016 and 2015 for our real estate secured loan portfolios:

	Commercial Construction and Other Real Estate Loans	Residential Mortgages and Home Equity Mortgages
<b>December 31, 2016:</b>		
New York State .....	30.8%	32.0%
California .....	20.9	39.0
North Central United States .....	3.2	3.6
North Eastern United States, excluding New York State.....	8.3	8.8
Southern United States .....	26.8	12.0
Western United States, excluding California .....	6.9	4.6
Mexico .....	3.1	—
Total.....	100.0%	100.0%
<b>December 31, 2015:</b>		
New York State .....	27.6%	32.8%
California .....	20.0	36.9
North Central United States .....	3.1	4.2
North Eastern United States, excluding New York State.....	8.9	8.9
Southern United States .....	25.8	12.8
Western United States, excluding California .....	5.7	4.4
Mexico .....	8.9	—
Total.....	100.0%	100.0%

*Commercial Credit Exposure* Our commercial credit exposure is diversified across a broad range of industries. Commercial loans outstanding and unused commercial commitments by industry are presented in the table below:

At December 31,	2016		2015	
	Commercial Utilized	Unused Commercial Commitments	Commercial Utilized	Unused Commercial Commitments
	(in millions)			
Real estate and related .....	\$ 10,043	\$ 3,542	\$ 10,069	\$ 4,193
Non-bank holding companies .....	5,706	5,261	5,134	4,513
Petroleum, gas and related .....	4,311	6,153	5,269	6,890
Health, child care and education .....	3,426	7,138	4,025	7,123
Electronic and electrical equipment.....	2,643	8,270	3,017	9,688
Chemicals, plastics and rubber .....	2,522	3,916	2,708	3,734
Recreational industry .....	2,403	1,008	2,123	1,166
Business and professional services.....	2,194	2,880	1,833	3,022
Security brokers and dealers .....	1,838	3,714	2,064	3,875
Mining and metals.....	1,680	2,270	2,492	2,390
Utilities.....	1,508	1,584	1,702	1,802
Textile, apparel and leather goods .....	1,329	2,263	1,450	1,699
Non deposit credit institutions .....	1,305	2,086	968	3,727
Food and kindred products.....	1,182	3,933	1,792	5,592
Aerospace and defense.....	1,065	1,169	1,132	714
Transportation services .....	1,049	1,424	1,617	1,109
Banks and depository institutions .....	1,001	1,338	3,249	950
Industrial machinery and equipment.....	978	2,175	920	2,500
Automotive products.....	943	1,120	821	1,111
Printing and publishing.....	725	1,140	771	1,547
Total commercial credit exposure in top 20 industries <sup>(1)</sup> .....	47,851	62,384	53,156	67,345
All other industries.....	3,091	11,948	4,482	13,207
Total commercial credit exposure <sup>(2)</sup> .....	\$ 50,942	\$ 74,332	\$ 57,638	\$ 80,552

<sup>(1)</sup> Based in utilization at December 31, 2016.

<sup>(2)</sup> Excludes commercial credit exposures with affiliates.

*Cross-Border Net Outstandings* Cross-border net outstandings are amounts payable by residents of foreign countries regardless of the currency of claim and local country claims in excess of local country obligations. Cross-border net outstandings, as calculated in accordance with FFIEC guidelines, include deposits placed with other banks, loans, acceptances, securities available-for-sale, trading securities, revaluation gains on foreign exchange and derivative contracts and accrued interest receivable. Excluded from cross-border net outstandings are, among other things, the following: local country claims funded by non-local country obligations (U.S. dollar or other non-local currencies), principally certificates of deposit issued by a foreign branch, where the providers of funds agree that, in the event of the occurrence of a sovereign default or the imposition of currency exchange restrictions in a given country, they will not be paid until such default is cured or currency restrictions lifted or, in certain circumstances, they may accept payment in local currency or assets denominated in local currency (hereinafter referred to as constraint certificates of deposit); and cross-border claims that are guaranteed by cash or other external liquid collateral. Cross-border net outstandings that exceed .75 percent of total assets at year-end are summarized in the following table:

	Banks and Other Financial Institutions	Commercial and Industrial	Total
	(in millions)		
<b>December 31, 2016:</b>			
Brazil.....	\$ 854	\$ 4,628	\$ 5,482
Mexico.....	853	2,081	2,934
United Kingdom.....	1,456	356	1,812
Total.....	<u>\$ 3,163</u>	<u>\$ 7,065</u>	<u>\$ 10,228</u>
<b>December 31, 2015:</b>			
Brazil.....	\$ 2,191	\$ 4,755	\$ 6,946
Mexico.....	1,104	5,131	6,235
Canada.....	717	1,745	2,462
Total.....	<u>\$ 4,012</u>	<u>\$ 11,631</u>	<u>\$ 15,643</u>
<b>December 31, 2014:</b>			
Brazil.....	\$ 3,545	\$ 5,039	\$ 8,584
Mexico.....	1,376	6,497	7,873
Canada.....	382	1,962	2,344
Chile.....	548	1,141	1,689
United Kingdom.....	1,127	348	1,475
Total.....	<u>\$ 6,978</u>	<u>\$ 14,987</u>	<u>\$ 21,965</u>

*Credit Risks Associated with Derivative Contracts* Credit risk associated with derivatives is measured as the net replacement cost of derivative contracts in a receivable position in the event the counterparties of such contracts fail to perform under the terms of those contracts. In managing derivative credit risk, both the current exposure, which is the replacement cost of contracts on the measurement date, as well as an estimate of the potential change in value of contracts over their remaining lives are considered. Counterparties to our derivative activities include financial institutions, central clearing parties, foreign and domestic government agencies, corporations, funds (mutual funds, hedge funds, etc.), insurance companies and private clients as well as other HSBC entities. These counterparties are subject to regular credit review by the credit risk management department. To minimize credit risk, we enter into legally enforceable master netting agreements which reduce risk by permitting the closeout and netting of transactions with the same counterparty upon occurrence of certain events. In addition, we reduce credit risk by obtaining collateral from counterparties. The determination of the need for and the levels of collateral will differ based on an assessment of the credit risk of the counterparty.

The total risk in a derivative contract is a function of a number of variables, such as:

- volatility of interest rates, currencies, equity or corporate reference entity used as the basis for determining contract payments;
- current market events or trends;
- country risk;
- maturity and liquidity of contracts;
- credit worthiness of the counterparties in the transaction;
- the existence of a master netting agreement among the counterparties; and

- existence and value of collateral received from counterparties to secure exposures.

The table below presents total credit risk exposure calculated using the Basel III Standardized Approach regulatory capital rules published by U.S. banking regulatory agencies which includes the net positive mark-to-market of the derivative contracts plus any adjusted potential future exposure as measured in reference to the notional amount. The regulatory capital rules recognize that bilateral netting agreements reduce credit risk and, therefore, allow for reductions of risk weighted assets when netting requirements have been met and collateral exists. As a result, risk weighted amounts for regulatory capital purposes are a portion of the original gross exposures. However, many contracts contain provisions that allow us to close out the transaction if the counterparty fails to post required collateral. In addition, many contracts give us the right to break the transactions earlier than the final maturity date. As a result, these contracts have potential future exposures that are often much smaller than the future exposures derived from the regulatory capital rules.

At December 31,	2016	2015
	(in millions)	
Risk associated with derivative contracts:		
Total credit risk exposure.....	\$ 30,339	\$ 33,890
Less: collateral held against exposure.....	7,733	6,564
Net credit risk exposure .....	<u>\$ 22,606</u>	<u>\$ 27,326</u>

The table below summarizes the risk profile of the counterparties to derivative contracts with credit risk exposure, net of cash and other highly liquid collateral. The ratings presented in the table below are equivalent ratings based on our internal credit rating system.

Rating equivalent at December 31,	Percent of Current Credit Risk Exposure, Net of Collateral	
	2016	2015
AAA to AA-.....	44%	43%
A+ to A-.....	41	49
BBB+ to BBB-.....	12	6
BB+ to B-.....	3	2
CCC+ and below .....	—	—
Total.....	<u>100%</u>	<u>100%</u>

The table below sets out the mark-to-market value of derivative contracts associated with monoline counterparties at December 31, 2016 and 2015. Our principal exposure to monoline insurance companies is through a number of over-the-counter ("OTC") derivative transactions, primarily credit default swaps ("CDS"), where we have purchased credit protection against securities held within the trading portfolio. Due to downgrades in the internal credit ratings of monoline insurers, fair value adjustments have been recorded due to counterparty credit exposures. The "Credit Risk Adjustment" column in the below table indicates the valuation adjustment taken against the mark-to-market exposures and reflects the deterioration in creditworthiness of the monoline insurers. These adjustments have been charged to the consolidated statement of income.

	Net Exposure before Credit Risk Adjustment <sup>(1)</sup>	Credit Risk Adjustment <sup>(2)</sup>	Net Exposure After Credit Risk Adjustment
	(in millions)		
<b>December 31, 2016:</b>			
Derivative contracts with monoline counterparties:			
Monoline – investment grade .....	\$ 181	\$ (22)	\$ 159
Total.....	<u>\$ 181</u>	<u>\$ (22)</u>	<u>\$ 159</u>
<b>December 31, 2015:</b>			
Derivative contracts with monoline counterparties:			
Monoline – investment grade .....	\$ 223	\$ (50)	\$ 173
Total.....	<u>\$ 223</u>	<u>\$ (50)</u>	<u>\$ 173</u>

<sup>(1)</sup> Net exposure after legal netting and any other relevant credit mitigation prior to deduction of credit risk adjustment

<sup>(2)</sup> Fair value adjustment recorded against the over-the-counter derivative counterparty exposures to reflect the credit worthiness of the counterparty.

Market risk is the adverse effect that a change in market liquidity, interest rates, credit spreads, currency or implied volatility rates has on the value of a financial instrument. We manage the market risk associated with interest rate and foreign exchange contracts by establishing and monitoring limits as to the types and degree of risk that may be undertaken. We also manage the market risk associated with trading derivatives through hedging strategies that correlate the rates, price and spread movements. This risk is measured daily by using Value at Risk and other methodologies. See the caption "Risk Management" in this MD&A for additional information regarding the use of Value at Risk analysis to monitor and manage interest rate and other market risks.

## Liquidity and Capital Resources

Effective liquidity management is defined as ensuring we can meet customer loan requests, customer deposit maturities/withdrawals and other cash commitments efficiently under both normal operating conditions and under unpredictable circumstances of industry or market stress. To achieve this objective, we have guidelines that require sufficient liquidity to cover potential funding requirements and to avoid over-dependence on volatile, less reliable funding markets. Guidelines are set for the consolidated balance sheet of HSBC USA to ensure that it is a source of strength for our regulated, deposit-taking banking subsidiary, as well as to address the more limited sources of liquidity available to it as a holding company. Similar guidelines are set for HSBC Bank USA to ensure that it can meet its liquidity needs in various stress scenarios. Cash flow analysis, including stress testing scenarios, forms the basis for liquidity management and contingency funding plans. See "Risk Management" in this MD&A for further discussion of our approach towards liquidity risk management, including information regarding the key measures employed to define, monitor and control our liquidity and funding risk.

During 2016, marketplace liquidity continued to remain available for most sources of funding. The prolonged period of low interest rates continued to put pressure on spreads earned on our deposit base.

In December 2015, HSBC submitted its full resolution plan to the FRB and the FDIC as required under the Dodd-Frank Act (the Systemically Important Financial Institution Plan or "SIFI Plan") and HSBC Bank USA submitted its full resolution plan as required under the Federal Deposit Insurance Act (the Insured Depository Institution Plan or "IDI Plan"). As of the date of this report, HSBC had not received formal feedback on the 2015 plans from the agencies. During the third quarter of 2016, the next annual submission date for both the HSBC SIFI Plan and the HSBC Bank USA IDI Plan were extended to December 31, 2017.

As previously reported, as a result of the adoption of the final rules by the U.S. banking regulators implementing the Basel III regulatory capital and liquidity reforms from the Basel Committee, together with the impact of similar implementation by U.K. banking regulators, we continued to review the composition of our capital structure. As discussed below, during the second quarter

of 2016, we replaced certain preferred equity instruments that receive less favorable treatment under the rules with new Basel III compliant instruments.

**Interest Bearing Deposits with Banks** totaled \$20,238 million and \$7,478 million at December 31, 2016 and 2015, respectively, of which \$18,833 million and \$6,708 million, respectively, were held with the Federal Reserve Bank. Balances may fluctuate from period to period depending upon our liquidity position at the time and our strategy for deploying liquidity. Surplus interest bearing deposits with the Federal Reserve Bank may be deployed into securities purchased under agreements to resell depending on market conditions and the opportunity to maximize returns.

**Federal Funds Sold and Securities Purchased under Agreements to Resell** totaled \$30,023 million and \$19,847 million at December 31, 2016 and 2015, respectively. Balances may fluctuate from period to period depending upon our liquidity position at the time and our strategy for deploying liquidity.

**Trading Assets** includes securities totaling \$10,667 million and \$11,155 million at December 31, 2016 and 2015, respectively. See "Balance Sheet Review" in this MD&A for further analysis and discussion on trends.

**Securities** includes securities available-for-sale and securities held-to-maturity totaling \$49,719 million and \$49,797 million at December 31, 2016 and 2015, respectively. See "Balance Sheet Review" in this MD&A for further analysis and discussion on trends.

**Short-Term Borrowings** totaled \$5,101 million and \$4,995 million at December 31, 2016 and 2015, respectively. See "Balance Sheet Review" in this MD&A for further analysis and discussion on short-term borrowing trends.

**Deposits** totaled \$129,248 million and \$118,579 million at December 31, 2016 and 2015, respectively, which included \$98,671 million and \$90,463 million, respectively, of core deposits as calculated in accordance with FFIEC guidelines. See "Balance Sheet Review" in this MD&A for further analysis and discussion on deposit trends.

**Long-Term Debt** increased to \$37,739 million at December 31, 2016 from \$33,509 million at December 31, 2015. The following table summarizes issuances and retirements of long-term debt during 2016 and 2015:

Year Ended December 31,	2016	2015
	(in millions)	
Long-term debt issued.....	\$ 8,694	\$ 16,609
Long-term debt repaid.....	(4,869)	(9,933)
Net long-term debt issued .....	<u>\$ 3,825</u>	<u>\$ 6,676</u>

See "Balance Sheet Review" in this MD&A for further analysis and discussion on long-term debt trends, including additional information on debt issued and repaid during 2016.

Under our shelf registration statement on file with the SEC, we may issue certain securities including debt securities and preferred stock. We satisfy the eligibility requirements for designation as a "well-known seasoned issuer," which allows us to file a registration statement that does not have a limit on issuance capacity. The ability to issue under the registration statement is limited by the authority granted by the Board of Directors. At December 31, 2016, we were authorized to issue up to \$36,000 million, of which \$13,765 million was available. HSBC Bank USA has a \$40,000 million Global Bank Note Program that provides for the issuance of subordinated and senior notes, of which \$15,732 million was available at December 31, 2016.

As a member of the FHLB and the Federal Reserve Bank of New York, we have secured borrowing facilities which are collateralized by loans and investment securities. At December 31, 2016, long-term debt included \$5,700 million of borrowings from the FHLB facility. Based upon the amounts pledged as collateral under these facilities, we were allowed access to further overnight borrowings of up to \$13,597 million.

**Preferred Equity** During the second quarter of 2016, HSBC USA redeemed all of its remaining externally issued preferred stock, including its Floating Rate Non-Cumulative Series F Preferred Stock, Floating Rate Non-Cumulative Series G Preferred Stock and 6.5 percent Non-Cumulative Series H Preferred Stock, totaling \$1,265 million. In connection with these redemptions, HSBC USA issued \$1,265 million of 6.0 percent Non-Cumulative Series I Preferred Stock to HSBC North America. See Note 23, "Retained Earnings and Regulatory Capital Requirements," and Note 17, "Preferred Stock," in the accompanying consolidated financial statements for additional details.

**Common Equity** During 2016, HSBC USA did not receive any cash capital contributions from its parent, HSBC North America and did not make any capital contributions to its subsidiary, HSBC Bank USA.

During 2015, HSBC USA repaid \$4,000 million of senior long-term debt previously issued to HSBC North America and HSBC Bank USA repaid \$900 million of subordinated long-term debt previously issued to HSBC USA. In conjunction with these repayments, HSBC USA received a capital contribution of \$4,000 million from our then parent HNAI in exchange for one share of common stock and HSBC USA made capital contributions to HSBC Bank USA of \$2,400 million in exchange for two shares of common stock and \$2,500 million in exchange for 250 shares of non-cumulative preferred stock. These capital actions were

taken to support our growth strategy and to strengthen the Basel III regulatory capital positions of both HSBC USA and HSBC Bank USA.

**Selected Capital Ratios** In managing capital, we develop targets for common equity Tier 1 capital to risk weighted assets, Tier 1 capital to risk weighted assets, total capital to risk weighted assets, Tier 1 capital to adjusted quarterly average assets (i.e., the "Tier 1 leverage ratio") and Tier 1 capital to total leverage exposure (i.e., the "supplementary leverage ratio"). Capital targets are reviewed at least semi-annually to ensure they reflect our business mix and risk profile, as well as real-time conditions and circumstances. The following table summarizes HSBC USA's Basel III transitional and fully phased-in capital ratios calculated as of December 31, 2016 and 2015:

At December 31,	Transitional		Fully Phased-In	
	2016	2015	2016	2015
Common equity Tier 1 capital to risk weighted assets .....	<b>13.7%</b>	12.0%	<b>13.2%</b>	11.6%
Tier 1 capital to risk weighted assets .....	<b>14.5</b>	12.6	<b>14.2</b>	12.4
Total capital to risk weighted assets.....	<b>18.3</b>	16.5	<b>17.5</b>	15.6
Tier 1 capital to adjusted quarterly average assets (Tier 1 leverage ratio) <sup>(1)</sup> .....	<b>9.2</b>	9.5	<b>9.1</b>	9.4
Tier 1 capital to total leverage exposure (supplementary leverage ratio) <sup>(2)</sup> .....	<b>6.5</b>	N/A	<b>6.5</b>	N/A

<sup>(1)</sup> Adjusted quarterly average assets, the Tier 1 leverage ratio denominator, reflects quarterly average assets adjusted for amounts permitted to be deducted from Tier 1 capital for the three months ended December 31, 2016 and 2015, respectively.

<sup>(2)</sup> In 2016, we began publicly disclosing our supplementary leverage ratio ("SLR"). Beginning January 1, 2018, banking institutions will be required to maintain the regulatory minimum SLR of 3 percent. Total leverage exposure, the SLR denominator, includes adjusted quarterly average assets plus certain off-balance sheet exposures.

N/A Not Applicable

HSBC USA manages capital in accordance with HSBC Group policy. The HSBC North America Internal Capital Adequacy Assessment Process ("ICAAP") works in conjunction with the HSBC Group's ICAAP. The HSBC North America ICAAP applies to HSBC Bank USA and evaluates regulatory capital adequacy, economic capital adequacy and capital adequacy under various stress scenarios. Our initial approach is to meet our capital needs for these stress scenarios locally through activities which reduce risk. To the extent that local alternatives are insufficient or unavailable, we will rely on capital support from our parent in accordance with HSBC's capital management policy. HSBC has indicated that they are fully committed and have the capacity to provide capital as needed to run operations and maintain sufficient regulatory capital ratios.

Regulatory capital requirements are based on the amount of capital required to be held, as defined by regulations, and the amount of risk weighted assets, also calculated based on regulatory definitions. Economic Capital is a proprietary measure to estimate unexpected loss at the 99.95 percent confidence level over a 1-year time horizon. Economic Capital is compared to a calculation of available capital resources to assess capital adequacy as part of the ICAAP.

In 2013, U.S. banking regulators issued a final rule implementing the Basel III capital framework in the United States which, for banking organizations such as HSBC North America and HSBC Bank USA, became effective in 2014 with certain provisions being phased in over time through the beginning of 2019. The Basel III final rule established an integrated regulatory capital framework to improve the quality and quantity of regulatory capital. For additional discussion of the Basel III final rule requirements, including fully phased in required minimum capital ratios, see Part I, "Regulation and Competition - Regulatory Capital and Liquidity Requirements," in this Form 10-K.

In 2014, the FRB adopted a final rule requiring enhanced supervision of the U.S. operations of non-U.S. banks such as HSBC. The rule requires certain large non-U.S. banks with significant operations in the United States, such as HSBC, to establish a single IHC to hold all of their U.S. bank and non-bank subsidiaries. HSBC Group has been operating in the United States through such an IHC structure (i.e., HSBC North America), and therefore, the implementation of this requirement did not have a significant impact on our U.S. operations. As previously disclosed, in accordance with the rule HSBC North America and HSBC Bank USA received regulatory approval in 2014 and 2015, respectively, to opt out of the "Advanced Approaches" (which include an advanced internal ratings based approach for credit risk and an advanced measurement approach for operational risk) and are calculating their risk-based and leverage capital requirements solely under the general risk-based capital rules of the Standardized Approach. In 2016, HSBC Bank USA submitted the annual statement to the OCC to renew the Advanced Approaches opt out and received approval. HSBC North America and HSBC Bank USA, however, remain subject to the other capital requirements applicable to Advanced Approaches banking organizations such as: the SLR, the countercyclical capital buffer, stress testing requirements, enhanced risk management standards, enhanced governance and stress testing requirements for liquidity management, and other applicable prudential standards. Under the rule, most of these requirements became effective July 1, 2016.

In 2015, the Financial Stability Board ("FSB") issued its final standards for TLAC requirements for G-SIBs. In December 2016, the FRB adopted final rules implementing the FSB's TLAC standard in the United States. The rules require, among other things,

the U.S. IHCs of non U.S. G-SIBs, including HSBC North America, to maintain minimum amounts of TLAC which would include minimum levels of Tier 1 capital and long-term debt satisfying certain eligibility criteria, and a related TLAC buffer commencing January 1, 2019, without the benefit of a phase-in period. The TLAC rules also include 'clean holding company requirements' that impose limitations on the types of financial transactions that HSBC North America could engage in. The FSB's TLAC standard and the FRB's TLAC rules represent a significant expansion of the current regulatory capital framework that may require HSBC North America to issue additional long-term debt.

**Capital Planning and Stress Testing** U.S. bank holding companies with \$50 billion or more in total consolidated assets, including HSBC North America, are required to comply with the FRB's capital plan rule and CCAR program, as well as the annual supervisory stress tests conducted by the FRB, and the semi-annual company-run stress tests as required under DFAST. As part of the CCAR process, the FRB undertakes a supervisory assessment of bank holding companies on their capital adequacy, internal capital adequacy assessment process and plans for capital distributions. The FRB can object to a capital plan for qualitative or quantitative reasons, in which case the company cannot make capital distributions (with the exception of those that may have already received a non-objection in the previous year) without specific FRB approval. HSBC North America participates in the CCAR and DFAST programs of the FRB and submitted its latest CCAR capital plan and annual company-run DFAST results in April 2016, and its latest mid-cycle DFAST results in October 2016. HSBC Bank USA is subject to the OCC's DFAST requirements, which require certain banks to conduct annual company-run stress tests, and submitted its latest annual DFAST results in April 2016. The company-run stress tests are forward looking exercises to assess the impact of hypothetical macroeconomic baseline, adverse and severely adverse scenarios provided by the FRB and the OCC for the annual exercise, and internally developed scenarios for both the annual and mid-cycle exercises, on the financial condition and capital adequacy of a bank-holding company or bank over a nine quarter planning horizon.

On January 30, 2017, the FRB indicated that so-called "large and noncomplex" firms, which are firms with less than \$250 billion in total consolidated assets and less than \$75 billion in total nonbanking assets, are exempt from the CCAR qualitative assessment. HSBC North America does not currently fall into the category of "large and noncomplex" and will, therefore, remain subject to the qualitative review in the 2017 CCAR cycle.

Stress testing results are based solely on hypothetical adverse scenarios and should not be viewed or interpreted as forecasts of expected outcomes or capital adequacy or of the actual financial condition of HSBC North America or HSBC Bank USA. Capital planning and stress testing for HSBC North America or HSBC Bank USA may impact our future capital and liquidity. See Part I, "Regulation and Competition - Regulatory Capital and Liquidity Requirements," in this Form 10-K for further discussion on capital planning and stress testing, including additional detail regarding the FRB's supervisory assessment as part of the CCAR process.

While bank holding company regulatory capital compliance is generally performed at the HSBC North America level, and also separately for HSBC Bank USA, as a bank holding company we are required to meet minimum capital requirements imposed by the FRB. We present our capital ratios, together with HSBC Bank USA's, in Note 23, "Retained Earnings and Regulatory Capital Requirements," in the accompanying consolidated financial statements.

**HSBC USA Inc.** HSBC USA is a wholly-owned subsidiary of HSBC North America, which is an indirect wholly-owned subsidiary of HSBC, and the parent company of HSBC Bank USA and other subsidiaries through which we offer consumer and commercial banking products and related financial services including derivatives, liquidity and cash management, trade finance and investment solutions. Our main source of funds is cash received from financing activities, primarily through debt issuance to third parties and affiliates. In addition, we receive cash from affiliates by issuing preferred stock, from subsidiaries in the form of dividends and from our parent by receiving capital contributions when necessary.

HSBC USA received cash dividends from its subsidiaries of \$153 million and \$105 million in 2016 and 2015, respectively. During 2016, HSBC USA did not receive any cash capital contributions from its parent, HSBC North America. During 2015, HSBC USA received a cash capital contribution of \$4,000 million from our then parent HNAI as discussed above.

HSBC USA has a number of obligations to meet with its available cash. It must be able to service its debt and meet the capital needs of its subsidiaries. It also must pay dividends on its preferred stock and may pay dividends on its common stock. HSBC USA paid dividends on its preferred stock totaling \$67 million and \$65 million in 2016 and 2015, respectively. HSBC USA did not pay any dividends on its common stock during either 2016 or 2015. We may pay dividends in the future, but will maintain our capital at levels consistent with our regulatory requirements, risk appetite and internal capital adequacy process.

At various times, we will make capital contributions to our subsidiaries to comply with regulatory guidance, support receivable growth, maintain acceptable investment grade ratings at the subsidiary level, or provide funding for long-term facilities and technology improvements. During 2016, HSBC USA did not make any capital contributions its subsidiary, HSBC Bank USA. During 2015, HSBC USA made cash capital contributions totaling \$4,900 million to HSBC Bank USA as discussed above.

In 2016, HSBC Bank USA had the ability to pay dividends under bank regulatory guidelines, as cumulative net profits for 2014 through 2016 exceed dividends attributable to this period. Any non-contractual dividend from HSBC Bank USA would require the approval of the OCC. See Note 23, "Retained Earnings and Regulatory Capital Requirements," in the accompanying consolidated

financial statements for further details. In determining the extent of dividends to pay, HSBC Bank USA must also consider the effect of dividend payments on applicable risk-based capital and leverage ratio requirements, as well as policy statements of federal regulatory agencies that indicate banking organizations should generally pay dividends out of current operating earnings.

**Subsidiaries** At December 31, 2016, we had one major subsidiary, HSBC Bank USA. We manage substantially all of our operations through HSBC Bank USA, which contributes to the funding of our businesses primarily through receiving deposits from customers; the collection of receivable balances; issuing short-term, medium-term and long-term debt and selling residential mortgage loans. The vast majority of our domestic medium-term notes and long-term debt is marketed through subsidiaries of HSBC. Intermediate and long-term debt may also be marketed through unaffiliated investment banks.

**2017 Funding Strategy** Our current estimate for funding needs and sources for 2017 are summarized in the following table:

	(in billions)
<b>Funding needs:</b>	
Net loan growth.....	\$ 2
Net change in short-term investments and securities.....	(11)
Trading and other assets.....	4
Total funding needs.....	<u>\$ (5)</u>
<b>Funding sources:</b>	
Net change in deposits.....	\$ (6)
Trading and other short-term liabilities.....	2
Net change in long-term debt.....	(1)
Total funding sources.....	<u>\$ (5)</u>

The above table reflects a long-term funding strategy. Daily balances fluctuate as we accommodate customer needs, while ensuring that we have liquidity in place to support the balance sheet maturity funding profile. Should market conditions deteriorate, we have contingency plans to generate additional liquidity through the sales of assets or financing transactions. We remain confident in our ability to access the market for long-term debt funding needs in the current market environment. We continue to seek well-priced and stable customer deposits. We will continue to sell a portion of new mortgage loan originations to PHH Mortgage.

HSBC Finance relies on its affiliates, including HSBC USA, to satisfy its funding needs which are not met by cash generated from its loan sales and operations. In December 2016, HSBC Finance prepaid \$512 million that was outstanding under our credit agreement with them. See Note 21, "Related Party Transactions," in the accompanying consolidated financial statements for information regarding the remaining balances outstanding.

HSBC Bank USA is subject to significant restrictions imposed by federal law on extensions of credit to, and certain other "covered transactions" with HSBC USA and other affiliates. Covered transactions include loans and other extensions of credit, investments and asset purchases, and certain other transactions involving the transfer of value from a subsidiary bank to an affiliate or for the benefit of an affiliate. A bank's credit exposure to an affiliate as a result of a derivative, securities lending/borrowing or repurchase transaction is also subject to these restrictions. A bank's transactions with its non-bank affiliates are also required to be on arm's length terms. Certain Edge Act subsidiaries of HSBC Bank USA are limited in the amount of funds they can provide to other affiliates including their parent. Amounts above their level of invested capital have to be secured with U.S. government securities.

For further discussion relating to our sources of liquidity and contingency funding plan, see the caption "Risk Management" in this MD&A.

**Capital Expenditures** We made capital expenditures of \$32 million and \$43 million during 2016 and 2015, respectively. In addition to these amounts, during 2016 and 2015, we capitalized \$65 million and \$71 million, respectively, relating to the building of several new banking platforms as part of an initiative to improve and modernize our legacy business systems and build common platforms across HSBC.

**Commitments** See "Off-Balance Sheet Arrangements, Credit Derivatives and Other Contractual Obligations" in this MD&A for further information on our various commitments.

**Contractual Cash Obligations** The following table summarizes our long-term contractual cash obligations at December 31, 2016 by period due.

	2017	2018	2019	2020	2021	Thereafter	Total
	(in millions)						
Subordinated long-term debt <sup>(1)</sup> .....	\$ 497	\$ 79	\$ —	\$ 2,001	\$ 206	\$ 3,773	\$ 6,556
Other long-term debt <sup>(1)</sup> .....	4,373	9,357	4,569	4,352	3,242	5,290	31,183
Other postretirement benefit obligations <sup>(2)</sup> .....	5	5	5	5	5	20	45
Minimum future rental commitments on operating leases <sup>(3)</sup> .....	129	119	102	64	41	118	573
Purchase obligations <sup>(4)</sup> .....	76	45	24	25	11	—	181
Total .....	<u>\$ 5,080</u>	<u>\$ 9,605</u>	<u>\$ 4,700</u>	<u>\$ 6,447</u>	<u>\$ 3,505</u>	<u>\$ 9,201</u>	<u>\$ 38,538</u>

<sup>(1)</sup> Represents future principal payments related to debt instruments included in Note 13, "Long-Term Debt," in the accompanying consolidated financial statements.

<sup>(2)</sup> Represents estimated future employee benefits expected to be paid over the next ten years based on assumptions used to measure our benefit obligation at December 31, 2016. See Note 20, "Pension and Other Postretirement Benefits," in the accompanying consolidated financial statements.

<sup>(3)</sup> Represents expected minimum lease payments, net of minimum sublease income under noncancellable operating leases for premises and equipment included in Note 25, "Guarantees Arrangements, Pledged Assets and Repurchase Agreements" in the accompanying consolidated financial statements.

<sup>(4)</sup> Represents binding agreements for mortgage origination and servicing, credit card servicing, lockbox services, advertising and other services.

These cash obligations could be funded primarily through cash collections on loans and from the issuance of new unsecured debt or receipt of deposits.

The pension obligation for our employees are the contractual obligation of HSBC North America and, therefore, are excluded from the table above.

### Off-Balance Sheet Arrangements, Credit Derivatives and Other Contractual Obligations

As part of our normal operations, we enter into credit derivatives and various off-balance sheet arrangements with affiliates and third parties. These arrangements arise principally in connection with our lending and client intermediation activities and involve primarily extensions of credit and, in certain cases, guarantees.

As a financial services provider, we routinely extend credit through loan commitments and lines and letters of credit and provide financial guarantees, including derivative transactions having characteristics of a guarantee. The contractual amounts of these financial instruments represent our maximum possible credit exposure in the event that a counterparty draws down the full commitment amount or we are required to fulfill our maximum obligation under a guarantee.

The following table provides maturity information related to our credit derivatives and off-balance sheet arrangements. Many of these commitments and guarantees expire unused or without default. As a result, we believe that the contractual amount is not representative of the actual future credit exposure or funding requirements.

	2017	2018	2019	2020	2021	Thereafter	Balance at December 31,	
							2016	2015
	(in millions)							
Standby letters of credit, net of participations <sup>(1)</sup> .....	\$ 6,300	\$ 878	\$ 401	\$ 425	\$ 311	\$ 77	\$ 8,392	\$ 8,850
Commercial letters of credit .....	189	53	—	—	—	—	242	413
Credit derivatives <sup>(2)</sup> .....	23,098	6,905	9,527	8,606	8,668	1,525	58,329	91,435
Other commitments to extend credit:								
Commercial <sup>(3)</sup> .....	16,053	7,496	13,972	16,108	19,576	1,627	74,832	85,551
Consumer .....	7,270	—	—	—	—	—	7,270	7,625
Total .....	<u>\$ 52,910</u>	<u>\$ 15,332</u>	<u>\$ 23,900</u>	<u>\$ 25,139</u>	<u>\$ 28,555</u>	<u>\$ 3,229</u>	<u>\$ 149,065</u>	<u>\$ 193,874</u>

<sup>(1)</sup> Includes \$1,315 million and \$910 million issued for the benefit of HSBC affiliates at December 31, 2016 and 2015, respectively.

<sup>(2)</sup> Includes \$29,999 million and \$44,130 million issued for the benefit of HSBC affiliates at December 31, 2016 and 2015, respectively.

<sup>(3)</sup> Includes \$500 million and \$4,999 million issued for the benefit of HSBC affiliates at December 31, 2016 and 2015, respectively.

**Letters of Credit** A letter of credit may be issued for the benefit of a customer, authorizing a third party to draw on the letter for specified amounts under certain terms and conditions. The issuance of a letter of credit is subject to our credit approval process and collateral requirements. We issue commercial and standby letters of credit.

- A commercial letter of credit is drawn down on the occurrence of an expected underlying transaction, such as the delivery of goods. Upon the occurrence of the transaction, the amount drawn under the commercial letter of credit is recorded as a receivable from the customer in other assets and as a liability to the vendor in other liabilities until settled.
- A standby letter of credit is issued to third parties for the benefit of a customer and is essentially a guarantee that the customer will perform, or satisfy some obligation, under a contract. It irrevocably obligates us to pay a third party beneficiary when a customer either: (1) in the case of a performance standby letter of credit, fails to perform some contractual non-financial obligation, or (2) in the case of a financial standby letter of credit, fails to repay an outstanding loan or debt instrument.

Fees are charged for issuing letters of credit commensurate with the customer's credit evaluation and the nature of any collateral. Included in other liabilities are deferred fees on standby letters of credit amounting to \$49 million and \$54 million at December 31, 2016 and 2015, respectively. Fees are recognized ratably over the term of the standby letter of credit. Also included in other liabilities is a credit loss reserve on unfunded standby letters of credit of \$39 million and \$19 million at December 31, 2016 and 2015, respectively. See Note 25, "Guarantee Arrangements, Pledged Assets and Repurchase Agreements," in the accompanying consolidated financial statements for further discussion on off-balance sheet guarantee arrangements.

**Credit Derivatives** Credit derivative contracts are entered into both for our own benefit and to satisfy the needs of our customers. Credit derivatives are arrangements where one party (the "beneficiary") transfers the credit risk of a reference asset to another party (the "guarantor"). Under this arrangement the guarantor assumes the credit risk associated with the reference asset without directly owning it. The beneficiary agrees to pay to the guarantor a specified fee. In return, the guarantor agrees to reimburse the beneficiary an agreed amount if there is a default to the reference asset during the term of the contract.

We offset most of the market risk by entering into a buy protection credit derivative contract with another counterparty. Credit derivatives, although having characteristics of a guarantee, are accounted for as derivative instruments and are carried at fair value. The commitment amount included in the table above is the maximum amount that we could be required to pay, without consideration of the approximately equal amount receivable from third parties and any associated collateral. See Note 25, "Guarantee Arrangements, Pledged Assets and Repurchase Agreements," in the accompanying consolidated financial statements for further discussion on off-balance sheet guarantee arrangements.

**Other Commitments to Extend Credit** Other commitments to extend credit include arrangements whereby we are contractually obligated to extend credit in the form of loans, participations in loans, lease financing receivables, or similar transactions. Consumer commitments are comprised of certain unused MasterCard/Visa credit card lines, where we have the right to change terms or conditions upon notification to the customer, and commitments to extend credit secured by residential properties, where we have the right to change terms or conditions, for cause, upon notification to the customer. Commercial commitments comprise primarily those related to secured and unsecured loans and lines of credit and certain asset purchase commitments.

In connection with our commercial lending activities, prior to the third quarter of 2016, we provided liquidity support to Regency Assets Limited ("Regency"), a multi-seller asset-backed commercial paper ("ABCP") conduit consolidated by an HSBC affiliate. The liquidity support we provided to Regency was in the form of lines of credit or asset purchase agreements. Under the terms of these liquidity agreements, Regency could have called upon us to lend money or to purchase certain assets in the event Regency was unable or unwilling to issue or rollover maturing commercial paper. At December 31, 2015, we had issued \$3,362 million of liquidity facilities to provide liquidity support to Regency. We received fees for providing these liquidity facilities. Credit risk on these obligations was managed by subjecting them to our normal underwriting and risk management processes. During the third quarter of 2016, Regency was restructured and these liquidity facilities were terminated. See Note 24, "Variable Interest Entities," in the accompanying consolidated financial statements for additional discussion.

We also previously provided credit facilities to certain Canadian multi-seller ABCP conduits that had been subject to restructuring agreements as part of the Montreal Accord. As part of the enhanced collateral pool established for the restructuring, we provided a Margin Funding Facility to a Master Asset Vehicle which was undrawn. The undrawn facility totaled CAD \$77 million at December 31, 2015. In October 2016, this facility was terminated.

In addition to the above, we have established and manage a number of constant net asset value ("CNAV") money market funds that invest in shorter-dated highly-rated money market securities to provide investors with a highly liquid and secure investment. These funds price the assets in their portfolio on an amortized cost basis, which enables them to create and liquidate shares at a constant price. The funds, however, are not permitted to price their portfolios at amortized cost if that amount varies by more than 50 basis points from the portfolio's market value. In that case, the fund would be required to price its portfolio at market value and

consequently would no longer be able to create or liquidate shares at a constant price. We do not consolidate the CNAV funds because we do not absorb the majority of the expected future risk associated with the fund's assets, including interest rate, liquidity, credit and other relevant risks that are expected to affect the value of the assets.

## Fair Value

Fair value measurement accounting principles require a reporting entity to take into consideration its own credit risk in determining the fair value of financial liabilities. The incorporation of our own credit risk accounted for an increase of \$36 million in the fair value of financial liabilities during 2016, compared with a decrease of \$214 million during 2015.

Net income volatility arising from changes in either interest rate or credit components of the mark-to-market on debt designated at fair value and related derivatives affects the comparability of reported results between periods. Accordingly, the gain (loss) on debt designated at fair value and related derivatives during 2016 should not be considered indicative of the results for any future period.

**Control Over Valuation Process and Procedures** We have established a control framework which is designed to ensure that fair values are either determined or validated by a function independent of the risk-taker. See Note 26, "Fair Value Measurements," in the accompanying consolidated financial statements for further details on our valuation control framework.

**Fair Value Hierarchy** Fair value measurement accounting principles establish a fair value hierarchy structure that prioritizes the inputs to determine the fair value of an asset or liability (the "Fair Value Framework"). The Fair Value Framework distinguishes between inputs that are based on observed market data and unobservable inputs that reflect market participants' assumptions. It emphasizes the use of valuation methodologies that maximize observable market inputs. For financial instruments carried at fair value, the best evidence of fair value is a quoted price in an actively traded market (Level 1). Where the market for a financial instrument is not active, valuation techniques are used. The majority of our valuation techniques use market inputs that are either observable or indirectly derived from and corroborated by observable market data for substantially the full term of the financial instrument (Level 2). Because Level 1 and Level 2 instruments are determined by observable inputs, less judgment is applied in determining their fair values. In the absence of observable market inputs, the financial instrument is valued based on valuation techniques that feature one or more significant unobservable inputs (Level 3). The determination of the level of fair value hierarchy within which the fair value measurement of an asset or a liability is classified often requires judgment and may change over time as market conditions evolve. We consider the following factors in developing the fair value hierarchy:

- whether the asset or liability is transacted in an active market with a quoted market price;
- the level of bid-ask spreads;
- a lack of pricing transparency due to, among other things, complexity of the product and market liquidity;
- whether only a few transactions are observed over a significant period of time;
- whether the pricing quotations differ substantially among independent pricing services;
- whether inputs to the valuation techniques can be derived from or corroborated with market data; and
- whether significant adjustments are made to the observed pricing information or model output to determine the fair value.

Level 1 inputs are unadjusted quoted prices in active markets that the reporting entity has the ability to access for identical assets or liabilities. A financial instrument is classified as a Level 1 measurement if it is listed on an exchange or is an instrument actively traded in the OTC market where transactions occur with sufficient frequency and volume. We regard financial instruments such as equity securities and derivative contracts listed on the primary exchanges of a country to be actively traded. Non-exchange-traded instruments classified as Level 1 assets include securities issued by the U.S. Treasury, to-be-announced securities and non-callable securities issued by U.S. GSEs.

Level 2 inputs are those that are observable either directly or indirectly but do not qualify as Level 1 inputs. We classify mortgage pass-through securities, agency and certain non-agency mortgage collateralized obligations, certain derivative contracts, asset-backed securities, obligations of U.S. states and political subdivisions, corporate debt, foreign government-backed debt, preferred securities, securities purchased and sold under resale and repurchase agreements, precious metals, certain commercial loans held for sale, residential mortgage loans whose carrying amount was reduced based on the fair value of the underlying collateral and real estate owned as Level 2 measurements. Where possible, at least two quotations from independent sources are obtained based on transactions involving comparable assets and liabilities to validate the fair value of these instruments. We have established a process to understand the methodologies and inputs used by the third party pricing services to ensure that pricing information met the fair value objective. Where significant differences arise among the independent pricing quotes and the internally determined fair value, we investigate and reconcile the differences. If the investigation results in a significant adjustment to the fair value, the

instrument will be classified as Level 3 within the fair value hierarchy. In general, we have observed that there is a correlation between the credit standing and the market liquidity of a non-derivative instrument.

Level 2 derivative instruments are generally valued based on discounted future cash flows or an option pricing model adjusted for counterparty credit risk and market liquidity. The fair value of certain structured derivative products is determined using valuation techniques based on inputs derived from observable benchmark index tranches traded in the OTC market. Appropriate control processes and procedures have been applied to ensure that the derived inputs are applied to value only those instruments that share similar risks to the relevant benchmark indices and therefore demonstrate a similar response to market factors. In addition, a validation process has been established, which includes participation in peer group consensus pricing surveys, to ensure that valuation inputs incorporate market participants' risk expectations and risk premium.

Level 3 inputs are unobservable estimates that management expects market participants would use to determine the fair value of the asset or liability. That is, Level 3 inputs incorporate market participants' assumptions about risk and the risk premium required by market participants in order to bear that risk. We develop Level 3 inputs based on the best information available in the circumstances. At December 31, 2016 and 2015, our Level 3 instruments included the following: collateralized debt obligations ("CDOs") for which there is a lack of pricing transparency due to market illiquidity, certain structured deposits and structured notes for which the embedded credit, foreign exchange or equity derivatives have significant unobservable inputs (e.g., volatility or default correlations), asset-backed CDS with certain inputs which are unobservable, certain residential mortgage and subprime mortgage loans held for sale, certain corporate debt securities, certain asset-backed securities, impaired commercial loans, derivatives referenced to illiquid assets of less desirable credit quality and, at December 31, 2015, mortgage servicing rights. At December 31, 2016, our Level 3 instruments also included swap agreements entered into in conjunction with the sale of certain Visa Class B Shares to a third party for which the fair value is dependent upon the final resolution of the related litigation. See Note 25, "Guarantee Arrangements, Pledged Assets and Repurchase Agreements," in the accompanying consolidated financial statements for additional information.

See Note 26, "Fair Value Measurements," in the accompanying consolidated financial statements for additional information on Level 3 inputs as well as a discussion of transfers between Level 1 and Level 2 measurements during 2016 and 2015.

**Level 3 Measurements** The following table provides information about Level 3 assets/liabilities in relation to total assets/liabilities measured at fair value at December 31, 2016 and 2015:

	December 31, 2016	December 31, 2015
	(dollars are in millions)	
Level 3 assets <sup>(1)(2)</sup> .....	\$ 4,611	\$ 3,696
Total assets measured at fair value <sup>(3)</sup> .....	113,299	114,396
Level 3 liabilities .....	2,114	2,862
Total liabilities measured at fair value <sup>(1)</sup> .....	81,176	83,148
Level 3 assets as a percent of total assets measured at fair value .....	4.1%	3.2%
Level 3 liabilities as a percent of total liabilities measured at fair value .....	2.6%	3.4%

<sup>(1)</sup> Presented without netting which allows the offsetting of amounts relating to certain contracts if certain conditions are met.

<sup>(2)</sup> Includes \$3,564 million of recurring Level 3 assets and \$1,047 million of non-recurring Level 3 assets at December 31, 2016. Includes \$3,577 million of recurring Level 3 assets and \$119 million of non-recurring Level 3 assets at December 31, 2015.

<sup>(3)</sup> Includes \$112,104 million of assets measured on a recurring basis and \$1,195 million of assets measured on a non-recurring basis at December 31, 2016. Includes \$114,065 million of assets measured on a recurring basis and \$331 million of assets measured on a non-recurring basis at December 31, 2015.

**Significant Changes in Fair Value for Level 3 Assets and Liabilities** We have entered into credit default swaps with monoline insurers to hedge our credit exposure in certain asset-backed securities and synthetic CDOs. We made \$28 million positive credit risk adjustments to the fair value of our credit default swap contracts during 2016 compared with positive adjustments of \$3 million during 2015. These adjustments to fair value are recorded in trading revenue in the consolidated statement of income. We have recorded a cumulative credit adjustment reserve of \$22 million and \$50 million against our monoline exposure at December 31, 2016 and 2015, respectively. The fair value of our monoline exposure net of cumulative credit adjustment reserves equaled \$159 million and \$173 million at December 31, 2016 and 2015, respectively.

See Note 26, "Fair Value Measurements," in the accompanying consolidated financial statements for information on additions to and transfers into (out of) Level 3 measurements during 2016 and 2015 as well as for further details including the classification hierarchy associated with assets and liabilities measured at fair value.

**Effect of Changes in Significant Unobservable Inputs** The fair value of certain financial instruments is measured using valuation techniques that incorporate pricing assumptions not supported by, derived from or corroborated by observable market data. The

resultant fair value measurements are dependent on unobservable input parameters which can be selected from a range of estimates and may be interdependent. Changes in one or more of the significant unobservable input parameters may change the fair value measurements of these financial instruments. For the purpose of preparing the financial statements, the final valuation inputs selected are based on management's best judgment that reflect the assumptions market participants would use in pricing similar assets or liabilities.

The unobservable input parameters selected are subject to the internal valuation control processes and procedures. When we perform a test of all the significant input parameters to the extreme values within the range at the same time, it could result in an increase of the overall fair value measurement of approximately \$61 million or a decrease of the overall fair value measurement of approximately \$9 million at December 31, 2016. The effect of changes in significant unobservable input parameters are primarily driven by the uncertainty in determining the fair value of credit derivatives executed against certain insurers as well as credit default swaps with certain monoline insurers and certain asset-backed securities including CDOs.

**Assets Underlying Asset-backed Securities** The following tables summarize the types of assets underlying our asset-backed securities as well as certain collateralized debt obligations held at December 31, 2016:

		Total
		(in millions)
Rating of securities: <sup>(1)</sup>	Collateral type:	
AAA.....	Residential mortgages - Alt A.....	\$ 44
	Residential mortgages - Subprime.....	1
	Total AAA.....	<u>45</u>
AA.....	Other.....	<u>47</u>
A.....	Residential mortgages - Alt A.....	3
	Residential mortgages - Subprime.....	37
	Home equity - Alt A.....	61
	Student loans.....	85
	Other.....	58
	Total A.....	<u>244</u>
BBB.....	Residential mortgages - Alt A.....	2
	Collateralized debt obligations.....	184
	Total BBB.....	<u>186</u>
CCC.....	Residential mortgages - Subprime.....	14
		<u>\$ 536</u>

<sup>(1)</sup> We utilize S&P as the primary source of credit ratings in the tables above. If S&P ratings are not available, ratings by Moody's and Fitch are used, in that order. Ratings for collateralized debt obligations represent the ratings associated with the underlying collateral.

## Risk Management

**Overview** Managing risk effectively is fundamental to the delivery of our strategic priorities. To do so, we employ a risk management framework at all levels and across all risk types. This framework fosters the continuous monitoring of the risk environment and an integrated evaluation of risks and their interactions. It is designed to ensure that we have a robust and consistent approach to risk management across all of our activities. While we are subject to a number of legal and regulatory actions and investigations, our risk management framework has been designed to provide robust controls and ongoing monitoring of our principal risks. We strive to continuously improve our risk management processes through ongoing employee training and development.

Our risk management framework is underpinned by a strong risk culture and reinforced by our values and standards. These are instrumental in aligning the behaviors of individuals with our attitude to assuming and managing risk and ensuring that our risk profile remains in line with our risk appetite. Robust risk governance and accountability are embedded throughout our business through an established framework that ensures appropriate oversight of and accountability for the effective management of risk.

Our Board of Directors and its committees, principally the Audit, Risk and Compliance Committees, has oversight responsibility for the effective management of risk and approves our risk appetite. The Risk Committee advises the Board of Directors on risk appetite and its alignment with our strategy, risk governance and internal controls as well as high-level risk related matters.

Management is accountable for the ongoing monitoring, assessment and management of the risk environment and the effectiveness of our risk management policies resides with our Risk Management Meeting of the HSBC USA Executive Committee ("RMM"). The HSBC USA Executive Committee is the senior most management committee at HSBC USA and the RMM is its meeting to discuss risk matters. Day-to-day risk management activities are the responsibility of senior managers of individual businesses, supported by HSBC global functions. We use the Three Lines of Defense ("LoD") model to underpin our approach to strong risk management. It defines who is responsible to do what to identify, assess, measure, manage, monitor, and mitigate risks, encouraging collaboration and enabling efficient coordination of risk and control activities. The principle of individual accountability is exercised across the organization and is fundamental to risk ownership and risk management. Decisions are not taken by committees, but by specific individuals, in accordance with the Three LoD model, to promote clear accountability. The Board and its sub-committees remain collective decision-making bodies. All employees are required to identify, assess and manage risk within the scope of their assigned responsibilities and, as such, they are critical to the effectiveness of the Three LoD model.

Our Risk Management function is headed by the HSBC North America Chief Risk Officer ("CRO"), who is responsible for the risk management framework. This includes establishing policies, monitoring of risk profiles and forward-looking risk identification and management. The HSBC North America CRO reports to the HSBC North America Chief Executive Officer ("CEO"), to the HSBC North America Board Risk Committee and to the HSBC Group CRO. Executive accountability for the ongoing monitoring, assessment and management of the risk environment and the effectiveness of risk management policies resides with the HSBC North America CRO, supported by the RMM.

Specific oversight of various risk management processes occurs through the following HUSI, HSBC North America or Risk Committees:

- the Asset and Liability Management Committee ("ALCO");
- the Operational Risk Committee;
- the HSBC North America Third Party Risk Oversight Committee;
- the HSBC North America Capital Management Committee;
- the Regulatory Compliance Governance Committee;
- the Financial Crime Compliance ("FCC") Governance Committee;
- the Reputational Risk and Client Selection Committees;
- Lines of business risk management meetings;
- the Fiduciary Risk Management Committee; and
- the Affiliates Risk Forum.

Each of these committees, as well as the RMM, have separate charters which detail their respective roles and responsibilities as it relates to risk oversight.

Additionally, the HSBC North America Head of FCC serves as the designated Anti-Money Laundering Director and Bank Secrecy Act Compliance Officer for HUSI.

ALCO provides oversight of all liquidity, interest rate and market risk and is chaired by the HUSI Chief Financial Officer. Subject to the approval of our Board of Directors and HSBC Group, ALCO sets the limits of acceptable risk, monitors the adequacy of the tools used to measure risk and assesses the adequacy of reporting. In managing these risks, we seek to protect both our income stream and the value of our assets. ALCO also conducts contingency planning with regard to liquidity.

Maintaining a conservative risk profile is a core part of our philosophy. This encompasses: maintaining a strong capital position, defined by regulatory and internal capital ratios; having effective liquidity and funding management; generating returns that are in line with risk taken; maintaining a sustainable and diversified earnings mix, delivering consistent returns. Additionally, we have zero tolerance for the following:

- knowingly engaging in any business, activity or association where foreseeable reputational risk or damage has not been considered and/or mitigated;
- operating without the appropriate systems and controls in place to prevent and detect financial crime and no appetite to conduct business with individuals or entities we believe are engaged in illicit behavior;
- deliberately or knowingly causing detriment to consumers arising from our products, services or operations or incurring a breach of the letter or spirit of regulatory requirements; and
- inappropriate market conduct by a member of our staff or by any of our lines of business.

HSBC North America oversees the development of our risk appetite which defines, shapes and monitors our risk profile. The HSBC North America Risk Appetite Statement ("RAS") describes the aggregate level and types of risk that we are willing to accept in order to achieve our strategic business objectives. HSBC North America's conservative risk profile is fully articulated in the qualitative section of the RAS, which serves as guidance to embed risk appetite and supports strategic and operational decision

making at HUSI. The quantitative section of the RAS contains a set of key metrics covering income generating risks that we accept as part of doing business, such as credit risk, and non-income generating risks, those which arise by virtue of our operations, such as operational risk.

Performance against the RAS metrics is monitored by senior management on a monthly basis. All breaches of risk appetite thresholds are escalated and actions to remediate the breaches are documented. This process helps to embed a strong risk culture across our businesses.

The principal risks associated with our operations include the following:

- *Credit risk* is the potential that a borrower or counterparty will default on a credit obligation, as well as the impact on the value of credit instruments due to changes in the probability of borrower default. Credit risk includes risk associated with cross-border exposures;
- *Liquidity risk* is the potential that an institution will be unable to meet its obligations as they become due or fund its customers because of inadequate cash flow or the inability to liquidate assets or obtain funding itself;
- *Interest rate risk* is the potential reduction of net interest income due to mismatched pricing between assets and liabilities as well as losses in value due to interest rate movements;
- *Market risk* is the risk that movements in market factors, such as foreign exchange rates, interest rates, credit spreads, equity prices and commodity prices, will reduce our income or the value of our portfolios;
- *Operational risk* is the risk of loss resulting from inadequate or failed internal processes, people, or systems, or from external events (including legal risk);
- *Compliance risk* is the risk that we fail to observe the letter and spirit of all relevant laws, codes, rules, regulations and standards of good market practice causing us to incur fines, penalties and damage to our business and reputation;
- *Fiduciary risk* is the risk of breaching fiduciary duties where we act in a fiduciary capacity as trustee, investment manager or as mandated by law or regulation;
- *Reputational risk* is the risk arising from failure to meet stakeholder expectations as a result of any event, behavior, action or inaction, either by us, our employees, the HSBC Group or those with whom it is associated, that may cause stakeholders to form a negative view of us. This might also result in financial or non-financial impacts, loss of confidence or other consequences;
- *Strategic risk* is the risk that the business will fail to identify, execute, and react appropriately to opportunities and/or threats arising from changes in the market, some of which may emerge over a number of years such as changing economic and political circumstances, customer requirements, demographic trends, regulatory developments or competitor action;
- *Security and Fraud risk* is the risk to the business from terrorism, crime, fraud, information security, incidents/disasters, cyber-attacks and groups hostile to HSBC interests;
- *Model risk* is the potential for adverse consequences from decisions based on incorrect or misused model outputs and reports. This occurs primarily for two reasons: 1) the model may produce inaccurate outputs when compared with the intended business use and design objective; and 2) the model could be used incorrectly;
- *Pension risk* is the risk of increased costs from the post-employment benefit plans that we have established for our employees; and
- *Sustainability risk* is the risk that financial services provided to customers indirectly result in unacceptable impacts on people or on the environment.

The following risk tools and processes are used to identify, manage and mitigate risks and are integral to risk management, ensuring that we remain within our risk appetite:

- The risk appetite profile is one of the key tools in the wider enterprise risk management framework, which drives the core of our active risk management. The risk appetite profile is aligned to strategic and financial planning and therefore provides a top down view of risk and return objectives. Performance that falls outside of risk appetite is highlighted and appropriate mitigation actions are determined.
- We utilize a risk map to provide a point-in-time view of our risk profile across a range of risk categories, including our principal banking risks. It assesses the potential of these risks to have a material impact on our financial results, reputation or sustainability of our business on a current and projected basis.
- We use a top and emerging risks process to provide a forward-looking view of issues with the potential to threaten the execution of our strategy or operations over the medium to long term. The top and emerging risks framework enables us to take action which either stops these risks from materializing or limits their impact.
- Risk identification is a tool that allows us to create a holistic view of risks facing the organization, including those that are difficult to quantify. Risk identification is a foundational component of our stress testing program.

- Stress testing is an important tool we use to assess potential vulnerabilities in our businesses, business model, or portfolios. It allows us to understand the sensitivities of the core assumptions in our strategic and capital plans and improve decision making through balancing risk and return. Internal stress test scenarios are closely aligned to our assessment of top and emerging risks and help inform risk appetite thresholds. These may prompt management actions, including a reduction in limits or direct exposures, or closer monitoring of exposures sensitive to stress.
- In the course of our regular risk management activities, we use simulation models to help quantify the risk we are taking. The output from some of these models is included in this section of our filing. By their nature, models are based on various assumptions and relationships. We believe that the assumptions used in these models are reasonable, but events may unfold differently than what is assumed in the models. In actual stressed market conditions, these assumptions and relationships may no longer hold, causing actual experience to differ significantly from the results predicted in the model. Consequently, model results may be considered reasonable estimates, with the understanding that actual results may differ significantly from model projections.

**Credit Risk Management** Credit risk is the potential that a borrower or counterparty will default on a credit obligation, as well as the impact on the value of credit instruments due to changes in the probability of borrower default. Credit risk includes risk associated with cross-border exposures.

Credit risk is inherent in various on- and off-balance sheet instruments and arrangements, such as:

- loan portfolios;
- investment portfolios;
- unfunded commitments such as letters of credit, lines of credit, and unutilized credit card lines that customers can draw upon; and
- derivative financial instruments, such as interest rate swaps which, if more valuable today than when originally contracted, may represent an exposure to the counterparty to the contract.

While credit risk exists widely in our operations, diversification among various commercial and consumer portfolios helps to lessen risk exposure. Day-to-day management of credit and market risk is performed by the Chief Credit Officer/Head of Wholesale Credit and Market Risk North America and the HSBC North America Chief Retail Credit Officer, who report directly to the HSBC North America CRO and maintain independent risk functions. The credit risk associated with commercial portfolios is managed by the Chief Credit Officer, while credit risk associated with retail consumer loan portfolios, such as credit cards, installment loans and residential mortgages, is managed by the HSBC North America Chief Retail Credit Officer. Further discussion of credit risk can be found under the "Credit Quality" caption in this MD&A.

Our credit risk management procedures are designed for all stages of economic and financial cycles, including challenging periods of market volatility and economic uncertainty. The Credit Risk function continues to refine "early warning" indicators and reporting, including stress testing scenarios on the basis of recent experience. These risk management tools are embedded within our business planning process. Action has been taken, where necessary, to improve our resilience to risks associated with the current market conditions by selectively discontinuing business lines or products, closely managing underwriting criteria and investing in improved fraud prevention technologies.

The responsibilities of the credit risk function include:

- *Formulating credit risk policies* – Our policies are designed to ensure that all of our various retail and commercial business units operate within clear standards of acceptable credit risk. Our policies ensure that the HSBC standards are consistently implemented across all businesses and that all regulatory requirements are also considered. Credit policies are reviewed and approved annually by the RMM and the Board of Directors Risk Committee.
- *Approving new credit exposures and independently assessing large exposures annually* – The Chief Credit Officer delegates limited credit authority to our various lending units. However, most large credits are reviewed and approved centrally through a dedicated Credit Approval Unit that reports directly to the Chief Credit Officer. In addition, the Chief Credit Officer coordinates the review of material credits with the HSBC Group Credit Risk which, subject to certain agreed-upon limits, will concur on material new and renewal transactions.
- *Overseeing retail credit risk* – The HSBC North America Chief Retail Credit Officer manages the credit risk associated with retail portfolios and is supported by expertise from a dedicated advanced risk analytics unit.
- *Maintaining and developing the governance and operation of the commercial risk rating system* – A two-dimensional credit risk rating system is utilized in order to categorize exposures meaningfully and enable focused management of the risks involved. This ratings system is comprised of a 23 category customer risk rating, which considers the probability of default of an obligor and a separate assessment of a transaction's potential loss given default. Each credit grade has a probability of default estimate. Rating methodologies are based upon a wide range of analytics and market data-based tools, which are core inputs to the assessment of counterparty risk. Although automated risk rating processes are

increasingly used, for larger facilities the ultimate responsibility for setting risk grades rests in each case with the final approving executive. Risk grades are reviewed frequently and amendments, where necessary, are implemented promptly.

- *Measuring portfolio credit risk* – We continue to advance the measurement of the risk in our credit portfolios using techniques such as stress testing, economic capital and correlation analysis in certain internal and Board of Directors reporting. Efforts continue to refine both the inputs and assumptions used to increase the usefulness in the evaluation of large and small commercial and retail customer portfolio products and business unit return on risk.
- *Monitoring portfolio performance* – Credit data warehouses have been implemented to centralize the reporting of credit risk, support the analysis of risk using tools such as economic capital, and to calculate credit loss reserves. This data warehouse also supports HSBC's wider effort to meet the requirements of Basel III and to generate credit reports for management and the Board of Directors.
- *Establishing counterparty and portfolio limits* – We monitor and limit our exposure to individual counterparties and to the combined exposure of related counterparties. In addition, selected industry portfolios, such as real estate, are subject to caps that are recommended by the Chief Credit Officer and reviewed where appropriate by management committees and the Board of Directors. Counterparty credit exposure related to derivative activities is also managed under approved limits. Since the exposure related to derivatives is variable and uncertain, internal risk management methodologies are used to calculate the 95 percent worst-case potential future exposure for each customer. These methodologies take into consideration, among other factors, cross-product close-out netting, collateral received from customers under Collateral Support Annexes (CSAs), termination clauses, and off-setting positions within the portfolio.
- *Managing problem commercial loans* – Special attention is paid to problem loans. When appropriate, our commercial Loan Management Unit and retail Default Services teams provide customers with intensive management and control support in order to help them avoid default wherever possible and maximize recoveries.
- *Establishing allowances for credit losses* – The Chief Credit Officer and the HSBC North America Chief Retail Credit Officer share responsibility with the Chief Financial Officer for establishing appropriate levels of allowances for credit losses inherent in various loan portfolios.

Credit Review is an independent and critical Second LoD function. Its mission is to identify and evaluate areas of credit risk within our business. Credit Review will focus on the review and evaluation of Wholesale and Retail lending activities and will identify risks and provide an ongoing assessment as to the effectiveness of the risk management framework and the related portfolios. Credit Review will independently assess the business units and risk management functions to ensure the portfolios are managed and operating in a manner that is consistent with HSBC Group strategy, risk appetite, appropriate local and HSBC Group credit policies and procedures and applicable regulatory requirements. For example, this includes the unilateral authority to independently assess and revise customer risk ratings, facility grades and loss given default estimates. To ensure its independent stature, the Credit Review charter is endorsed by the Risk Committee of our Board of Directors which grants the Head of Credit Review unhindered access to the Risk Committee and executive sessions at the discretion of the Head of Credit Review. Accordingly, our Board of Directors has oversight of the Credit Review annual and ongoing plan, quarterly plan updates and results of reviews.

**Liquidity Risk Management** Liquidity risk is the risk that an institution will be unable to meet its obligations as they become due or fund its customers because of an inability to liquidate assets or obtain adequate funding. We continuously monitor the impact of market events on our liquidity positions. Historically, we have seen the greatest strain in the wholesale market as opposed to the retail market (the latter being the market from which we source stable demand and time deposit accounts which are less sensitive to market events or changes in interest rates). We will continue to adapt the liquidity framework described below to reflect market events and the evolving regulatory landscape and view as to best practices.

Liquidity is managed to provide the ability to generate cash to meet lending, deposit withdrawal and other commitments at a reasonable cost in a reasonable amount of time while maintaining routine operations and market confidence. Market funding is coordinated with other HSBC Group entities, as the markets increasingly view debt issuances from the separate companies within the context of our common parent company. Liquidity management is performed at both HSBC USA and HSBC Bank USA. Each entity is required to have sufficient liquidity for a crisis situation.

ALCO develops and implements policies and procedures to ensure that the minimum liquidity ratios and a strong overall liquidity position are maintained. ALCO projects cash flow requirements and determines the level of liquid assets and available funding sources to have at our disposal, with consideration given to anticipated deposit and balance sheet growth, contingent liabilities, and the ability to access wholesale funding markets. In addition to base case projections, multiple stress scenarios are generated to simulate crisis conditions, including:

- run-off of non-stable deposits;
- inability to renew maturing interbank fundings;
- draw-downs of committed loan facilities;
- decreases in the market value of liquid securities;

- additional collateral requirements for derivative transactions under existing collateral support agreements;
- rating downgrades of HSBC USA or HSBC Bank USA; and
- increased discount on security values for repos or disposals.

In addition, ALCO monitors the overall mix of deposit and funding concentrations to avoid undue reliance on individual funding sources and large deposit relationships.

Prior to 2016, we employed two key measures to define, monitor and control our liquidity and funding risk in accordance with HSBC policy. The advances to core funding ratio was used to monitor our structural long-term funding position. In addition, stressed coverage ratios, incorporating HSBC-specific stress scenarios, were used to monitor the resilience to severe liquidity stresses. Beginning in 2016, HSBC replaced these measures with the Basel Committee based Liquidity Coverage Ratio ("LCR") and Net Stable Funding Ratio ("NSFR"). As a result, we now employ these ratios as part of our approach towards liquidity risk management.

The Basel Committee based LCR is designed to be a short-term liquidity measure to ensure banks have sufficient High Quality Liquid Assets ("HQLA") to cover net stressed cash outflows over the next 30 days. Under European Commission Delegated Regulation 2015/61, the Basel Committee based LCR became a minimum regulatory standard beginning in 2015. At December 31, 2016 and 2015, HSBC USA's LCR under the EU LCR rule was 142 percent and 121 percent, respectively. A LCR of 100 percent or higher reflects an unencumbered HQLA balance that is equal to or exceeds liquidity needs for a 30 calendar day liquidity stress scenario. HQLA consists of cash or assets that can be converted into cash at little or no loss of value in private markets.

The European calibration of the Basel Committee based NSFR, which is a longer term liquidity measure with a 12-month time horizon to ensure a sustainable maturity structure of assets and liabilities, is still pending. Therefore, our calculation of NSFR is based on our current interpretation and understanding of the Basel Committee final NSFR rule, which may differ in future periods depending on completion of the European calibration and further implementation guidance from regulators. At December 31, 2016, HSBC USA's NSFR was 123 percent. A NSFR of 100 percent or more reflects an available stable funding balance from liabilities and capital over the next 12 months that is equal to or exceeds the required amount of funding for assets and off-balance sheet exposures.

In 2014, the FRB, the OCC and the FDIC issued final regulations to implement the LCR in the United States, applicable to certain large banking institutions, including HSBC North America and HSBC Bank USA. The LCR final rule is generally consistent with the Basel Committee guidelines, but is more stringent in several areas including the range of assets that will qualify as HQLA and the assumed rate of outflows of certain kinds of funding. Under the final rule, U.S. institutions began the LCR transition period on January 1, 2015 and were required to maintain a minimum LCR of 100 percent by January 1, 2017, two years ahead of the Basel Committee's timeframe for compliance by January 1, 2019. As a result, HSBC North America and HSBC Bank USA, were required to maintain an LCR of 80 percent, starting on January 1, 2015 increasing annually by 10 percent increments and reaching 100 percent on January 1, 2017. The current requirement to report LCR to U.S. regulators on a monthly basis moved to a daily requirement beginning July 1, 2016. During the second half of 2016, HSBC Bank USA's LCR under the U.S. LCR final rule remained above the fully phased-in 2017 requirement. The LCR final rule does not address the NSFR requirement, which is currently in an international observation period. Based on the results of the observation period, the Basel Committee and U.S. banking regulators may make further changes to the NSFR. In April 2016, U.S. regulators issued for public comment a proposal to implement the NSFR in the United States, applicable to certain large banking organizations, including HSBC North America and HSBC Bank USA. The NSFR proposal is generally consistent with the Basel Committee guidelines, but similar to the U.S. LCR final rule, is more stringent in several areas including the required stable funding factors applied to certain assets such as mortgage-backed securities. Under the proposal, U.S. institutions would be required to comply with the NSFR rule by January 1, 2018, consistent with the scheduled global implementation of the Basel Committee based NSFR. As of December 31, 2016, HSBC Bank USA's estimated NSFR, calculated based on our current interpretation and understanding of the proposed U.S. NSFR rule, exceeded the 2018 requirement.

Enhanced prudential standard rules issued pursuant to Section 165 of the Dodd-Frank Act complement the LCR, capital planning, resolution planning, and stress testing requirements for U.S. bank holding companies and foreign banking organizations with total global consolidated assets of \$50 billion or more ("Covered Companies"). The rules require Covered Companies, such as HSBC North America, to comply with various liquidity risk management standards and to maintain a liquidity buffer of unencumbered highly liquid assets based on the results of internal liquidity stress testing. Covered Companies are also required to meet heightened liquidity requirements, which include qualitative liquidity standards, cash flow projections, internal liquidity stress tests, and liquidity buffer requirements. HSBC North America has implemented the standard and it does not have a significant impact to our business model. As of July 1, 2016, HSBC North America is treated as an IHC owned by a foreign banking organization. This transition did not have a significant impact on our U.S. operations or change our liquidity management policies.

HSBC North America and HSBC Bank USA have adjusted their liquidity profiles to support compliance with these rules. HSBC North America and HSBC Bank USA may need to make further changes to their liquidity profiles to support compliance with any future final rules.

ALCO also maintains a liquidity management and contingency funding plan ("Contingency Funding Plan"), which identifies certain potential early indicators of liquidity problems, and actions that can be taken both initially and in the event of a liquidity crisis, to minimize the long-term impact on our businesses and customer relationships. The Contingency Funding Plan is reviewed annually and approved by the Risk Committee of our Board of Directors. We recognize a liquidity crisis can either be specific to us, relating to our ability to meet our obligations in a timely manner, or market-wide, caused by a macro risk event in the broader financial system. A range of indicators are monitored to attain an early warning of any liquidity issues. These include widening of key spreads or indices used to track market volatility, material reductions or extreme volatility in customer deposit balances, increased utilization of credit lines, widening of our credit spreads and higher borrowing costs. In the event of a cash flow crisis, our objective is to fund cash requirements without access to the wholesale unsecured funding market for at least one year. Contingency funding needs will be satisfied primarily through sales of securities from the investment portfolio and secured borrowing using the mortgage portfolio as collateral. Securities may be sold or used as collateral in a repurchase agreement depending on the scenario. Portions of the mortgage portfolio may be used as collateral at the FHLB to increase borrowings. We maintain a Liquid Asset Buffer consisting of cash, short-term liquid assets and unencumbered government and other highly rated investment securities as a source of funding. Further, collateral is maintained at the Federal Reserve Bank discount window and the FHLB, providing additional secured borrowing capacity in a liquidity crisis.

In addition to the oversight provided by ALCO, Liquidity Risk Management ("LRM") is an oversight, Second LoD, function for liquidity which independently reports into the HSBC North America CRO. LRM's primary mandate is to strengthen our liquidity risk management framework through challenge and review of existing processes and recommending areas that need improvement to the RMM. LRM serves as an advisory function to senior management to ensure front line units with direct responsibility for managing liquidity risk are operating within their operating guidelines and defined risk appetite parameters. The LRM oversight mandate is carried out through critical evaluation and challenge of existing risk management processes including stress testing and ratio calculations.

Our liquidity management approach includes deposits, supplemented by wholesale borrowing to fund our balance sheet, and using security sales or secured borrowings for liquidity stress situations in our liquidity contingency plans. In addition, current regulatory initiatives encourage banks to retain a portfolio of extremely high quality liquid assets. As such, we are maintaining a large portfolio of high quality sovereign and sovereign guaranteed securities. As previously discussed, HSBC Finance relies on its affiliates, including HSBC USA, to satisfy its funding needs outside of cash generated from its loan sales and operations.

Our ability to regularly attract wholesale funds at a competitive cost is enhanced by strong ratings from the major credit ratings agencies. The following table reflects the short and long-term credit ratings of HSBC USA and HSBC Bank USA at December 31, 2016:

	Moody's	S&P	Fitch
<b>HSBC USA:</b>			
Short-term borrowings.....	<b>P-1</b>	<b>A-1</b>	<b>F1+</b>
Long-term/senior debt.....	<b>A2</b>	<b>A</b>	<b>AA-</b>
<b>HSBC Bank USA:</b>			
Short-term borrowings.....	<b>P-1</b>	<b>A-1+</b>	<b>F1+</b>
Long-term/senior debt.....	<b>Aa3<sup>(1)</sup></b>	<b>AA-</b>	<b>AA-</b>

<sup>(1)</sup> Moody's long-term deposit rating for HSBC Bank USA was Aa2 at December 31, 2016.

Rating agencies continue to evaluate economic and geopolitical trends, regulatory developments, future profitability, risk management practices and litigation matters, all of which could lead to adverse ratings actions.

In March 2016, Moody's changed the rating outlook for HSBC USA and HSBC Bank USA to negative from stable following a similar change in outlook to negative from stable for HSBC. The outlook change for HSBC signifies Moody's concerns about a weakening in its intrinsic financial strength due to deteriorating operating conditions in Hong Kong, one of the HSBC's key markets. In spite of their concerns, Moody's stated that HSBC's willingness to provide support to its U.S. subsidiaries remains very high. While the outlook changed, Moody's affirmed its long- and short-term supported debt and deposit ratings for HSBC USA and HSBC Bank USA.

In July 2016, S&P took various rating agency actions on U.K. banks, including HSBC, to reflect rising economic risks for the U.K. domestic banking industry, including potential pressures arising from the U.K. vote to leave the EU. As a result, S&P changed the rating outlook for HSBC USA and HSBC Bank USA to negative from stable. While the outlook changed, S&P affirmed its long- and short-term counterparty credit ratings for HSBC USA and HSBC Bank USA.

Although we closely monitor and strive to manage factors influencing our credit ratings, there is no assurance that our credit ratings will not change in the future. At December 31, 2016, there were no pending actions in terms of changes to ratings on the debt of HSBC USA or HSBC Bank USA from any of the rating agencies.

Numerous factors, internal and external, may impact access to and costs associated with issuing debt in the global capital markets. These factors include our debt ratings, overall economic conditions, overall capital markets volatility and the effectiveness of the management of credit risks inherent in our customer base.

Cash resources, short-term investments and a trading asset portfolio are available to provide highly liquid funding for us. Additional liquidity is provided by available-for-sale and held-to-maturity debt securities. Approximately \$481 million of the debt securities in these portfolios at December 31, 2016 are expected to mature in 2017. The remaining \$49,084 million of debt securities not expected to mature in 2017 are available to provide liquidity by serving as collateral for secured borrowings, or if needed, by being sold. Further liquidity is available through our ability to sell or securitize loans in secondary markets through loan sales and securitizations. In 2016, we did not sell any residential mortgage loan portfolios other than normal loan sales to PHH Mortgage.

It is the policy of HSBC Bank USA to maintain both primary and secondary collateral in order to ensure precautionary borrowing availability from the Federal Reserve Bank. Primary collateral is collateral that is physically maintained at the Federal Reserve Bank, and serves as a safety net against any unexpected funding shortfalls that may occur. Secondary collateral is collateral that is acceptable to the Federal Reserve Bank, but is not maintained there. If unutilized borrowing capacity were to be low, secondary collateral would be identified and maintained as necessary. Further liquidity is available from the FHLB.

See "Liquidity and Capital Resources" in this MD&A for further discussion of our liquidity position, including additional information regarding our outstanding borrowings and the remaining availability of our debt issuance programs.

**Interest Rate Risk Management** Interest rate risk is the potential reduction of net interest income due to mismatched pricing between assets and liabilities. We are subject to interest rate risk associated with the repricing characteristics of our balance sheet assets and liabilities. Specifically, as interest rates change, amounts of interest earning assets and liabilities fluctuate, and interest earning assets reprice at intervals that do not correspond to the maturities or repricing patterns of interest bearing liabilities. This mismatch between assets and liabilities in repricing sensitivity results in changes to projected net interest income as interest rates move. To help manage the risks associated with changes in interest rates, and to manage net interest income within interest rate risk ranges management considers acceptable, we use derivative instruments such as interest rate swaps, options, futures and forwards as hedges to modify the repricing characteristics of specific assets, liabilities, forecasted transactions or firm commitments. Analysis of this risk is complicated by having to make assumptions on embedded optionality within certain product areas such as the incidence of mortgage prepayments, and from behavioral assumptions regarding the economic duration of liabilities which are contractually repayable on demand such as current accounts. These assumptions around behavioral features are captured in our interest rate behavioralization framework, which is described further below. Day-to-day management of interest rate risk is centralized principally in Balance Sheet Management ("BSM"), which includes the non-trading interest rate risk positions transferred to it as discussed further under "Market Risk Management" below.

We have significant, but historically well controlled, interest rate risk in large part to our portfolio of residential mortgages and mortgage backed securities, which consumers can prepay without penalty, and our large base of demand and savings deposits. These deposits can be withdrawn by consumers at will, but historically they have been a stable source of relatively low cost funds. Market risk exists principally in the Markets business and to a lesser extent in the residential mortgage business, where the pipeline of forward mortgage sales are hedged. We have little foreign currency exposure from investments in overseas operations, which are limited in scope. Total equity investments, excluding stock owned in the Federal Reserve Bank and Federal Home Loan Bank, represent less than one percent of total available-for-sale securities.

In the course of managing interest rate risk, a present value of a basis point ("PVBP") analysis is utilized in conjunction with a combination of other risk assessment techniques to identify and assess the potential impact of interest rate movements and take appropriate action. This combination of techniques, with some focusing on the impact of interest rate movements on the valuation of the balance sheet (PVBP, economic value of equity, repricing gap analysis, capital risk, VaR) and others focusing on the impact of interest rate movements on earnings (net interest income simulation modeling, basis risk analysis) allows for comprehensive analyses from different perspectives. Refer to "Market Risk Management" below for discussion regarding the use of VaR analyses to monitor and manage interest rate risk.

A key element of managing interest rate risk is the management of the convexity of the balance sheet, largely resulting from the mortgage related products on the balance sheet. Convexity risk arises as mortgage loan consumers change their payment behavior significantly in response to large movements in market rates, but do not change behavior appreciably for smaller changes in market rates. Certain interest rate management tools, such as net interest income simulation modeling described below, better capture the embedded convexity in the balance sheet, while measures such as PVBP are designed to capture the risk of smaller changes in rates.

The assessment techniques discussed below act as a guide for managing interest rate risk associated with balance sheet composition and off-balance sheet hedging strategy (the risk position). Calculated values within limit ranges reflect an acceptable risk position,

although possible future unfavorable trends may prompt adjustments to on or off-balance sheet exposure. Calculated values outside of limit ranges will result in consideration of adjustment of the risk position, or consideration of temporary dispensation from making adjustments.

*Present value of a basis point ("PVBP")* PVBP is the change in value of the balance sheet for a one basis point upward movement in all interest rates. The following table reflects the PVBP position at December 31, 2016 and 2015:

At December 31,	2016	2015
	(in millions)	
Institutional PVBP movement limit .....	\$ 8.0	\$ 8.0
PVBP position at period end .....	4.4	1.8

*Repricing gap analysis* The following table shows the repricing structure of assets and liabilities at December 31, 2016. For assets and liabilities whose cash flows are subject to change due to movements in interest rates, such as the sensitivity of mortgage loans to prepayments, data is reported based on the earlier of expected repricing or maturity and reflects anticipated prepayments based on the current rate environment. The resulting "gaps" are reviewed to assess the potential sensitivity to earnings with respect to the direction, magnitude and timing of changes in market interest rates. Data shown is as of year-end, and one-day figures can be distorted by temporary swings in assets or liabilities.

December 31, 2016	Within One Year	After One But Within Five Years	After Five But Within Ten Years	After Ten Years	Total
	(in millions)				
Commercial loans .....	\$ 51,195	\$ 3,389	\$ 450	\$ 26	\$ 55,060
Residential mortgages and home equity mortgages .....	7,243	7,530	3,307	1,403	19,483
Credit card receivables .....	688	—	—	—	688
Other consumer loans .....	412	31	9	1	453
Total loans <sup>(1)</sup> .....	59,538	10,950	3,766	1,430	75,684
Securities available-for-sale and securities held-to-maturity ..	5,105	18,271	16,099	10,244	49,719
Other assets .....	73,444	2,426	28	—	75,898
Total assets .....	138,087	31,647	19,893	11,674	201,301
Domestic deposits:					
Savings and demand .....	61,744	17,678	11,463	—	90,885
Time deposits .....	22,239	195	2	—	22,436
Long-term debt .....	22,614	11,675	750	2,700	37,739
Other liabilities/equity .....	36,313	12,522	141	1,265	50,241
Total liabilities and equity .....	142,910	42,070	12,356	3,965	201,301
Total balance sheet gap .....	(4,823)	(10,423)	7,537	7,709	—
Effect of derivative contracts .....	1,028	5,337	(3,116)	(3,249)	—
Total gap position .....	\$ (3,795)	\$ (5,086)	\$ 4,421	\$ 4,460	\$ —

<sup>(1)</sup> Includes loans held for sale.

Various techniques are utilized to quantify and monitor risks associated with the repricing characteristics of our assets, liabilities and derivative contracts.

*Net interest income simulation modeling techniques* We utilize simulation modeling to monitor a number of interest rate scenarios for their impact on projected net interest income. These techniques simulate the impact on projected net interest income under various scenarios, such as rate shock scenarios, which assume immediate market rate movements by as much as 200 basis points, as well as scenarios in which rates rise gradually by as much as 200 basis point or fall by as much as 100 basis points over a twelve month period. The following table reflects the impact on projected net interest income of the scenarios utilized by these modeling techniques:

	December 31, 2016		December 31, 2015	
	Amount	%	Amount	%
(dollars are in millions)				
Estimated increase (decrease) in projected net interest income (reflects projected rate movements on January 1, 2017 and 2016, respectively):				
Resulting from a gradual 100 basis point increase in the yield curve.....	\$ 123	5%	\$ 179	7%
Resulting from a gradual 100 basis point decrease in the yield curve.....	(158)	(6)	(180)	(7)
Resulting from a gradual 200 basis point increase in the yield curve.....	208	8	349	13
Other significant scenarios monitored (reflects projected rate movements on January 1, 2017 and 2016, respectively):				
Resulting from an immediate 50 basis point decrease in the yield curve.....	(156)	(6)	(187)	(7)
Resulting from an immediate 100 basis point increase in the yield curve.....	209	8	274	10
Resulting from an immediate 100 basis point decrease in the yield curve.....	(347)	(14)	(346)	(13)
Resulting from an immediate 200 basis point increase in the yield curve.....	366	15	525	19

Projected net interest income sensitivity figures represent the effect of movements in net interest income based on the projected yield curve scenarios and our current interest rate risk profile. This effect, however, does not incorporate actions which would probably be taken by BSM or in the businesses to mitigate the effect of interest rate risk. In reality, BSM seeks proactively to change the interest rate risk profile to minimize losses and optimize net revenues. The net interest income simulation modeling calculations assume that interest rates of all maturities move by the same amount in the 'up-shock' scenario. Rates are not assumed to become negative in the 'down-shock' scenario which may effectively result in non-parallel shock. In addition, the net interest income simulation modeling calculations take account of the effect on net interest income of anticipated differences in changes between interbank interest rates and interest rates over which the entity has discretion in terms of the timing and extent of rate changes. The projections do not take into consideration possible complicating factors such as the effect of changes in interest rates on the credit quality, size and composition of the balance sheet. Therefore, although this provides a reasonable estimate of interest rate sensitivity, actual results will differ from these estimates, possibly by significant amounts.

*Interest rate risk behavioralization* Unlike liquidity risk which is assessed on the basis of a very severe stress scenario, interest rate risk is assessed and managed according to business-as-usual conditions. In many cases the contractual profile of our assets and liabilities does not reflect the behavior observed.

Behavioralization is therefore used to assess the interest rate risk of our assets and liabilities and this assessed risk is transferred to BSM, in accordance with the rules governing the transfer of interest rate risk from the global businesses to BSM.

Behavioralization is applied in three key areas:

- the assessed re-pricing frequency of managed rate balances;
- the assessed duration of non-interest bearing balances, typically capital and current accounts; and
- the base case expected prepayment behavior or pipeline take-up rate for fixed rate balances with embedded optionality.

Interest rate behavioralization policies have to be formulated in line with the HSBC Group's behavioralization policies and approved at least annually by ALCO, regional Asset, Liability and Capital Management ("ALCM") and global ALCM, in conjunction with local, regional and HSBC Group risk monitoring teams.

The extent to which balances can be behavioralized is driven by:

- the amount of the current balance that can be assessed as stable under business-as-usual conditions; and
- for managed rate balances the historic market interest rate re-pricing behavior observed; or
- for non-interest bearing balances the duration for which the balance is expected to remain under business-as-usual conditions. This assessment is often driven by the re-investment tenors available to BSM to neutralize the risk through the use of fixed rate government bonds or interest rate derivatives, and for derivatives the availability of cash flow hedging capacity.

*Capital risk/sensitivity of other comprehensive loss* Large movements of interest rates could directly affect some reported capital balances and ratios. The mark-to-market valuation of available-for-sale securities is recorded on a tax effected basis to accumulated other comprehensive loss. This valuation mark is included in two important accounting based capital ratios: common equity Tier 1 capital to risk weighted assets and total equity to total assets. Under the final rule adopting the Basel III regulatory capital reforms, the valuation mark is being phased into common equity Tier 1 capital over five years beginning in 2014. At December 31, 2016, we had an available-for-sale securities portfolio of approximately \$36,910 million with a negative mark-to-market adjustment of \$592 million. An increase of 25 basis points in interest rates of all maturities would lower the mark-to-market by approximately \$324 million to a net loss of \$916 million with the following results on our capital ratios:

	December 31, 2016		December 31, 2015	
	Actual	Proforma <sup>(1)</sup>	Actual	Proforma <sup>(1)</sup>
Common equity Tier 1 capital to risk weighted assets.....	13.7%	13.6%	12.0%	11.9%
Total equity to total assets.....	10.1	10.0	10.9	10.8

<sup>(1)</sup> Proforma percentages reflect a 25 basis point increase in interest rates.

**Market Risk Management** Market risk is the risk that movements in market factors, such as foreign exchange rates, interest rates, credit spreads, equity prices and commodity prices, will reduce our income or the value of our portfolios. Exposure to market risk is separated into two portfolios:

- *Trading portfolios* comprise positions arising from market-making and warehousing of customer-derived positions.
- *Non-trading portfolios* comprise positions that primarily arise from the interest rate management of our retail and commercial banking assets and liabilities and financial investments classified as available-for-sale and held-to-maturity.

We apply similar risk management policies and measurement techniques to both trading and non-trading portfolios. Our objective is to manage and control market risk exposures in order to optimize return on risk while maintaining a market profile consistent with our risk appetite and profitability goals.

The nature of the hedging and risk mitigation strategies performed corresponds to the market risk management instruments available. These strategies range from the use of traditional market instruments, such as interest rate swaps, to more sophisticated hedging strategies to address a combination of risk factors arising at the portfolio level.

*Market risk governance* Market risk is managed and controlled through limits approved by the Board and the RMM, as well as the various businesses, and also ratified by the HSBC Group Risk Management Meeting. These limits are allocated across business lines and to the HSBC Group legal entities, including HSBC USA and HSBC Bank USA.

We have an independent market risk management and control function in North America which is responsible for setting the risk appetite, measuring market risk exposures in accordance with the policies defined by HSBC Group Risk, and monitoring and reporting these exposures against the prescribed limits on a daily basis.

Model risk is governed through model oversight committees at the regional and global wholesale credit and market risk levels. The Committees have direct oversight and approval responsibility for all traded risk models utilized for risk measurement and management and stress testing. They prioritize the development of models, methodologies and practices used for traded risk management and ensure that they remain within our risk appetite and business plans. Refer to "Model Risk Management" below for further discussion regarding the management and monitoring of model risk across North America.

Our control of market risk in the trading and non-trading portfolios is based on a policy of restricting operations to trading within a list of permissible instruments ultimately approved by HSBC Group Risk as well as enforcing new product approval procedures through a dedicated committee.

*Market risk measures* We use a range of tools to monitor and limit market risk exposures, including:

Sensitivity analysis Sensitivity analysis measures the impact of individual market factor movements on specific instruments or portfolios, for example the impact of a one basis point change in the yield curve. Sensitivity limits are set for portfolios, products and risk types, with the depth of the market being one of the principal factors in determining the level of limits set.

Value at Risk ("VaR") VaR is a technique that estimates the potential losses on risk positions as a result of movements in market rates and prices over a specified time horizon and to a given level of confidence. VaR is calculated for all trading positions and non-trading positions which are equally sensitive to market moves regardless of how we capitalize those exposures. VaR is calculated at a 99 percent confidence level for a one-day holding period.

Our VaR models are based predominantly on historical simulation. These models derive plausible future scenarios from past series of recorded market rate and price changes. The historical simulation models used by us incorporate the following features:

- historical market rates and prices are calculated with reference to foreign exchange and commodity prices, interest rates and the associated volatilities;
- potential market movements utilized for VaR are calculated with reference to data from the past two years; and
- scenario profit and losses are calculated utilizing the market scenarios for all relevant risk factors;
- VaR measures are calculated to a 99 percent confidence level and use a one-day holding period.

The nature of the VaR models means that an increase in observed market volatility will lead to an increase in VaR under the assumption that the underlying positions do not change. We are committed to the ongoing development and enhancement of our in-house risk models subject to regulatory approval.

Although a valuable guide to risk, VaR should always be viewed in the context of its limitations. For example:

- the use of historical data as a proxy for estimating future events may not encompass all potential events, particularly those which are extreme in nature;
- the use of a holding period assumes that all positions can be liquidated or the risks offset during that period. This may not fully reflect the market risk arising at times of severe illiquidity, when the holding period may be insufficient to liquidate or hedge all positions fully;
- the use of a 99 percent confidence level, by definition, does not take into account losses that might occur beyond this level of confidence;
- VaR is calculated on the basis of exposures outstanding at the close of business and therefore does not necessarily reflect intraday exposures; and
- VaR is unlikely to reflect loss potential on exposures that only arise under significant market movements.

Risk not in VaR framework - Our VaR models are designed to capture significant basis risks such as credit default swaps versus bond, asset swap spreads and cross-currency basis. Other basis risks which are not completely covered in VaR, such as the U.S. Treasury to U.S. Treasury Futures basis, are complemented by the risk not in VaR ("RNIV") framework which is integrated into the capital framework. The RNIV framework aims to manage and capitalize material market risks that are not adequately covered in the VaR models. In 2016, the capital requirement derived from the RNIV has been immaterial.

Level 3 assets - The market risk arising from Level 3 assets in the trading portfolios, comprising trading securities and derivatives, is managed through the same market risk framework which applies to all other tradable assets, including stress testing and limits. We generally do not hold Level 3 assets within our trading portfolios.

Asset-backed security/Mortgage-backed security ("ABS/MBS") exposures - The ABS/MBS exposures in the trading portfolios are also managed through the same market risk framework which applies to all other tradable assets, including stress testing and limits. We had no meaningful ABS/MBS trading exposure in 2016.

Stress testing Stress testing is an important tool of our market risk management framework to evaluate the potential impact on portfolio values of more extreme, although plausible, events or movements in a set of financial variables. In such abnormal scenarios, losses can be much greater than those predicted by VaR modeling.

A standard set of scenarios is utilized consistently across the HSBC Group. Scenarios are tailored in order to capture the relevant events or market movements at each level. The risk appetite expressed in terms of potential stress losses is set and monitored against corresponding limits.

The process is governed by the Stress Testing Review Group forum which, in conjunction with regional risk management, determines the scenarios to be applied. Main scenario types are as follows:

- single risk factor stress scenarios that are unlikely to be captured within the VaR models, such as the break of a currency peg;
- technical scenarios that incorporate the largest move in each risk factor independent from any underlying market correlation;
- hypothetical scenarios are mainly built on potential macroeconomic events, for example, the slowdown in mainland China and the potential effects of a sovereign debt default, including its wider contagion effects, curves steepening or flattening scenarios; and
- historical scenarios which incorporate past observations of market movements during periods of stress which are not captured within VaR.

Market risk reverse stress tests are undertaken based upon the premise of a fixed loss which is theoretically assessed beforehand. The stress test process identifies which scenarios would lead to this loss. The rationale behind the reverse stress test is to understand scenarios which are beyond normal business conditions and that could have contagion and systemic implications.

Stressed VaR, stress testing and reverse stress testing provide for a comprehensive framework to help management gain insights into the 'tail risk' that the bank may be faced with under certain market scenarios.

*Market risk in 2016* The U.S. market risk environment in 2016 was characterized by two main themes; slow but steady improvement in the U.S. economy, and political event driven price volatility.

Steady improvement in U.S. GDP, falling unemployment, and low inflation indicate that the U.S. economy has gained a foothold on growth after an extended period of policy driven low interest rates and quantitative easing. As a result, the FRB raised its target federal funds rate by 25 basis points in December 2016.

The United Kingdom's decision to leave the EU came as a shock to global financial markets and led to the U.K.'s credit rating being cut by all three major rating agencies. Financial market impacts included the British Pound falling to all-time lows compared with other currencies, equity markets were down across the globe, short-term funding spreads increased by up to 50 basis points, and investors fled to safe haven assets like Gold, the Japanese Yen and U.S. Treasuries. While most market volatility subsided in the days immediately following the vote, uncertainty remains as to the longer-term impact on both the U.K. and European economies.

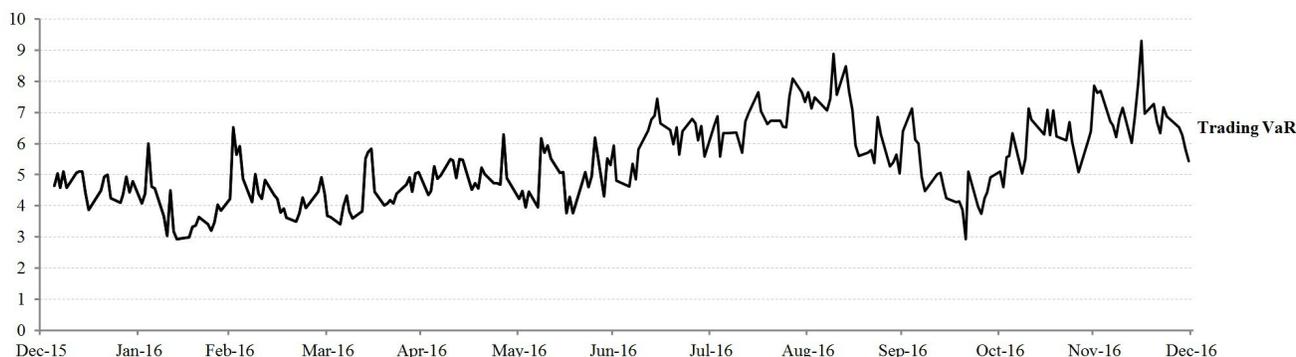
The result of the U.S. election also shocked global financial markets. The initial market reaction was a spike down in U.S. equities and a rush to safe haven assets, but this move was quickly reversed as investors focused on the impact of the new Administration's proposed fiscal policies. The U.S. dollar rallied versus all other currencies, particularly Latin American currencies as existing trade agreements will come under scrutiny. The potential impact of this new fiscal regime layered on top of a perceived stronger economy has driven U.S. equities to all-time highs, and U.S. interest rates higher by 50 basis points.

Our open market risk exposures were generally low during 2016, as the Global Markets businesses remained focused on client facilitation and keeping residual open risk exposures to a minimum.

*Trading Portfolios* Trading VaR generates from the Global Markets unit of the GB&M business segment. Portfolios are mainly comprised of foreign exchange products, interest rate swaps and precious metals (i.e. gold, silver, platinum) in both North America and emerging markets.

Trading VaR at December 31, 2016 was relatively flat as compared with December 31, 2015 as the Global Markets business in the U.S. continued to focus on customer facilitation and a simplified trading product offering core to HSBC global strategy. Interest rate and credit spread risk comprise the main drivers of exposure.

Daily VaR (trading portfolios), 99 percent 1 day (in millions):



The following table summarizes our trading VaR for 2016 and 2015:

	Foreign exchange and commodity	Interest rate	Credit Spread	Portfolio diversification <sup>(1)</sup>	Total <sup>(2)</sup>
(in millions)					
<b>At December 31, 2016</b> .....	\$ 1	\$ 6	\$ 1	\$ (3)	\$ 5
<b>Full Year 2016</b>					
Average.....	1	5	2	(3)	5
Maximum.....	3	10	11		9
Minimum.....	1	2	1		3
<b>At December 31, 2015</b> .....	\$ 1	\$ 3	\$ 1	\$ —	\$ 5
<b>Full Year 2015</b>					
Average.....	4	4	7	(9)	6
Maximum.....	6	10	15		10
Minimum.....	1	2	1		3

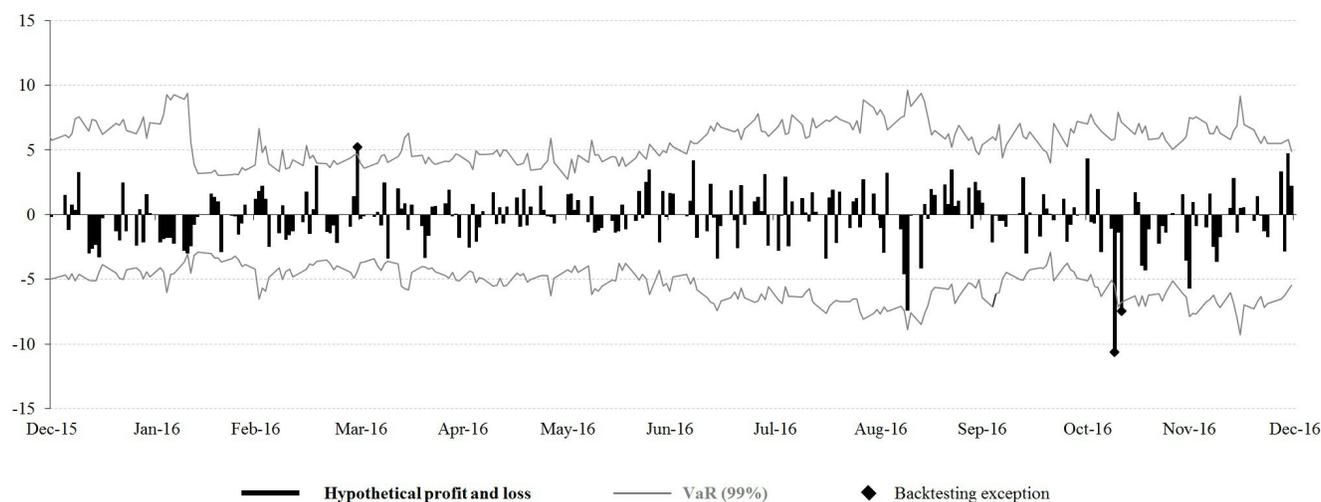
<sup>(1)</sup> Portfolio diversification is the market risk dispersion effect of holding a portfolio containing different risk types. It represents the reduction in unsystematic market risk that occurs when combining a number of different risk types, for example, foreign exchange, interest rate and credit spread, together in one portfolio. It is measured as the difference between the sum of the VaR by individual risk type and the combined total VaR. A negative number represents the benefit of portfolio diversification. As the maximum and minimum occur on different days for different risk types, it is not meaningful to calculate a portfolio diversification benefit for these measures.

<sup>(2)</sup> The total VaR is non-additive across risk types due to diversification effects. For presentation purposes, portfolio diversification of the VaR for trading portfolios includes VaR-based risk-not-in-VaR.

**Backtesting** In 2016, we experienced three backtesting exceptions. The first exception, a profit exception, occurred in March due to a gain from independent price verification. Independent price verification is not captured in the VaR model. The second and third exceptions, both loss exceptions, occurred in November and were driven by large rate movements in the days immediately following the U.S. presidential election.

We daily validate the accuracy of our VaR models by back-testing them against hypothetical profit and loss that excludes non-modeled items such as fees, commissions and revenues of intra-day transactions from the actual reported profit and loss. We would expect on average to see two to three profits, and two to three losses, in excess of VaR at the 99 percent confident level over a one-year period. The actual number of profits or losses in excess of VaR over this period can therefore be used to gauge how well the models are performing. To ensure a conservative approach to calculating our risk exposures, it is important to note that profits in excess of VaR are only considered when backtesting the accuracy of models and are not used to calculate the VaR numbers used for risk management or capital purposes.

**Backtesting of trading VaR against our hypothetical profit and loss (in millions):**



**Stressed VaR** Stressed VaR is primarily used for regulatory capital purposes and is integrated into the risk management process to facilitate efficient capital management. Stressed VaR complements other risk measures by providing severe potential losses associated with stressed market conditions. Stressed VaR modeling follows the same approach as VaR discussed above, except Stressed VaR calculates potential loss at a 99 percent confidence level for a one-day holding period based on a one year historical period that is calibrated to the most volatile period for the trading portfolio.

The following table reflects stressed VaR at December 31, 2016 and 2015:

At December 31,	2016	2015
	(in millions)	
Stressed Value at Risk (1-day equivalent).....	\$ 13	\$ 13

Stressed VaR at December 31, 2016 was flat as compared with December 31, 2015.

**Non-trading Portfolios** Non-trading VaR predominantly relates to BSM and represents the potential negative changes in the investment portfolio market value (which includes available for sale and held to maturity assets) and associated hedges. Our investment portfolio holdings are mainly comprised of U.S. Treasuries and U.S. Government agency mortgage-backed securities. Our non-trading VaR exposure is driven by interest rates, mortgage spreads, and asset swap spreads.

Non-trading VaR was higher in 2016 due primarily to a change in our interest rate risk profile as the duration of our U.S. Government agency mortgage-backed securities was extended as interest rates rose during the fourth quarter.

The following table summarizes our non-trading VaR for 2016 and 2015:

	Interest rate	Credit Spread	Portfolio diversification <sup>(1)</sup>	Total <sup>(1)</sup>
	(in millions)			
<b>At December 31, 2016</b> .....	\$ 75	\$ 27	\$ (32)	\$ 70
<b>Full Year 2016</b>				
Average .....	60	24	(9)	76
Maximum .....	95	29		88
Minimum .....	35	20		46
<b>At December 31, 2015</b> .....	\$ 35	\$ 26	\$ (16)	\$ 47
<b>Full Year 2015</b>				
Average .....	43	29	(21)	52
Maximum .....	65	37		65
Minimum .....	28	24		37

<sup>(1)</sup> Refer to the Trading VaR table above for additional information.

Non-trading VaR also includes the interest rate risk of non-trading financial assets and liabilities held by the global businesses and transfer priced into BSM which has the mandate to centrally manage and hedge it. For a broader discussion on how interest rate risk is managed, please refer to the "Interest Rate Risk Management" section above.

Interest rate swaps used by BSM to hedge the interest rate risk of the investment portfolio and transfer price risk from the banking book are typically classified as either a fair value hedge or a cash flow hedge and included within our non-traded VaR. In case there is residual market risk that cannot be efficiently and conveniently hedged by BSM they are managed by ALCO in segregated ALCO books. ALCO books risk is calculated and monitored via the same framework described above for the trading books, namely sensitivities, VaR, stress testing and associated limits.

**Operational Risk Management** Operational risk results from inadequate or failed internal processes, people and systems or from external events, including legal risk. Operational risk is relevant to every aspect of our business and covers a wide spectrum of risks. Our strategy is to manage operational risks in a cost effective manner, within targeted levels consistent with the risk appetite. Our Operational Risk Management Framework ("ORMF") ensures minimum standards of governance and organization over operational risk and internal control throughout HSBC USA and covers all our businesses and operations (including all entities, activities, processes, systems and products). During 2016, our risk profile was dominated by compliance and legal risks and the incidence of and response to regulatory proceedings and other adversarial proceedings against financial services firms is significant. We have prioritized resources to develop and execute remedial actions to regulatory matters, including enhancing or adding internal controls and we closely monitor the possible impacts of litigation on our operational risk profile. We are operating under a deferred

prosecution agreement with the DOJ, the U.S. Attorney's Office for the Eastern District of New York, and the U.S. Attorney's Office for the Northern District of West Virginia (the "U.S. DPA"). We have also been served with cease and desist orders from the FRB and the OCC. These orders cite substantial actions needed to correct deficiencies in Compliance, Risk Management, anti-money laundering ("AML") programs and mortgage foreclosure processing. A breach of the U.S. DPA would have a significant impact on us as a whole and could result in parties to the U.S. DPA reinstating civil or criminal proceedings against us. Failure to close the various cease and desist and/or the consent orders would result in our inability to operate in a compliant manner. We have committed to take or continue to adhere to a number of remedial measures related to the U.S. DPA and regulatory orders.

The security of our information and technology infrastructure is crucial for maintaining our applications and processes while protecting our customers and the HSBC brand. In common with other financial institutions and multinational organizations, we face a growing threat of cyber-attacks that continue to increase in sophistication. A failure of our defenses against such attacks could result in financial loss, loss of customer data and other sensitive information which could undermine both our reputation and our ability to attract and retain our customers. We experienced cyber-attacks in 2016, none of which resulted in material financial loss or the loss of customer data. We continue to mature our cyber intelligence capabilities as the cyber threat landscape evolves. These intelligence monitoring capabilities increase our agility and ability to respond with increased detection and response capabilities reducing potential exposure to cyber threats. Regulation is increasing from multiple jurisdictions and perspectives, and is deployed without coordination with other regulators. The SEC's 2016 examination priorities identified internal security program assessment and evaluation as a top concern, the New York State Department of Financial Services issued proposed regulations in September 2016 which would impose significant data and information security requirements and, in October 2016, the FRB, FDIC and OCC issued a joint advance notice of proposed rulemaking on enhanced cyber risk management standards which could require firms to substantially mitigate the risk of a disruption or failure due to a cyber event. This area will continue to be a strong focus of ongoing initiatives to strengthen the control environment and our readiness to respond in the event of an attack.

We have established an independent operational risk management discipline in the United States which is led by the U.S. Head of Operational Risk and Risk Strategy, reporting to the HSBC North America CRO. The mission of the Operational Risk Committee, chaired by the U.S. Head of Operational Risk and Risk Strategy, is to provide governance and strategic oversight of the ORMF, including the identification, assessment, monitoring and appetite of operational risk. Selected results and reports from this committee are communicated to the RMM and subsequently to the Risk Committee of the Board of Directors. Management in the First LoD is responsible for managing and controlling operational risk. In addition, the central Operational Risk function, in conjunction with the other Second LoD subject matter experts, provides functional oversight by coordinating the following activities:

- developing operational risk policies and procedures;
- developing and managing methodologies and tools to support the identification, assessment, and monitoring of operational risks;
- providing firm-wide operational risk and control reporting;
- identifying emerging risks;
- analyze root-cause of large operational risk losses;
- providing operational risk training and awareness programs for employees throughout the firm;
- communicating with the First LoD, including the Business Risk and Control Managers, to ensure the ORMF is executed within their respective business or function;
- independently reviewing the operational risk and control assessments, communicating results to business management and monitoring remedial actions that may be necessary to improve the assessments; and
- modeling operational risk losses and scenarios for capital management purposes.

Management of operational risk includes identification, assessment, monitoring, mitigation, rectification, and reporting of the results of risk events, including losses and compliance with local regulatory requirements. These key components of the ORMF have been communicated by issuance of HSBC standards and procedures. Details and local application of the standards have been documented and communicated by issuance of a U.S. Operational Risk Policy. Key elements of the policy and our ORMF include:

- business and function management is responsible for the assessment, identification, management, and reporting of their operational risks and monitoring the ongoing effectiveness of key controls;
- material risks are assigned an overall risk prioritization / rating based on the typical and severe assessments and considers the direct financial costs and the indirect impacts to the business. An assessment of the effectiveness of key controls that mitigate these risks is made. An operational risk database is used to record risk and control assessments and track related issues and mitigation action plans. The risk assessments are reviewed at least annually, or as business conditions change;
- key risk indicators are established and monitored where appropriate; and
- the database is also used to track operational losses for analysis of root causes, comparison with risk assessments, lessons learned and capital modeling.

Management practices include standard reporting to senior management and the Operational Risk Committee of material risks, significant control deficiencies, risk mitigation action plans, losses and key risk indicators. We also monitor external operational risk events to ensure that we remain in line with best practice and take into account lessons learned from publicized operational failures within the financial services industry. Operational risk management is an integral part of the new product development and approval process and the employee performance management process, as applicable.

Internal audit, which is the Third LoD, provides an important independent check on controls and test institutional compliance with the ORMF. Internal audit utilizes a risk-based approach to determine its audit coverage in order to provide an independent assessment of the design and effectiveness of key controls over our operations, regulatory compliance and reporting. This includes reviews of the ORMF, the effectiveness and accuracy of the risk assessment process, and the loss data collection and reporting activities.

**Compliance Risk Management** Compliance risk is the risk that we fail to observe the letter and spirit of all relevant laws, codes, rules, regulations and standards of good market practice. It is a composite risk that can result in regulatory sanctions, financial penalties, litigation exposure and loss of reputation. Compliance risk is inherent throughout our organization.

All HSBC employees are required to observe the letter and spirit of all relevant laws, codes, rules, regulations and standards of good market practice. In 2016, we continued to experience increased levels of compliance risk as regulators and other agencies pursued investigations into historical activities and we continued to work with them in relation to already identified issues. Following the deferred prosecution agreements reached in December 2012 between U.S. authorities and HSBC and HSBC USA in relation to investigations regarding inadequate compliance with anti-money laundering, the U.S. Bank Secrecy Act and sanctions laws, along with a related undertaking with the U.K.'s PRA, management has responded to extensive interviews and data requests and continues to enhance our controls.

HSBC has already taken specific steps to address these issues including making significant changes to strengthen compliance, risk management and culture. These steps, which should also serve over time to enhance our compliance risk management capabilities, include the following:

- the creation of a new global structure, which will make the HSBC Group easier to manage and control;
- simplifying HSBC's businesses through the ongoing implementation of an organizational effectiveness program and a five economic filters strategy;
- implementing a sixth global risk filter which will standardize the way HSBC does business in high risk countries;
- substantially increasing resources, doubling global expenditure and significantly strengthening Compliance as a control (and not only as an advisory) function;
- continuing to roll out cultural and values programs that define the way everyone in the HSBC Group should act; and
- adopting and enforcing the most effective standards globally, including a globally consistent approach to knowing and retaining our customers.

Our governance framework for compliance risk includes two leadership roles, the U.S. Head of FCC and the U.S. Head of Regulatory Compliance, both with particular expertise and experience in U.S. laws and regulations.

It is clear from both our own and wider industry experience that there is a significantly increased level of activity from regulators and law enforcement agencies in pursuing investigations in relation to possible breaches of regulation and that the direct and indirect costs of such breaches can be significant. Coupled with a substantial increase in the volume of new regulation, much of which has some level of extra-territorial effect, and the geographical spread of our businesses, we believe that the level of inherent compliance risk that we face will continue to remain high for the foreseeable future.

Within the U.S., the Compliance Committee of the Board of Directors oversees the remediation of the compliance risk management program. The Regulatory Compliance function is led by the HSBC North America CRO. The U.S. Head of FCC reports directly to the HSBC North America CEO and the HSBC Group Head of FCC. This reporting relationship enables the HSBC North America CRO to have direct access to HSBC Group Compliance, HSBC Group Risk and the HSBC North America CEO, as well as allowing for line of business personnel to be independent. The HSBC North America CRO has broad authority from the Board of Directors and senior management to develop the enterprise-wide compliance program and oversee the compliance activities across all business units, jurisdictions and legal entities. This broad authority enables the HSBC North America CRO to identify and resolve compliance issues in a timely and effective manner, and to escalate issues promptly to senior management, the Board of Directors, and HSBC as appropriate.

We are committed to delivering the highest quality financial products and services to our customers. Critical to our relationship with our customers is their trust in us, as fiduciary, advisor and service provider. That trust is earned not only through superior service, but also through the maintenance of the highest standards of integrity and conduct. We must, at all times, comply with high ethical standards, treat customers fairly, and comply with both the letter and spirit of all applicable laws, codes, rules, regulations and standards of good market practice, and HSBC policies and standards. It is also our responsibility to foster good relations with

regulators, recognizing and respecting their role in ensuring adherence with laws and regulations. An important element of this commitment to our customers and shareholder is our compliance risk management program, which is applied enterprise-wide.

Our enterprise-wide program in HSBC North America is designed in accordance with HSBC policy and the principles established by the FRB in Supervision and Regulation Letter 08-8 (SR 08-8) dated October 16, 2008. By leveraging industry-leading practices and taking an enterprise-wide, integrated approach to managing our compliance risks, we can better identify and understand our compliance requirements, monitor our compliance risk profile, and assess and report our compliance performance across the organization. Consistent with the expectations of HSBC North America's regulators, our enterprise-wide compliance risk management program is designed to promote a consistent understanding of roles and responsibilities, as well as consistency in compliance program activities. The program is structured to pro-actively identify as well as quickly react to emerging issues and to, assess, control, measure, monitor and report compliance risks across the company, both within and across business lines, support units, jurisdictions and legal entities.

As a result of HSBC Bank USA entering into a consent cease and desist order with the OCC and our affiliate, HSBC Finance, and our common parent, HSBC North America, entering into a similar consent order with the FRB (together, "the Servicing Consent Orders"), we have submitted plans and continue to review related areas to address the deficiencies noted in the joint examination and described in the Servicing Consent Orders. In January 2017, the OCC terminated its Servicing Consent Order. For additional discussion, see Note 27, "Litigation and Regulatory Matters," in the accompanying consolidated financial statements.

As a result of HSBC Bank USA entering into a consent cease and desist order with the OCC and our parent, HSBC North America, entering into a consent cease and desist order with the FRB in October 2010 (together, "the AML/BSA Consent Orders") and HSBC Bank USA entering into a consent cease and desist order with the OCC in December 2012 regarding enterprise-wide compliance, we have submitted plans and continue to review related areas to address the deficiencies noted in the AML/BSA Consent Orders and the 2012 OCC consent order. HSBC Bank USA is not currently in full compliance with the 2010 OCC consent cease and desist order. For additional discussion, see Note 27, "Litigation and Regulatory Matters," in the accompanying consolidated financial statements.

**Fiduciary Risk Management** Fiduciary risk is the risk of breaching fiduciary duties where we act in a fiduciary capacity. It is the risk associated with failing to offer services honestly and properly to clients in that capacity. We define a fiduciary duty as any duty where we hold, manage, oversee or have responsibilities for assets of a third party that involves a legal and/or regulatory duty to act with the highest standard of care and with utmost good faith. A fiduciary must make decisions and act in the best interests of the third parties and must place the wants and needs of the client first, above the needs of the organization. Fiduciary duties can also be established by case law, statute or regulation. Fiduciary capacity is primarily defined in banking regulation as:

- serving traditional fiduciary duties such as trustee, executor, administrator, registrar of stocks and bonds, transfer agent, guardian, receiver or assigns;
- providing investment advice for a fee; or
- possessing investment discretion on behalf of another.

Fiduciary risks, as defined above, reside in our PB businesses (such as Investment Management, Personal Trust, Security Operation Services) and other business lines outside of PB (such as Corporate Trust) and are ruled/guided primarily (but, not exclusively) by OCC Fiduciary-targeted Regulations (i.e. Regulation 12 CFR 9, Regulation 12 CFR 12). Additionally, Fiduciary Risk also includes risk associated with certain SEC regulated Registered Investment Advisers ("RIA"), which lie outside of the traditional banking regulatory fiduciary risk definitions as described above. HSBC Global Asset Management (USA) Inc. would fall into that category as would HSBC Securities (USA) Inc./Private Client Services. The RIA definition of fiduciary capacity primarily applies in the following circumstances and is ruled/guided primarily (but, not exclusively) by SEC Fiduciary-targeted Regulations (i.e. Investment Advisers Act of 1940 and Investment Company Act of 1940):

- receiving fees for advising people, pension funds and institutions on investment matters;
- managing assets on behalf of another; or
- organizing organizations that engage in investing, reinvesting and trading securities (such as mutual funds) and whose own securities are offered to the investing public.

The fiduciary risks present in both the standard banking and RIA business lines almost always occur where we are entrusted to handle and execute client business affairs and transactions in a fiduciary capacity.

In addition, fiduciary risk is included in the ORMF to ensure fiduciary risk is managed, monitored and controlled with acceptable risk appetite levels, and to report and escalate elevated fiduciary risks to senior management and the Fiduciary Committee of the Board of Directors. Therefore, fiduciary risk is included in the formal risk and control assessment process (along with other primary operational risks), key risk indicator monitoring, management reporting and governance framework.

Fiduciary risk is governed by the Fiduciary Committee of the Board of Directors. The Fiduciary Committee has established the Fiduciary Risk Management Committee ("FRMC") to carry out the day-to-day activities of managing fiduciary risk. The FRMC is chaired by the U.S. Head of Regulatory Compliance and includes fiduciary business line heads as well as representatives from

legal, compliance and audit and other fiduciary support functions. The FRMC also includes a Fiduciary Risk Officer/Specialist who has the requisite expertise to oversee and provide governance and advice on fiduciary risk matters. The Fiduciary Risk Officer/Specialist reports to the U.S. Head of Regulatory Compliance and partners with the lines of business and other functional areas performing these fiduciary activities, as well as interacts with regulators, on fiduciary matters. The Fiduciary Risk Officer/Specialist is also Co-Chair and Secretary of the FRMC.

**Reputational Risk Management** The safeguarding of our reputation is of paramount importance to our continued prosperity and is the responsibility of every member of our staff. Reputational risk can arise from social, ethical or environmental issues, or as a consequence of operational and other risk events. Our good reputation depends upon the way in which we conduct our business, but can also be affected by the way in which customers to whom we provide financial services conduct themselves.

Reputational risk relates to stakeholders' perceptions, whether based on fact or otherwise. Stakeholders expectations are constantly changing and thus, reputational risk is dynamic and will differ between geographies, groups and individuals.

We tolerate a limited degree of reputational risk arising from business activities or association where foreseeable reputational risk has been escalated to the appropriate level of management, carefully considered and/or mitigated and is determined to fall to acceptable risk thresholds as defined by the HSBC Group risk appetite statement. Since reputational risk can arise from all aspects of operations and activities, all businesses and functions are required to articulate and track reputational risk.

Reputational risk is considered and assessed by the HSBC Group Management Board, the HSBC Group and local Board of Directors and senior management during the establishment of standards for all major aspects of business and the formulation of policy and products. These policies, which are an integral part of the internal control systems, are communicated through manuals and statements of policy, internal communication and training. The policies set out operational procedures in all areas of reputational risk, including money laundering deterrence, economic sanctions, environmental impact, anti-corruption measures, employee relations, inappropriate market conduct and breach of regulatory duty and requirements.

We have taken steps over the past several years to de-risk our businesses and product offering to reduce reputational risk. In addition, we continue to strengthen our internal control structure to minimize the risk of operational and financial failure and to ensure that a full appraisal of reputational risk is made before strategic decisions are taken.

The RMM provides governance and oversight of reputational risk. The monthly Risk map process assesses the level and direction of reputational risk and helps ensure appropriate management action is taken when necessary. The Risk map is a reporting tool where management assesses the overall level and direction of several distinct risk categories, including management action necessary to control or address risks outside of an acceptable level or risk appetite. Each business reviews transactions via the Reputational Risk and Client Selection Committee ("RRCSC") that may adversely affect our public perception. The RRCSC is chaired by a senior risk executive and is comprised of senior members from the business, legal, compliance, credit risk and other invited parties. The RRCSC is responsible for reviewing the individual merits and involved parties in high-risk transactions, and approving or declining transactions based on the potential reputational risks to us. In addition to the RRCSC, the responsibility of the practical implementation of such policies and the compliance with the letter and spirit of them rests with our CEO and senior management of our businesses.

**Strategic Risk Management** Strategic risk is the risk that the business will fail to identify, execute, and react appropriately to opportunities and/or threats arising from changes in the market, some of which may emerge over a number of years such as changing economic and political circumstances, customer requirements, demographic trends, regulatory developments or competitor action. Risk may be mitigated by consideration of the potential opportunities and challenges through the strategic planning process.

This risk is also a function of the compatibility of our strategic goals, the business strategies developed to achieve those goals, the resources deployed against those goals and the quality of implementation.

We have established a strong internal control structure to minimize the impact of strategic risk to our earnings and capital. All changes in strategy as well as the process in which new strategies are implemented are subject to detailed reviews and approvals at business line, functional, regional, board and HSBC levels. This process is monitored by the Strategy and Planning function to ensure compliance with our policies and standards.

**Security and Fraud Risk Management** The role of Security and Fraud Risk Management ("SFR") is the protection of people, property, assets and information by reducing the risk to the business from terrorism, crime, incidents/disasters and groups hostile to HSBC interests. To achieve this, SFR is organizationally part of the business it supports and they advise and assist senior executive management who have overall responsibility for security and fraud issues.

Security and fraud risk issues are managed at the HSBC Group level by HSBC Global Security and Fraud Risk. This unit, which has responsibility for information, fraud, contingency, financial intelligence, physical and geopolitical risks are fully integrated within the HSBC Group Risk function. This enables management to identify and mitigate the permutations of these and other non-financial risks to its businesses across the jurisdictions in which we operate.

The *Information Security Risk* function is responsible for ensuring that we have a progressive information protection program that is responsive to current and future threats, enabling business growth, and that all businesses and functions understand and manage the information risks they have.

The *Fraud Risk* function is responsible for ensuring that effective prevention, detection and investigation measures are in place against all forms of fraudulent activity, whether initiated internally or externally, and is available to support our business. To achieve that and to attain the level of integration needed to face the threat, the management of all types of fraud (e.g. card fraud, non-card fraud and internal fraud, including investigations) is established within one management structure and is part of the HSBC Global Risk function.

We use technology extensively to prevent and detect fraud. For example, customers' credit and debit card spending is monitored continuously and suspicious transactions are highlighted for verification, internet banking sessions are reviewed and transactions monitored in a similar way and all new account applications are screened for fraud.

We have developed a holistic and effective anti-fraud strategy which, in addition to the use of advanced technology, includes fraud prevention policies and practices, the implementation of strong internal controls, an investigations response team and liaison with law enforcement where appropriate.

The *Contingency Risk* function is responsible for ensuring that our critical systems, processes and functions have the resilience to maintain continuity in the face of major disruptive events.

Within this wider risk, Business Continuity Management covers the pre-planning for recovery, seeking to minimize the adverse effects of major business disruption, either globally, regionally or within country, against a range of actual or emerging risks. The pre-planning concentrates on the protection of customer services, our staff, revenue generation, the integrity of data and documents and meeting regulatory requirements.

Each business has its own recovery plan, which is developed following the completion of a Business Impact Analysis. This determines how much time the business could sustain an outage before the level of losses becomes unacceptable (i.e. its criticality). These plans are reviewed and tested every year. The planning is undertaken against HSBC Group policy and standards and each business confirms in an annual compliance certificate that all have been met. Should there be exceptions, these are raised and their short-term resolution is overseen by HSBC Group and HSBC North America business continuity teams.

It is important that plans are dynamic and meet all risks, particularly those of an emerging nature such as possible pandemics and cyber-attacks. The ORMF is used to measure our resilience to these risks and is confirmed to HSBC Group and HSBC North America risk committees.

Resilience is managed through various risk mitigation measures. These includes agreeing with our information technology department acceptable recovery times of systems, ensuring our critical buildings have the correct infrastructure to enable ongoing operations, requiring critical vendors to have their own recovery plans and arranging with HSBC Group insurance appropriate cover for business interruption costs.

The *Financial Intelligence Risk* function is jointly administered by SFR and FCC. It uses advanced analytics and subject matter expertise to detect indicators of financial crime in our clients and counterparties.

The *Physical Security Risk* function develops practical physical, electronic and operational countermeasures to ensure that the people, property and assets we manage are protected from crime, theft, attach and groups hostile to our interests.

The *Geopolitical Risk* function provides both regular and ad hoc reporting to business executives and senior SFR management on geopolitical risk profiles and evolving threats in which we operate. This both enhances strategic business planning and provides an early view into developing security risks. Security travel controls and guidance are also maintained.

**Model Risk Management** Model risk is the potential for adverse consequences from decisions based on incorrect or misused model outputs and reports. This occurs primarily for two reasons: 1) the model may produce inaccurate outputs when compared to the intended business use and design objective; and 2) the model could be used incorrectly. In order to manage the risks arising out of the use of incorrect or misused model output or reports, a comprehensive model risk governance framework has been established that provides oversight and challenge to all models across HSBC North America. The framework includes a HSBC North America Model Standards Policy that aligns with model risk management regulations. Each area that uses models maintains model management procedures in accordance with the Model Standards Policy. A HSBC North America model and non-model inventory is maintained and updated on a quarterly basis. In addition, a model risk measurement framework is used to measure, mitigate and monitor model risk across HSBC North America. During 2016, model risk was managed on an ongoing basis by the HSBC North America Model Oversight Committee ("MOC"), which was chaired by the HSBC North America CRO with broad representation from across our businesses and support functions. Based on recent regulatory guidance, in December 2016, the MOC was replaced by a new Model Risk Forum, which is chaired by the HSBC North America CRO and has a similar objective as the MOC although with a clearer focus on individual accountability in the management of model risk.

The Independent Model Review ("IMR") function, which reports directly to the HSBC North America CRO, is responsible for providing effective challenge of models and critical processes implemented for use within HSBC North America. Reviews are conducted in-line with supervisory guidance on model risk management issued by the OCC and FRB as well as other applicable internal and regulatory guidelines. Effective challenge is defined as a critical analysis by objective, informed parties who can identify model limitations and assumptions and produce appropriate changes. IMR activities are segregated from the model development process to ensure that incentives are aligned with the function's role to challenge models and identify model limitations, and the authority and access provided by the Board of Directors provides the function with the necessary influence to ensure that its recommendations are acted upon. The independent model review process assesses model development, implementation, use, validation, and governance. IMR scope covers models reported on the HSBC North America model inventory and critical non model processes. Examples of models and processes that IMR reviews include: Credit Risk, Market Risk, Operational Risk, CCAR, ICAAP, Economic Capital, Allowance for Loan and Lease Losses, Loss Forecasting, AML, Counterparty Credit Risk, Interest Rate Risk, Risk Sensitivity, Hedging and Fair Value Adjustment.

**Pension Risk Management** Pension risk is the risk of increased costs from the post-employment benefit plans that we have established for our employees. Certain employees are eligible to participate in the HSBC North America qualified defined benefit pension plan. As of January 1, 2013, all future contributions under the Cash Balance formula ceased, thereby eliminating future benefit accruals. At December 31, 2016, plan assets were lower than projected plan liabilities resulting in an under-funded status. The accumulated benefit obligation exceeded the fair value of the plan assets by approximately \$480 million. As these obligations relate to the HSBC North America pension plan, only a portion of this deficit could be considered our responsibility. We and other HSBC North America affiliates with employees participating in this plan will be required to make up this shortfall over a number of years as specified under the Pension Protection Act. This can be accomplished through direct contributions, appreciation in plan assets and/or increases in interest rates resulting in lower liability valuations. See Note 20, "Pension and Other Postretirement Benefits," in the accompanying consolidated financial statements for further information concerning the HSBC North America defined benefit plan.

**Sustainability Risk Management** Sustainability risk is the risk that financial services provided to customers indirectly result in unacceptable impacts on people or on the environment. Sustainability risk is measured by assessing the potential sustainability effect of a customer's activities and assigning a sustainability risk rating. Sustainability risk is monitored by the RMM as well as Global Sustainability Risk. Sustainability risk managers in the Wholesale Credit Risk function, with input from Global Corporate Sustainability, are responsible for advising our businesses on managing environmental and social risks. The Wholesale Credit Risk function's responsibilities in relation to sustainability risk include:

- overseeing our sustainability risk standards, our application of the Equator Principles and our sustainability policies (covering agricultural commodities, chemicals, defense, energy, forestry, freshwater infrastructure, mining and metals, and World Heritage Sites);
- undertaking an independent review of transactions, including escalating transactions to Group Sustainability Risk where sustainability risks are assessed to be high and approving transactions where sustainability risks are of a lower magnitude; and
- providing training and capacity building within our businesses to ensure sustainability risks are identified and mitigated consistently.

## GLOSSARY OF TERMS

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**Balance Sheet Management** – Is responsible for managing our liquidity and funding. Balance Sheet Management ("BSM") also manages our structural interest rate position within a limit structure.

**Basis point** – A unit that is commonly used to calculate changes in interest rates. The relationship between percentage changes and basis points can be summarized as a 1 percent change equals a 100 basis point change or .01 percent change equals 1 basis point.

**CDS** – Credit Default Swap.

**Contractual Delinquency** – A method of determining aging of past due accounts based on the past due status of payments under the loan. Delinquency status may be affected by customer account management policies and practices such as the re-age of accounts or modification arrangements.

**Delinquency Ratio** – Two-months-and-over contractual delinquency expressed as a percentage of loans and loans held for sale at a given date.

**Efficiency Ratio** – Total operating expenses, reduced by minority interests, expressed as a percentage of the sum of net interest income and other revenues (losses).

*First Line of Defense or First LoD* – Part of the Three Lines of Defense ("LoD") model for managing risk. The First LoD is predominately comprised of management who are accountable and responsible for their day to day activities, processes and controls. The First LoD must ensure all key risks within their activities and operations are identified, mitigated and monitored by an appropriate control environment that is commensurate with our risk appetite.

*FRB* – The Federal Reserve Board; our principal regulator.

*Futures Contract* – An exchange-traded contract to buy or sell a stated amount of a financial instrument or index at a specified future date and price.

*Global Bank Note Program* – A \$40 billion note program, under which HSBC Bank USA issues senior and subordinated debt.

*Goodwill* – The excess of purchase price over the fair value of identifiable net assets acquired, reduced by liabilities assumed in a business combination.

*Group Reporting Basis* – A measure of reporting results using financial information prepared on the basis of HSBC Group's accounting and reporting policies which apply International Financial Reporting Standards as issued by the International Accounting Standards Board and as endorsed by the European Union.

*Intangible Assets* – Assets, excluding financial assets, that lack physical substance. Our intangible assets include mortgage servicing rights and favorable lease arrangements.

*Interest Rate Swap* – Contract between two parties to exchange interest payments on a stated principal amount (notional principal) for a specified period. Typically, one party makes fixed rate payments, while the other party makes payments using a variable rate.

*LIBOR* – London Interbank Offered Rate; A widely quoted market rate which is frequently the index used to determine the rate at which we borrow funds.

*Liquidity* – A measure of how quickly we can convert assets to cash or raise additional cash by issuing debt.

*Loan-to-Value ("LTV") Ratio* – For first liens, the current loan balance expressed as a percentage of the current property value. For second liens, the current loan balance plus the senior lien amount at origination expressed as a percentage of the current property value.

*Mortgage Servicing Rights ("MSRs")* – An intangible asset which represents the right to service mortgage loans. These rights are recognized at the time the related loans are sold or the rights are acquired.

*Net Charge-off Ratio* – Net charge-offs of loans expressed as a percentage of average loans outstanding for a given period.

*Net Interest Income* – Interest income earned on interest-bearing assets less interest expense on deposits and borrowed funds.

*Net Interest Income to Total Assets* – Net interest income expressed as a percentage of average total assets for a given period.

*Net Interest Margin* – Net interest income expressed as a percentage of average interest earning assets for a given period.

*Nonaccruing Loans* – Loans on which we no longer accrue interest because ultimate collection is unlikely.

*OCC* – The Office of the Comptroller of the Currency; the principal regulator for HSBC Bank USA.

*Options* – A contract giving the owner the right, but not the obligation, to buy or sell a specified item at a fixed price for a specified period.

*Portfolio Seasoning* – Relates to the aging of origination vintages. Loss patterns emerge slowly over time as new accounts are booked.

*Private Label Credit Card* – A line of credit made available to customers of retail merchants evidenced by a credit card bearing the merchant's name. The private label credit card portfolio was sold to Capital One on May 1, 2012.

*Private Label Card Receivable Portfolio* – Loan and credit card receivable portfolio acquired from HSBC Finance on December 29, 2004. New loan originations subsequent to the initial purchase were purchased daily by HSBC Bank USA. The private label card receivable portfolio was sold to Capital One on May 1, 2012.

*Rate of Return on Common Equity* – Net income, reduced by preferred dividends, divided by average common equity for a given period.

*Rate of Return on Risk Weighted Assets* – Net income divided by average risk weighted assets for a given period.

*Rate of Return on Total Assets* – Net income divided by average total assets for a given period.

*Residential Mortgage Loan* – Closed-end loans and revolving lines of credit secured by first or second liens on residential real estate. Depending on the type of residential mortgage, interest can either be fixed or adjustable.

*REO* – Real Estate Owned

*SEC* – The Securities and Exchange Commission.

*Second Line of Defense or Second LoD* – Part of the Three LoD model for managing risk. The Second LoD is predominately comprised of various functions, such as Finance, Legal, Risk, Compliance and Human Resources, whose role is to ensure that we are operating in line with our risk appetite. These functions must also maintain and monitor controls for which they are directly responsible.

*Secured Financing* – A Collateralized Funding Transaction in which the interests in a dedicated pool of consumer receivables, typically credit card, auto or personal non-credit card receivables, are sold to a special purpose entity which then issues securities that are sold to investors. These transactions do not receive sale treatment.

*Tangible Common Equity to Total Tangible Assets* – Common equity less goodwill, other intangibles, unrealized gains and losses on cash flow hedging instruments, postretirement benefit plan adjustments, and unrealized gains and losses on available-for-sale securities expressed as a percentage of total assets less goodwill and other intangibles.

*TDR Loans* – Troubled debt restructurings, which are loans for which the original contractual terms have been modified to provide for terms that are less than we would be willing to accept for new loans with comparable risk because of deterioration in the borrower's financial condition.

*Third Line of Defense or Third LoD* – Part of the Three LoD model for managing risk. The Third LoD is comprised of Internal Audit, who provides independent assurance as to the effectiveness of the design, implementation and embedding of the risk management frameworks as well as the management of the risks and controls by the First LoD and control oversight by the Second LoD.

*Three Lines of Defense Model* – This model is used to manage our risk environment and defines who is responsible to identify, assess, measure, manage, monitor and mitigate risk. It encourages collaboration and enables efficient coordinate of risk and control activities.

*Total Equity to Total Assets* – Total equity expressed as a percentage of total assets as of a given date.

*U.S. GAAP* – Generally accepted accounting principles in the United States.

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**CONSOLIDATED AVERAGE BALANCES AND INTEREST RATES**

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The following table summarizes the year-to-date average daily balances of the principal components of assets, liabilities and equity together with their respective interest amounts and rates earned or paid, presented on a taxable equivalent basis, which resulted in increases to interest income on securities of \$1 million, \$12 million and \$15 million during the years ended December 31, 2016, 2015 and 2014, respectively. Net interest margin is calculated by dividing net interest income by the average interest earning assets from which interest income is earned. Loan interest for the years ended December 31, 2016, 2015 and 2014 included fees of \$80 million, \$68 million and \$65 million, respectively.

	2016			2015			2014		
	Average Balance	Interest	Rate	Average Balance	Interest	Rate	Average Balance	Interest	Rate
(dollars are in millions)									
<b>Assets</b>									
Interest bearing deposits with banks .....	\$ 31,999	\$ 165	.52%	\$ 32,195	\$ 84	.26%	\$ 25,505	\$ 67	.27%
Federal funds sold and securities purchased under resale agreements .....	12,881	200	1.55	5,077	24	.47	1,401	10	.69
Trading securities .....	11,556	262	2.27	11,916	340	2.86	11,568	253	2.19
Securities .....	52,469	957	1.82	48,899	910	1.86	47,800	783	1.64
Loans:									
Commercial .....	61,401	1,537	2.50	63,235	1,366	2.16	52,987	1,195	2.26
Consumer:									
Residential mortgages .....	18,001	596	3.31	17,274	571	3.31	16,225	551	3.39
Home equity mortgages.....	1,506	52	3.45	1,682	55	3.28	1,893	64	3.38
Credit cards.....	668	71	10.63	678	74	10.90	687	70	10.18
Other consumer .....	476	28	5.88	509	30	5.70	534	28	5.28
Total consumer .....	20,651	747	3.62	20,143	730	3.62	19,339	713	3.69
Total loans .....	82,052	2,284	2.78	83,378	2,096	2.51	72,326	1,908	2.64
Other .....	2,394	43	1.80	2,759	59	2.13	3,214	41	1.29
Total interest earning assets.....	\$ 193,351	\$ 3,911	2.02%	\$ 184,224	\$ 3,513	1.91%	\$ 161,814	\$ 3,062	1.89%
Allowance for credit losses .....	(1,012)			(679)			(600)		
Cash and due from banks .....	998			898			947		
Other assets.....	13,855			14,619			20,291		
<b>Total assets</b> .....	<b>\$ 207,192</b>			<b>\$ 199,062</b>			<b>\$ 182,452</b>		
<b>Liabilities and Equity</b>									
Domestic deposits:									
Savings deposits .....	\$ 50,949	\$ 135	.26%	\$ 46,790	\$ 99	.21%	\$ 42,697	\$ 52	.12%
Time deposits.....	25,594	264	1.03	26,904	142	.53	18,194	81	.44
Other interest bearing deposits .....	7,827	10	.13	4,401	5	.10	4,124	4	.11
Foreign deposits:									
Foreign banks deposits .....	8,747	45	.51	7,332	9	.13	6,933	2	.03
Other interest bearing deposits .....	4,099	14	.34	3,843	5	.13	5,177	6	.12
Total interest bearing deposits .....	97,216	468	.48	89,270	260	.29	77,125	145	.19
Short-term borrowings .....	10,153	79	.78	13,576	46	.34	20,151	36	.18
Long-term debt .....	36,204	864	2.39	31,643	709	2.24	24,192	650	2.69
Total interest bearing deposits and debt.....	143,573	1,411	.98	134,489	1,015	.76	121,468	831	.69
Tax liabilities and other .....	821	15	1.83	654	16	2.29	911	(88)	(9.61)
Total interest bearing liabilities .....	\$ 144,394	\$ 1,426	.99%	\$ 135,143	\$ 1,031	.76%	\$ 122,379	\$ 743	.61%
Net interest income/Interest rate spread .....		\$ 2,485	1.03%		\$ 2,482	1.15%		\$ 2,319	1.28%
Noninterest bearing deposits .....	31,682			32,244			30,495		
Other liabilities .....	10,168			11,699			12,719		
Total equity .....	20,948			19,976			16,859		
<b>Total liabilities and equity</b> .....	<b>\$ 207,192</b>			<b>\$ 199,062</b>			<b>\$ 182,452</b>		
Net interest margin on average earning assets .....			1.28%			1.35%			1.43%
Net interest income to average total assets .....			1.20%			1.25%			1.27%

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**Item 7A. Quantitative and Qualitative Disclosures about Market Risk**

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Information required by this Item is included within Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations in the Risk Management section under the captions "Interest Rate Risk Management" and "Market Risk Management."

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**Item 8. Financial Statements and Supplementary Data**

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**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

The Board of Directors and Shareholder  
HSBC USA Inc.:

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of income, comprehensive income (loss), changes in equity and cash flows present fairly, in all material respects, the financial position of HSBC USA Inc. and its subsidiaries (the Company) at December 31, 2016 and December 31, 2015, and the results of their operations and their cash flows for each of the two years in the period ended December 31, 2016 in conformity with accounting principles generally accepted in the United States of America. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these financial statements in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP  
New York, New York  
February 21, 2017

**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

The Board of Directors and Shareholder  
HSBC USA Inc.:

We have audited the accompanying consolidated statements of income, comprehensive income (loss), changes in equity, and cash flows of HSBC USA Inc. and subsidiaries (the Company), a wholly-owned subsidiary of HSBC Holdings plc, for the year ended December 31, 2014. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the results of the Company's operations and its cash flows for the year ended December 31, 2014, in conformity with U.S. generally accepted accounting principles.

/s/ KPMG LLP  
New York, New York  
February 23, 2015

## CONSOLIDATED STATEMENT OF INCOME

Year Ended December 31,	2016	2015	2014
	(in millions)		
Interest income:			
Loans.....	\$ 2,284	\$ 2,096	\$ 1,908
Securities.....	956	898	768
Trading securities.....	262	340	253
Short-term investments.....	365	108	77
Other.....	43	59	41
<b>Total interest income</b> .....	<b>3,910</b>	<b>3,501</b>	<b>3,047</b>
Interest expense:			
Deposits.....	468	260	145
Short-term borrowings.....	79	46	36
Long-term debt.....	864	709	650
Other.....	15	16	(88)
<b>Total interest expense</b> .....	<b>1,426</b>	<b>1,031</b>	<b>743</b>
Net interest income.....	<b>2,484</b>	<b>2,470</b>	<b>2,304</b>
Provision for credit losses.....	<b>372</b>	<b>361</b>	<b>188</b>
<b>Net interest income after provision for credit losses</b> .....	<b>2,112</b>	<b>2,109</b>	<b>2,116</b>
Other revenues:			
Credit card fees.....	52	43	51
Trust and investment management fees.....	153	170	135
Other fees and commissions.....	721	743	743
Trading revenue.....	227	74	105
Net other-than-temporary impairment losses <sup>(1)</sup> .....	—	—	(11)
Other securities gains, net.....	70	48	113
Servicing and other fees from HSBC affiliates.....	217	213	199
Residential mortgage banking revenue.....	16	62	112
Gain (loss) on instruments designated at fair value and related derivatives.....	(71)	264	75
Other income (loss).....	(53)	55	84
<b>Total other revenues</b> .....	<b>1,332</b>	<b>1,672</b>	<b>1,606</b>
Operating expenses:			
Salaries and employee benefits.....	981	1,000	930
Support services from HSBC affiliates.....	1,363	1,435	1,549
Occupancy expense, net.....	231	230	227
Other expenses.....	651	556	718
<b>Total operating expenses</b> .....	<b>3,226</b>	<b>3,221</b>	<b>3,424</b>
Income before income tax.....	<b>218</b>	<b>560</b>	<b>298</b>
Income tax expense (benefit).....	<b>89</b>	<b>230</b>	<b>(56)</b>
<b>Net income</b> .....	<b>\$ 129</b>	<b>\$ 330</b>	<b>\$ 354</b>

<sup>(1)</sup> During 2016 and 2015, there were no other-than-temporary impairment ("OTTI") losses on securities recognized in other revenues and no OTTI losses in the non-credit component of securities recognized in accumulated other comprehensive income (loss) ("AOCI"), net of tax. During 2014, OTTI losses on securities held-to-maturity totaling \$11 million were recognized in other revenues. There were no OTTI losses in the non-credit component of such impaired securities recognized in AOCI, net of tax.

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

**CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME (LOSS)**

<b>Year Ended December 31,</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
	<b>(in millions)</b>		
<b>Net income</b> .....	<b>\$ 129</b>	<b>\$ 330</b>	<b>\$ 354</b>
Net change in unrealized gains (losses), net of tax:			
Investment securities .....	<b>(227)</b>	<b>(392)</b>	<b>176</b>
Other-than-temporarily impaired debt securities held-to-maturity .....	<b>—</b>	<b>—</b>	<b>60</b>
Derivatives designated as cash flow hedges .....	<b>13</b>	<b>(14)</b>	<b>(73)</b>
Pension and post-retirement benefit plans .....	<b>3</b>	<b>—</b>	<b>(5)</b>
<b>Total other comprehensive income (loss)</b> .....	<b>(211)</b>	<b>(406)</b>	<b>158</b>
<b>Comprehensive income (loss)</b> .....	<b>\$ (82)</b>	<b>\$ (76)</b>	<b>\$ 512</b>

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

## CONSOLIDATED BALANCE SHEET

At December 31,	2016	2015
	(in millions, except share data)	
<b>Assets<sup>(1)</sup></b>		
Cash and due from banks.....	\$ 1,235	\$ 968
Interest bearing deposits with banks.....	20,238	7,478
Federal funds sold and securities purchased under agreements to resell (includes \$770 million designated under fair value option at December 31, 2016).....	30,023	19,847
Trading assets.....	16,850	17,085
Securities available-for-sale.....	36,910	35,773
Securities held-to-maturity (fair value of \$12.8 billion and \$14.2 billion at December 31, 2016 and 2015, respectively).....	12,809	14,024
Loans.....	73,875	82,917
Less – allowance for credit losses.....	1,017	912
Loans, net.....	<u>72,858</u>	<u>82,005</u>
Loans held for sale (includes \$725 million and \$151 million designated under fair value option at December 31, 2016 and 2015, respectively).....	1,809	2,185
Properties and equipment, net.....	202	230
Intangible assets, net.....	34	181
Goodwill.....	1,612	1,612
Other assets.....	6,721	6,890
<b>Total assets</b> .....	<b>\$ 201,301</b>	<b>\$ 188,278</b>
<b>Liabilities<sup>(1)</sup></b>		
Debt:		
Domestic deposits:		
Noninterest bearing.....	\$ 26,932	\$ 29,693
Interest bearing (includes \$7.5 billion and \$6.9 billion designated under fair value option at December 31, 2016 and 2015, respectively).....	86,389	77,259
Foreign deposits:		
Noninterest bearing.....	741	747
Interest bearing.....	15,186	10,880
Total deposits.....	<u>129,248</u>	<u>118,579</u>
Short-term borrowings (includes \$2.7 billion and \$2.0 billion designated under fair value option at December 31, 2016 and 2015, respectively).....	5,101	4,995
Long-term debt (includes \$10.4 billion and \$9.2 billion designated under fair value option at December 31, 2016 and 2015, respectively).....	37,739	33,509
Total debt.....	<u>172,088</u>	<u>157,083</u>
Trading liabilities.....	4,908	7,455
Interest, taxes and other liabilities.....	3,950	3,215
<b>Total liabilities</b> .....	<b><u>180,946</u></b>	<b><u>167,753</u></b>
<b>Equity</b>		
Preferred stock (no par value; 40,999,000 shares authorized; 1,265 and 21,447,500 shares issued and outstanding at December 31, 2016 and 2015, respectively).....	1,265	1,265
Common equity:		
Common stock (\$5 par; 150,000,000 shares authorized; 714 shares issued and outstanding at both December 31, 2016 and 2015).....	—	—
Additional paid-in capital.....	18,148	18,169
Retained earnings.....	1,560	1,498
Accumulated other comprehensive loss.....	(618)	(407)
Total common equity.....	<u>19,090</u>	<u>19,260</u>
<b>Total equity</b> .....	<b><u>20,355</u></b>	<b><u>20,525</u></b>
<b>Total liabilities and equity</b> .....	<b>\$ 201,301</b>	<b>\$ 188,278</b>

<sup>(1)</sup> The following table summarizes assets and liabilities related to our consolidated variable interest entities ("VIEs") at December 31, 2016 and 2015 which are consolidated on our balance sheet. Assets and liabilities exclude intercompany balances that eliminate in consolidation. See Note 24, "Variable Interest Entities," for additional information.

At December 31,	2016	2015
	(in millions)	
<i>Assets</i>		
Other assets .....	\$ 231	\$ 320
Total assets .....	<u>\$ 231</u>	<u>\$ 320</u>
<i>Liabilities</i>		
Long-term debt .....	\$ 79	\$ 92
Interest, taxes and other liabilities .....	<u>60</u>	<u>68</u>
Total liabilities .....	<u>\$ 139</u>	<u>\$ 160</u>

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

## CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

Year Ended December 31,	2016	2015	2014
	(dollars are in millions)		
<b>Preferred stock</b>			
Balance at beginning of period .....	\$ 1,265	\$ 1,565	\$ 1,565
Preferred stock issuance .....	1,265	—	—
Preferred stock redemption .....	(1,265)	(300)	—
Balance at end of period .....	<u>1,265</u>	<u>1,265</u>	<u>1,565</u>
<b>Common stock</b>			
Balance at beginning and end of period .....	—	—	—
<b>Additional paid-in capital</b>			
Balance at beginning of period .....	18,169	14,170	14,106
Excess of consideration received over book value on sale of London Branch precious metals business to an HSBC affiliate, net of tax .....	—	—	60
Capital contribution from parent .....	—	4,000	—
Employee benefit plans .....	(21)	(1)	4
Balance at end of period .....	<u>18,148</u>	<u>18,169</u>	<u>14,170</u>
<b>Retained earnings</b>			
Balance at beginning of period .....	1,498	1,233	952
Net income .....	129	330	354
Cash dividends declared on preferred stock .....	(67)	(65)	(73)
Balance at end of period .....	<u>1,560</u>	<u>1,498</u>	<u>1,233</u>
<b>Accumulated other comprehensive loss</b>			
Balance at beginning of period .....	(407)	(1)	(159)
Other comprehensive income (loss), net of tax .....	(211)	(406)	158
Balance at end of period .....	<u>(618)</u>	<u>(407)</u>	<u>(1)</u>
<b>Total common equity</b> .....	<u>19,090</u>	<u>19,260</u>	<u>15,402</u>
<b>Total equity</b> .....	<u>\$ 20,355</u>	<u>\$ 20,525</u>	<u>\$ 16,967</u>
<b>Shares of preferred stock</b>			
Number of shares at beginning of period .....	21,447,500	25,947,500	25,947,500
Number of shares of preferred stock issued to parent .....	1,265	—	—
Number of shares of preferred stock redeemed .....	(21,447,500)	(4,500,000)	—
Number of shares at end of period .....	<u>1,265</u>	<u>21,447,500</u>	<u>25,947,500</u>
<b>Shares of common stock</b>			
Number of shares at beginning of period .....	714	713	713
Number of shares of common stock issued to parent .....	—	1	—
Number of shares at end of period .....	<u>714</u>	<u>714</u>	<u>713</u>

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

## CONSOLIDATED STATEMENT OF CASH FLOWS

Year Ended December 31,	2016	2015	2014
	(in millions)		
<b><i>Cash flows from operating activities</i></b>			
Net income.....	\$ 129	\$ 330	\$ 354
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization .....	(45)	158	142
Provision for credit losses .....	372	361	188
Deferred income tax provision .....	(140)	190	185
Other-than-temporary impairment related to securities held-to-maturity .....	—	—	11
Net realized gains on securities available-for-sale .....	(70)	(48)	(122)
Realized losses on securities held-to-maturity .....	—	—	9
Net change in other assets and liabilities.....	1,726	386	180
Net change in loans held for sale:			
Originations and purchases of loans held for sale.....	(2,398)	(2,145)	(1,515)
Sales and collections of loans held for sale.....	2,581	2,371	1,500
Net change in trading assets and liabilities .....	(2,312)	3,298	5,091
Lower of amortized cost or fair value adjustments on loans held for sale.....	83	14	2
Gain (loss) on instruments designated at fair value and related derivatives .....	71	(264)	(75)
Net cash provided by (used in) operating activities.....	<u>(3)</u>	<u>4,651</u>	<u>5,950</u>
<b><i>Cash flows from investing activities</i></b>			
Net change in interest bearing deposits with banks.....	(12,760)	23,329	(11,193)
Net change in federal funds sold and securities purchased under agreements to resell .....	(10,176)	(18,434)	706
Securities available-for-sale:			
Purchases of securities available-for-sale.....	(22,815)	(23,375)	(19,012)
Proceeds from sales of securities available-for-sale.....	19,462	15,149	29,839
Proceeds from maturities of securities available-for-sale .....	1,930	1,954	3,857
Securities held-to-maturity:			
Purchases of securities held-to-maturity .....	(1,538)	(2,993)	(1,875)
Proceeds from sales of securities held-to-maturity .....	—	—	67
Proceeds from maturities of securities held-to-maturity .....	2,704	2,408	762
Change in loans:			
Originations, net of collections .....	7,391	(7,145)	(11,416)
Loans sold to third parties .....	1,621	13	852
Cash received in sale of London Branch precious metals business to an affiliate .....	—	—	98
Net cash used for acquisitions of properties and equipment .....	(32)	(43)	(38)
Other, net .....	111	(386)	34
Net cash used in investing activities.....	<u>(14,102)</u>	<u>(9,523)</u>	<u>(7,319)</u>

**CONSOLIDATED STATEMENT OF CASH FLOWS (Continued)**

Year Ended December 31,	2016	2015	2014
	(in millions)		
<b><i>Cash flows from financing activities</i></b>			
Net change in deposits .....	10,525	2,472	3,327
Debt:			
Net change in short-term borrowings .....	110	(7,806)	(6,340)
Issuance of long-term debt .....	8,694	16,586	8,067
Repayment of long-term debt .....	(4,869)	(9,937)	(3,686)
Preferred stock issuance .....	1,265	—	—
Preferred stock redemption .....	(1,265)	(300)	—
Capital contribution from parent .....	—	4,000	—
Other increases (decreases) in capital surplus .....	(21)	(1)	4
Dividends paid .....	(67)	(65)	(73)
Net cash provided by financing activities .....	<u>14,372</u>	<u>4,949</u>	<u>1,299</u>
Net change in cash and due from banks .....	267	77	(70)
Cash and due from banks at beginning of period .....	968	891	961
<b><i>Cash and due from banks at end of period</i></b> .....	<u>\$ 1,235</u>	<u>\$ 968</u>	<u>\$ 891</u>
<b><i>Supplemental disclosure of cash flow information</i></b>			
Interest paid during the period .....	\$ 1,446	\$ 942	\$ 752
Net income taxes paid (refunded) during the period .....	(289)	354	31
<b><i>Supplemental disclosure of non-cash investing activities</i></b>			
Transfer of loans to held for sale, net .....	1,588	1,850	316
Transfer of other assets to loans held for sale .....	78	—	—
Transfer of securities available-for-sale to securities held-to-maturity .....	—	—	10,985
Fair value of properties added to real estate owned upon foreclosure .....	41	40	50

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

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note	Page	Note	Page
1 Organization .....	134	15 Fair Value Option .....	178
2 Summary of Significant Accounting Policies and New Accounting Pronouncements .....	135	16 Income Taxes .....	181
3 Trading Assets and Liabilities.....	145	17 Preferred Stock .....	184
4 Securities.....	146	18 Accumulated Other Comprehensive Income (Loss) .....	185
5 Loans.....	152	19 Share-Based Plans .....	186
6 Allowance for Credit Losses .....	163	20 Pension and Other Postretirement Benefits .....	186
7 Loans Held for Sale .....	165	21 Related Party Transactions .....	188
8 Properties and Equipment, Net.....	166	22 Business Segments.....	191
9 Intangible Assets.....	166	23 Retained Earnings and Regulatory Capital Requirements .....	197
10 Goodwill .....	167	24 Variable Interest Entities.....	198
11 Deposits .....	168	25 Guarantee Arrangements, Pledged Assets and Repurchase Agreements.....	201
12 Short-Term Borrowings .....	169	26 Fair Value Measurements .....	207
13 Long-Term Debt .....	170	27 Litigation and Regulatory Matters.....	223
14 Derivative Financial Instruments.....	171	28 Financial Statements of HSBC USA Inc. (Parent) .....	233

### 1. Organization

HSBC USA Inc. ("HSBC USA"), incorporated under the laws of Maryland, is a New York State based bank holding company and a wholly-owned subsidiary of HSBC North America Holdings Inc. ("HSBC North America"), which is an indirect wholly-owned subsidiary of HSBC Holdings plc ("HSBC" and, together with its subsidiaries, "HSBC Group"). Prior to November 15, 2016, HSBC USA was owned by HSBC North America Inc. ("HNAI"), an indirect wholly owned subsidiary of HSBC North America which was dissolved. HSBC USA (together with its subsidiaries, "HUSI") may also be referred to in these notes to the consolidated financial statements as "we," "us" or "our."

Through our subsidiaries, we offer a comprehensive range of consumer and commercial banking products and related financial services. HSBC Bank USA, National Association ("HSBC Bank USA"), our principal U.S. banking subsidiary, is a national banking association with banking branch offices and/or representative offices in 17 states and the District of Columbia. In addition to our domestic offices, we maintain foreign branch offices, subsidiaries and/or representative offices in Europe, Asia and Latin America. Our customers include individuals, including high net worth and ultra-high net worth individuals, small businesses, corporations, institutions and governments. HSBC Bank USA is also an international dealer in derivative instruments denominated in U.S. dollars and other currencies, focusing on structuring transactions to meet clients' needs.

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## 2. Summary of Significant Accounting Policies and New Accounting Pronouncements

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### **Significant Accounting Policies**

**Basis of Presentation** The consolidated financial statements include the accounts of HSBC USA and all subsidiaries in which we hold, directly or indirectly, more than 50 percent of the voting rights, or where we exercise control, including all variable interest entities ("VIEs") in which we are the primary beneficiary. Investments in companies where we have significant influence over operating and financing decisions, which primarily are those where the percentage of ownership is at least 20 percent but not more than 50 percent, are accounted for under the equity method and reported as equity method investments in other assets. All significant intercompany accounts and transactions have been eliminated.

We assess whether an entity is a VIE and, if so, whether we are its primary beneficiary at the time of initial involvement with the entity and on an ongoing basis. A VIE is an entity in which the equity investment at risk is not sufficient to finance the entity's activities without additional subordinated financial support, or as a group, the holders of equity investment at risk lack either a) the power through voting rights or similar rights to direct the activities of the entity that most significantly impacts the entity's economic performance; or b) the obligation to absorb the entity's expected losses, the right to receive the expected residual returns, or both. A VIE must be consolidated by its primary beneficiary, which is the entity with the power to direct the activities of a VIE that most significantly impact its economic performance and the obligation to absorb losses of, or the right to receive benefits from, the VIE that could potentially be significant to the VIE.

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates. Areas which we consider to be critical accounting estimates and require a high degree of judgment and complexity include allowance for credit losses, goodwill impairment, valuation of financial instruments, derivatives held for hedging, deferred tax asset valuation allowances and contingent liabilities. Certain reclassifications have been made to prior period amounts to conform to the current period presentation.

**Cash and Cash Equivalents** For the purpose of reporting cash flows, cash and cash equivalents include cash on hand and amounts due from banks.

**Resale and Repurchase Agreements** We enter into purchases and borrowings of securities under agreements to resell (resale agreements) and sales of securities under agreements to repurchase (repurchase agreements) substantially identical securities. Resale and repurchase agreements are accounted for as secured lending and secured borrowing transactions, respectively.

The amounts advanced under resale agreements and the amounts borrowed under repurchase agreements are carried on the consolidated balance sheet at the amount advanced or borrowed, plus accrued interest to date. Interest earned on resale agreements is reported as interest income. Interest paid on repurchase agreements is reported as interest expense. We offset resale and repurchase agreements executed with the same counterparty under legally enforceable netting agreements that meet the applicable netting criteria as permitted by generally accepted accounting principles.

Repurchase agreements may require us to deposit cash or other collateral with the lender. In connection with resale agreements, it is our policy to obtain possession of collateral, which may include the securities purchased, with market value in excess of the principal amount loaned. The market value of the collateral subject to the resale and repurchase agreements is regularly monitored, and additional collateral is obtained or provided when appropriate, to ensure appropriate collateral coverage of these secured financing transactions.

**Trading Assets and Liabilities** Financial instruments utilized in trading activities are stated at fair value. Fair value is generally based on quoted market prices. If quoted market prices are not available, fair values are estimated based on dealer quotes, pricing models, using observable inputs where available or quoted prices for instruments with similar characteristics. Where applicable, fair value is determined by reference to quotes provided by multiple independent pricing services. Fair value determined by internal pricing models is regularly substantiated by the price level executed in the market and the internal pricing models used are periodically validated by the Markets Independent Model Review ("IMR") function. Realized and unrealized gains and losses are recognized in trading revenues.

Trading assets and liabilities historically included precious metals deposited by customers with us in exchange for general claims on our physical unallocated precious metals inventory. We measured this inventory and related claims at fair value using the spot prices of the respective underlying metals and recognized changes in spot prices in trading revenue.

**Securities** Debt securities that we have the ability and intent to hold to maturity are reported at cost adjusted for amortization of premiums and accretion of discounts, which are recognized as adjustments to yield over the contractual lives of the related securities. Securities acquired principally for the purpose of selling them in the near term are classified as trading assets and reported at fair value. Fair value adjustments to trading securities and gains and losses on the sale of such securities are reported in trading revenue.

Equity securities that are not quoted on a recognized exchange are not considered to have a readily determinable fair value, and are recorded at cost, less any provisions for impairment. Unquoted equity securities, which include Federal Home Loan Bank stock, Federal Reserve Bank stock and Visa Class B securities, are recorded in other assets.

All other securities are classified as available-for-sale and carried at fair value, with unrealized gains and losses, net of related income taxes, recorded as adjustments to common equity as a component of accumulated other comprehensive income.

Realized gains and losses on sales of securities available-for-sale and securities held-to-maturity are computed on a specific identified cost basis and are reported in other securities gains, net. When the fair value of a security has declined below its amortized cost basis, we evaluate the decline to assess if it is considered other-than-temporary. For debt securities that we intend to sell or for which it is more likely than not that we will be required to sell before the recovery of its amortized cost basis, the decline in fair value below the security's amortized cost is deemed to be other than temporary and we recognize an other-than-temporary impairment loss in earnings equal to the difference between the security's amortized cost and its fair value. We measure impairment loss for equity securities that are deemed other-than-temporarily impaired in the same manner. For a debt security that we do not intend to sell and for which it is not more likely than not that we will be required to sell prior to recovery of its amortized cost basis, but for which we nonetheless do not expect to recover the entire amortized cost basis of the security, we recognize the portion of the decline in the security's fair value below its amortized cost that represents a credit loss as an other-than-temporary impairment in earnings and the remaining portion of the decline as an other-than-temporary impairment in other comprehensive income. For these debt securities, a new cost basis is established, which reflects the amount of the other-than-temporary impairment loss recognized in earnings.

**Loans** Loans are stated at amortized cost, which represents the principal amount outstanding, net of unearned income, charge-offs, unamortized purchase premium or discount, unamortized nonrefundable fees and related direct loan origination costs and purchase accounting fair value adjustments. The carrying amount of loans represents their amortized cost reduced by the allowance for credit losses.

Premiums and discounts and purchase accounting fair value adjustments are recognized as adjustments to yield over the estimated or contractual lives of the related loans. Interest income is recorded based on the effective interest method.

Troubled debt restructurings ("TDR Loans") are loans for which the original contractual terms have been modified to provide for terms that are less than we would be willing to accept for new loans with comparable risk because of deterioration in the borrower's financial condition. Interest on TDR Loans is recognized when collection is reasonably assured. For commercial nonaccrual TDR Loans, the resumption of interest accrual generally occurs when the borrower has complied with the modified payment terms and conditions for twelve months while maintaining compliance with other terms and conditions of that specific restructuring. For consumer nonaccrual TDR Loans, interest accruals are resumed when the loan becomes current or becomes less than 90 days delinquent and six months of consecutive payments have been made. Modifications resulting in TDR Loans may include changes to one or more terms of the loan, including but not limited to, a change in interest rate, an extension of the amortization period, a reduction in payment amount and partial forgiveness or deferment of principal, accrued interest or other loan covenants.

Nonrefundable fees and related direct costs associated with the origination of loans are deferred and netted against outstanding loan balances. The amortization of net deferred fees, which include points on real estate secured loans and costs, is recognized in interest income, generally by the interest method, based on the estimated or contractual lives of the related loans. Amortization periods are periodically adjusted for loan prepayments and changes in other market assumptions. Annual fees on MasterCard/Visa credit cards, net of direct lending costs, are deferred and amortized on a straight-line basis over one year.

Nonrefundable fees related to lending activities other than direct loan origination are recognized as other revenues over the period in which the related service is provided. This includes fees associated with the issuance of loan commitments where the likelihood of the commitment being exercised is considered remote. In the event of the exercise of the commitment, the remaining unamortized fee is recognized in interest income over the loan term using the interest method. Other credit-related fees, such as standby letter of credit fees, loan syndication and agency fees are recognized as other revenues over the period the related service is performed.

**Allowance for Credit Losses** We maintain an allowance for credit losses that is, in the judgment of management, adequate to absorb estimated probable incurred losses in our commercial and consumer loan portfolios. The adequacy of the allowance for credit losses is assessed in accordance with generally accepted accounting principles and is based, in part, upon an evaluation of various factors including:

- an analysis of individual exposures where applicable;
- current and historical loss experience;
- changes in the overall size and composition of the portfolio; and
- specific adverse situations and general economic conditions.

Loss estimates are reviewed periodically and adjustments are reported in earnings when they become known. As these estimates are influenced by factors outside of our control, such as consumer payment patterns and economic conditions, there is uncertainty inherent in these estimates, making it reasonably possible they could change.

For individually assessed commercial loans, we conduct a periodic assessment on a loan-by-loan basis of losses we believe to be inherent in the loan portfolio. When it is deemed probable, based upon known facts and circumstances, that full contractual interest and principal on an individual loan will not be collected in accordance with its contractual terms, the loan is considered impaired. An impairment reserve is established based on the present value of expected future cash flows, discounted at the loan's original effective interest rate, or as a practical expedient, the loan's observable market price or the fair value of the collateral if the loan is collateral dependent. Generally, impaired loans include loans in nonaccruing status, loans which have been assigned a specific allowance for credit losses, loans which have been partially charged off, and TDR Loans. Problem commercial loans are assigned various obligor grades, which are used in the allowance for credit losses methodology. In assigning the obligor ratings to a particular loan, among the risk factors considered are the obligor's debt capacity and financial position, the level of earnings, the amount and sources for repayment, the level of contingencies, management strength and the industry or geography in which the obligor operates.

Formula-based reserves are also established against commercial loans when, based upon an analysis of relevant data, it is probable that a loss has been incurred and the amount of that loss can be reasonably estimated, even though an actual loss has yet to be identified. This methodology uses the probability of default from the customer risk rating assigned to each counterparty together with the estimated loss emergence period (estimate of the period of time between a loss occurring and the confirming event of its charge-off) of the separate portfolios. The "Loss Given Default" rating assigned to each transaction or facility is based on the collateral securing the transaction and the measure of exposure based on the transaction. Specifically, the presence of collateral (secured vs. unsecured), the loan-to-value ratio and the quality of the collateral are the primary drivers of Loss Given Default. A separate reserve for credit losses associated with off-balance sheet exposures, including unfunded lending commitments such as letters of credit, guarantees to extend credit and financial guarantees, is also maintained which is recorded as a component of other expense and included in other liabilities, which incorporates estimates of the probability that customers will actually draw upon off-balance sheet obligations. These reserves are determined by reference to continuously monitored and updated historical loss rates or factors, derived from a migration analysis which considers net charge-off experience by loan and industry type in relation to internal customer credit grading.

We estimate probable losses for pools of homogeneous consumer loans and certain small business loans which do not qualify as TDR Loans using a roll rate migration analysis that estimates the likelihood that a loan will progress through the various stages of delinquency, or buckets, and ultimately charge-off. This migration analysis incorporates estimates of the period of time between a loss occurring and the confirming event of its charge-off. This analysis also considers delinquency status, loss experience and severity and takes into account whether borrowers have filed for bankruptcy or have been subject to account management actions, such as the re-age or modification of accounts. We also take into consideration the loss severity expected based on the underlying collateral, if any, for the loan in the event of default based on historical and recent trends which are updated monthly based on a rolling average of several months' data using the most recently available information.

In addition, loss reserves on consumer and commercial loans are maintained to reflect our judgment of portfolio risk factors which may not be fully reflected in the statistical calculations or when historical trends are not reflective of current inherent losses in the portfolio. Portfolio risk factors considered in establishing the allowance for credit losses on loans include, as appropriate, growth, including expansion into new lending markets and customer concentrations, product mix and risk selection, unemployment rates, bankruptcy trends, loan product features such as adjustable rate loans, economic conditions such as industry and business performance and trends in housing markets and interest rates, portfolio seasoning, account management policies and practices, model imprecision, changes in underwriting practices, current levels of charge-off and delinquencies, changes in laws and regulations, customer concentration and other factors which can affect payment patterns on outstanding loans such as natural disasters. We also consider key ratios such as allowance as a percentage of loans, allowance as a percentage of nonperforming loans and allowance as a percentage of net charge-offs in developing our allowance estimates.

For loans which have been identified as TDR Loans, provisions for credit losses are maintained based on the present value of expected future cash flows discounted at the loans' original effective interest rate or in the case of certain loans which are solely dependent on the collateral for repayment, the estimated fair value of the collateral less costs to sell. TDR Loans are considered to be impaired loans. Interest income on TDR Loans is recognized in the same manner as loans which are not TDR Loans. For consumer loans, once a loan is classified as a TDR Loan, it continues to be reported as such until it is paid off or charged-off. For commercial loans, if a TDR Loan subsequently performs in accordance with the new terms and such terms represent current market rates at the time of restructure, such loan will be no longer be reported as a TDR Loan beginning in the year after restructure.

**Charge-Off and Nonaccrual Policies and Practices** Our charge-off and nonaccrual policies differ by product and are summarized below:

Product	Charge-off Policies and Practices	Nonaccrual Policies and Practices
Commercial Loans <i>Construction and other real estate</i> <i>Business and corporate banking</i> <i>Global banking</i> <i>Other commercial</i>	Commercial loan balances are charged off at the time all or a portion of the balance is deemed uncollectible.	Loans are generally categorized as nonaccruing when contractually delinquent for more than three months and in the opinion of management, reasonable doubt exists with respect to the ultimate collectibility of interest or principal based on certain factors including the period of time past due and adequacy of collateral. When classified as nonaccruing, any accrued interest recorded on the loan is generally deemed uncollectible and reversed against income. Interest income is subsequently recognized only to the extent of cash received until the loan is placed on accrual status. In instances where there is doubt as to collectibility of principal, interest payments received are applied to principal. Loans are not reclassified as accruing until interest and principal payments are current and future payments are reasonably assured.
Residential Mortgage Loans	Carrying amounts in excess of fair value less costs to sell are generally charged off at the time foreclosure is initiated or when settlement is reached with the borrower, but not to exceed the end of the month in which the account becomes six months contractually delinquent. If foreclosure is not pursued and there is no reasonable expectation for recovery, the account is generally charged off no later than the end of the month in which the account becomes six months contractually delinquent. <sup>(1)</sup>	Loans are generally designated as nonaccruing when contractually delinquent for more than three months. When classified as nonaccruing, any accrued interest on the loan is generally deemed uncollectible and reversed against income. Interest accruals are resumed when the loan either becomes current or becomes less than three months delinquent and six months of consecutive payments have been made.
Credit Cards	Loan balances are generally charged off by the end of the month in which the account becomes six months contractually delinquent.	Interest generally accrues until charge-off.
Other Consumer Loans	Loan balances are generally charged off by the end of the month in which the account becomes four months contractually delinquent.	Interest generally accrues until charge-off.

<sup>(1)</sup> Values are determined based upon broker price opinions or appraisals which are updated at least every 180 days less estimated costs to sell. During the quarterly period between updates, real estate price trends are reviewed on a geographic basis and additional downward adjustments are recorded as necessary. Fair values of foreclosed properties at the time of acquisition are initially determined based upon broker price opinions. Subsequent to acquisition, a more detailed property valuation is performed, reflecting information obtained from a walk-through of the property in the form of a listing agent broker price opinion as well as an independent broker price opinion or appraisal. A valuation is determined from this information within 90 days and any additional write-downs required are recorded through charge-off at that time. In determining the appropriate amounts to charge-off when a property is acquired in exchange for a loan, we do not consider losses on sales of foreclosed properties resulting from deterioration in value during the period the collateral is held because these losses result from future loss events which cannot be considered in determining the fair value of the collateral at the acquisition date.

Charge-offs involving a bankruptcy for credit card receivables occurs by the end of the month, 60 days after notification or 180 days contractually delinquent, whichever comes first.

Delinquency status for loans is determined using the contractual method which is based on the status of payments under the loan. An account is generally considered to be contractually delinquent when payments have not been made in accordance with the loan terms. Delinquency status may be affected by customer account management policies and practices such as the restructure, re-age or modification of accounts.

Payments received on commercial nonaccrual loans are generally applied to reduce the principal balance of such loans. For consumer nonaccrual loans, payments are generally applied first to reduce the current interest on the earliest payment due with any remainder applied to reduce the principal balance associated with that payment date.

**Loans Held for Sale** Loans are classified as held for sale when they are not expected to be held for the foreseeable future because of management's lack of intent to hold. With the exception of certain commercial loans for which the fair value option has been elected, loans classified as held for sale are recorded at the lower of amortized cost or estimated fair value, which is not in excess of their aggregate carrying value at the time of designation. The fair value estimates of consumer loans are determined primarily using the discounted cash flow method with estimated inputs in prepayment rates, default rates, loss severity, and market rate of return while the fair value estimates of commercial loans held for sale are determined primarily using observable market consensus pricing obtained from independent sources, relevant broker quotes or observed market prices of instruments with similar characteristics. Where available, we measure held for sale residential mortgage whole loans based on transaction prices of similar loan portfolios observed in the whole loan market with adjustments made to reflect differences in collateral location, loan-to-value ratio, FICO scores, vintage year, default rates, the completeness of the loan documentation and other risk characteristics. For loans other than those classified as nonaccrual, interest income is determined by applying each loan's contractual rate to the loan's outstanding customer balance, exclusive of unearned income, deferred fees, deferred costs, premium and discount. Periodic adjustments to fair value are recognized in other income in the consolidated statement of income except for those related to residential mortgage loans held for sale that we originate which are recorded as a component of residential mortgage banking revenue.

**Transfers of Financial Assets** Transfers of financial assets in which we have surrendered control over the transferred assets are accounted for as sales. In assessing whether control has been surrendered, we consider whether the transferee would be a consolidated affiliate, the existence and extent of any continuing involvement in the transferred financial assets and the impact of all arrangements or agreements made contemporaneously with, or in contemplation of, the transfer, even if they were not entered into at the time of transfer.

If the sale criteria are met, the transferred financial assets are removed from our balance sheet and a gain or loss on sale is recognized. If the sale criteria are not met, the transfer is recorded as a secured borrowing in which the assets remain on our balance sheet and the proceeds from the transaction are recognized as a liability. For the majority of financial asset transfers, it is clear whether or not we have surrendered control. For other transfers, such as in connection with complex transactions or where we have continuing involvement such as servicing responsibilities, we generally obtain a legal opinion as to whether the transfer results in a true sale by law.

**Properties and Equipment, Net** Properties and equipment are recorded at cost, net of accumulated depreciation. Depreciation is recorded on a straight-line basis over the estimated useful lives of the related assets, which generally range from 3 to 40 years. Leasehold improvements are depreciated over the shorter of the useful life of the improvement or the term of the lease. The costs of maintenance and repairs are expensed as incurred. Impairment testing is performed whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable.

**Mortgage Servicing Rights** During the fourth quarter of 2016, we completed the sale of our remaining residential mortgage servicing rights ("MSRs") to a third party. Previously, MSRs were measured at fair value at each reporting date with changes in fair value reflected in earnings in the period that the changes occurred.

MSRs were subject primarily to interest rate risk, in that their fair value would fluctuate as a result of changes in the interest rate environment. Fair value was determined based upon the application of valuation models and other inputs. The valuation models incorporated assumptions market participants would use in estimating future cash flows. These assumptions included expected prepayments, default rates and market based option adjusted spreads.

We used certain derivative financial instruments, including futures, options and interest rate swaps, to protect against a decline in the economic value of MSRs. These instruments were not designated as qualifying hedges and were therefore recorded as trading assets that are marked-to-market through earnings.

**Goodwill** Goodwill, representing the excess of purchase price over the fair value of identifiable net assets acquired, results from business combinations. Goodwill is not amortized, but is reviewed for impairment at a minimum on an annual basis at the reporting unit level using discounted cash flow and market approaches. The market approach focuses on valuation multiples for reasonably similar publicly traded companies and also considers recent market transactions, while the discounted cash flows method utilizes cash flow estimates based on internal forecasts updated to reflect current economic conditions and discount rates that we believe adequately reflect the risk and uncertainty in our internal forecasts and are appropriate based on the implicit market rates in current comparable transactions. Impairment is reviewed as of an interim date if circumstances indicate that it is more likely than not that the carrying amount of a reporting unit is above fair value. The carrying amount of a reporting unit is determined on the basis of capital invested in the unit including attributable goodwill. We determine the invested capital of a reporting unit by applying to the reporting unit's risk weighted assets a capital charge consistent with Basel III requirements, and additionally, allocating to each reporting unit the remaining carrying amount of HUSI's net assets. Accordingly, the entire carrying amount of HUSI's net assets

is allocated to our reporting units. We consider significant and long-term changes in industry and economic conditions to be examples of primary indicators of potential impairment.

**Repossessed Collateral** Non-financial collateral acquired in satisfaction of a loan is initially recognized at the lower of amortized cost or the collateral's fair value less estimated costs to sell and is reported in other assets. Once a property is classified as real estate owned ("REO"), we do not consider the losses on past sales of foreclosed properties when determining the fair value of any collateral during the period it is held in REO. Any subsequent declines in fair value less estimated costs to sell are recorded through a valuation allowance. Recoveries in fair value less estimated costs to sell are recognized as a reduction of the valuation allowance but not in excess of cumulative losses previously recognized subsequent to the date of repossession. Adjustments to the valuation allowance, costs of holding repossessed collateral, and any gain or loss on disposition are credited or charged to operating expense.

**Collateral** We pledge assets as collateral as required for various transactions involving security repurchase agreements, public deposits, Treasury tax and loan notes, derivative financial instruments, short-term borrowings and long-term borrowings. Non-cash assets that have been pledged as collateral, including those that can be sold or repledged by the secured party, continue to be reported on our consolidated balance sheet.

We also accept collateral, primarily as part of various transactions involving security resale agreements. Non-cash collateral accepted by us, including collateral that we can sell or re-pledge, is excluded from our consolidated balance sheet. If we resell the collateral, we recognize the proceeds and a liability to return the collateral.

The market value of collateral we have accepted or pledged is regularly monitored and additional collateral is obtained or provided as necessary to ensure appropriate collateral coverage in these transactions.

**Derivative Financial Instruments** Derivative financial instruments are recognized on the consolidated balance sheet at fair value. On the date a derivative contract is entered into, we designate it as either:

- a qualifying hedge of the fair value of a recognized asset or liability or of an unrecognized firm commitment (fair value hedge);
- a qualifying hedge of the variability of cash flows to be received or paid related to a recognized asset, liability or forecasted transaction (cash flow hedge); or
- a trading instrument or a non-qualifying (economic) hedge.

Changes in the fair value of a derivative designated as a fair value hedge, along with the changes in the fair value of the hedged asset or liability that is attributable to the hedged risk (including losses or gains on firm commitments), are recorded in current period earnings. Changes in the fair value of a derivative that has been designated as a cash flow hedge, to the extent effective as a hedge, are recorded in accumulated other comprehensive income, net of income taxes, and reclassified into earnings in the period during which the hedged item affects earnings. Ineffectiveness in the hedging relationship is reflected in current period earnings. Changes in the fair value of derivatives held for trading purposes or which do not qualify for hedge accounting are reported in current period earnings.

At the inception of each designated qualifying hedge, we formally document all relationships between hedging instruments and hedged items, as well as its risk management objective and strategy for undertaking various hedge transactions, the nature of the hedged risk, and how hedge effectiveness will be assessed and how ineffectiveness will be measured. This process includes linking all derivatives that are designated as fair value or cash flow hedges to specific assets and liabilities on the balance sheet or to specific firm commitments or forecasted transactions. We also formally assess both at inception and on a quarterly basis, whether the derivatives that are used in hedging transactions are highly effective in offsetting changes in fair values or cash flows of hedged items and whether they are expected to continue to be highly effective in future periods. This assessment is conducted using statistical regression analysis.

Earnings volatility may result from the on-going mark to market of certain economically viable derivative contracts that do not satisfy the hedging requirements under U.S. GAAP as well as from the hedge ineffectiveness associated with the qualifying hedges.

**Embedded Derivatives** We may acquire or originate a financial instrument that contains a derivative instrument embedded within it. Upon origination or acquisition of any such instrument, we assess whether the economic characteristics of the embedded derivative are clearly and closely related to the economic characteristics of the principal component of the financial instrument (i.e., the host contract) and whether a separate instrument with the same terms as the embedded instrument would meet the definition of a derivative instrument.

When we determine that: (1) the embedded derivative possesses economic characteristics that are not clearly and closely related to the economic characteristics of the host contract; and (2) a separate instrument with the same terms would qualify as a derivative instrument, the embedded derivative is either separated from the host contract (bifurcated), carried at fair value, and designated as a trading instrument or the entire financial instrument is carried at fair value with all changes in fair value recorded to current period earnings. If bifurcation is elected, the consideration for the hybrid financial instrument that is allocated to the bifurcated derivative reduces the consideration that is allocated to the host contract with the difference being recognized over the life of the financial instrument.

**Hedge Discontinuation** We discontinue hedge accounting prospectively when:

- the derivative is no longer effective or expected to be effective in offsetting changes in the fair value or cash flows of a hedged item (including firm commitments or forecasted transactions) related to the designated risk;
- the derivative expires or is sold, terminated, or exercised;
- it is unlikely that a forecasted transaction will occur;
- the hedged firm commitment no longer meets the definition of a firm commitment; or
- the designation of the derivative as a hedging instrument is no longer appropriate.

When hedge accounting is discontinued because it is determined that the derivative no longer qualifies as an effective fair value or cash flow hedge, the hedging relationship will cease. The hedging instrument will continue to be carried on the balance sheet at fair value, with changes in fair value recognized in current period earnings.

In the case of a discontinued fair value hedge of a recognized asset or liability, as long as the hedged item continues to exist on the balance sheet, the hedged item will no longer be adjusted for changes in fair value attributable to the hedged risk. The basis adjustment that had previously been recorded to the hedged item during the period from the hedge designation date to the hedge discontinuation date is recognized as an adjustment to the yield of the hedged item over the remaining life of the hedged item.

In the case of a discontinued cash flow hedge of a recognized asset or liability, as long as the hedged item continues to exist on the balance sheet, further changes in fair value of the hedging derivative will no longer be recorded in other comprehensive income. The balance applicable to the discontinued hedging relationship will be recognized in earnings over the remaining life of the hedged item as an adjustment to yield. If the discontinued hedged item was a forecasted transaction where it is probable the forecasted transaction will not occur at the end of the original specified time period or within an additional two-month period thereafter, any amounts recorded in accumulated other comprehensive income are immediately reclassified to current period earnings.

In the case of a cash flow hedge, if the previously hedged item is sold or extinguished, the basis adjustment to the underlying asset or liability or any remaining unamortized other comprehensive income balance will be reclassified to current period earnings.

In all other situations in which hedge accounting is discontinued, the derivative will be carried at fair value on the consolidated balance sheet, with changes in its fair value recognized in current period earnings unless redesignated in a qualifying cash flow hedge.

**Interest Rate Lock Commitments** We enter into commitments to originate residential mortgage loans whereby the interest rate on the loan is set prior to funding (rate lock commitments). The interest rate lock commitments on residential mortgage loans that are classified as held for sale are considered to be derivatives and are recorded at fair value in other assets or other liabilities in the consolidated balance sheet. Changes in fair value are recorded in residential mortgage banking revenue in the consolidated statement of income.

**Share-Based Compensation** We use the fair value based method of accounting for awards of HSBC stock granted to employees under various restricted share and employee stock purchase plans. Stock compensation costs are recognized prospectively for all new awards granted under these plans. Compensation expense relating to restricted share rights, restricted shares and restricted share units is based upon the fair value on the date of grant and is charged to earnings over the requisite service period (e.g., vesting period), less estimated forfeitures. When modeling awards with vesting that is dependent on performance targets, these performance targets are incorporated into the model using Monte Carlo simulation. The expected life of these awards depends on the behavior of the award holders, which is incorporated into the model consistent with historical observable data.

**Pension and Other Postretirement Benefits** We recognize the funded status of the postretirement benefit plans on the consolidated balance sheet. Net postretirement benefit cost charged to current earnings related to these plans is based on various actuarial assumptions regarding expected future experience.

Certain employees are participants in various defined contribution, defined benefit or other non-qualified supplemental retirement plans sponsored by HSBC North America. Our portion of the expense related to these plans is allocated to us and charged to current earnings.

We maintain various 401(k) plans covering substantially all employees. Employer contributions to the plan, which are charged to current earnings, are based on employee contributions.

**Income Taxes** HSBC USA is included in HSBC North America's consolidated Federal income tax return and in various combined State income tax returns. As such, we have entered into a tax allocation agreement with HSBC North America and its subsidiary entities (the "HNAH Group") which governs the current amount of taxes to be paid or received by the various entities included in the consolidated return filings. Generally, such agreements allocate taxes to members of the HNAH Group based on the calculation of tax on a separate return basis, adjusted for the utilization or limitation of credits of the consolidated group. To the extent all the tax attributes available cannot be currently utilized by the consolidated group, the proportionate share of the utilized attribute is allocated based on each affiliate's percentage of the available attribute computed in a manner that is consistent with the taxing

jurisdiction's laws and regulations regarding the ordering of utilization. In addition, we file some separate company State tax returns.

We recognize deferred tax assets and liabilities for the future tax consequences related to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases, and for State tax credits and State net operating losses. Deferred tax assets and liabilities are measured using the enacted tax rates and laws that will be in effect when the deferred tax items are expected to be realized. If applicable, valuation allowances are recorded to reduce deferred tax assets to the amounts we conclude are more likely than not to be realized. Since we are included in HSBC North America's consolidated Federal tax return and various combined State tax returns, the related evaluation of the recoverability of the deferred tax assets is performed at the HSBC North America consolidated level. We consider the HNAH Group's consolidated deferred tax assets and various sources of taxable income in reaching conclusions on recoverability of deferred tax assets. The HNAH Group evaluates deferred tax assets for recoverability using a consistent approach which considers the relative impact of negative and positive evidence, including historical financial performance, projections of future taxable income, future reversals of existing taxable temporary differences, tax planning strategies and any available carryback capacity. In evaluating the need for a valuation allowance, the HNAH Group estimates future taxable income based on management approved business plans. This process involves significant management judgment about assumptions that are subject to change from period to period.

Where a valuation allowance is determined to be necessary at the HSBC North America consolidated level, such allowance is allocated to principal subsidiaries within the HNAH Group in a manner that is systematic, rational and consistent with the broad principles of accounting for income taxes. The methodology generally allocates the valuation allowance to the principal subsidiaries based primarily on the entity's relative contribution to the HNAH Group's consolidated deferred tax asset against which the valuation allowance is being recorded.

Further evaluation is performed at the HSBC USA legal entity level to evaluate the need for a valuation allowance where we file separate company State income tax returns. Foreign taxes paid are applied as credits to reduce Federal income taxes payable, to the extent that such credits can be utilized.

We recognize accrued interest related to uncertain tax positions in interest expense in the consolidated statement of income and recognize penalties, if any, related to uncertain tax positions as a component of other expenses in the consolidated statement of income.

**Transactions with Related Parties** In the normal course of business, we enter into transactions with HSBC and its subsidiaries. These transactions occur at prevailing market rates and terms and include funding arrangements, derivative, servicing arrangements, information technology, centralized support services, banking and other miscellaneous services. Prior to 2013, we also purchased loans from related parties.

#### ***New Accounting Pronouncements***

The following new accounting pronouncement was adopted effective January 1, 2016:

- ***Amendments to the Consolidation Analysis*** In February 2015, the Financial Accounting Standards Board ("FASB") issued an Accounting Standards Update ("ASU") which rescinds the deferral of VIE consolidation guidance for reporting entities with interests in certain investment funds and provides a new scope exception to registered money market funds and similar unregistered money market funds. The ASU makes several other amendments including a) the elimination of certain criteria previously used for determining whether fees paid to a decision maker represent a variable interest; b) revising the consolidation model for limited partnerships and similar entities which could be variable interest entities or voting interest entities; c) excluding certain fees paid to a decision maker from the risk and benefit test in the primary beneficiary determination if certain conditions are met; and d) reduces the application of the related party guidance for VIEs. The adoption of this guidance did not have any impact on our financial position or results of operations; however, one of our unconsolidated limited partnership investments related to renewable energy became a VIE under the new guidance. Disclosure of this unconsolidated VIE is included under the caption "Limited partnership investments" in Note 24, "Variable Interest Entities."

The following new accounting pronouncements will be adopted in future periods:

- ***Recognition of Revenue from Contracts with Customers*** In May 2014, the FASB issued an ASU which provides a principles-based framework for revenue recognition that supersedes virtually all previously issued revenue recognition guidance. Additionally, the ASU requires improved disclosures to help users of financial statements better understand the nature, amount, timing, and uncertainty of revenue that is recognized. The core principle of the five-step revenue recognition framework is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. While the ASU as originally issued was scheduled to be effective for all annual and interim periods beginning January 1, 2017, in August 2015, the FASB deferred the effective date by one year. The amendments in the ASU may be applied either retrospectively to each prior reporting period presented or retrospectively with the cumulative

effect of adoption recognized in equity at the date of initial application. We have conducted an analysis of the potential impact the new ASU may have on our operations. We currently believe the scope of the new guidance will be limited to certain revenues classified as fee based income and do not expect the adoption of this guidance will have a significant impact on our financial position or results of operations.

- **Financial Instruments - Classification and Measurement** In January 2016, the FASB issued an ASU which changes aspects of its guidance on classification and measurement of financial instruments. The ASU requires equity investments (except those accounted for under the equity method or those that result in consolidation) to be measured at fair value with changes in fair value recognized in net income. Under a practicability exception, entities may measure equity investments that do not have readily determinable fair values at cost adjusted for changes in observable prices minus impairment. Under this exception, a qualitative assessment for impairment will be required and, if impairment exists, the carrying amount of the investments must be adjusted to their fair value and an impairment loss recognized in net income. For financial liabilities measured under the fair value option, the ASU requires recognizing the change in fair value attributable to our own credit in other comprehensive income. Additionally, the ASU requires new disclosure related to equity investments and modifies certain disclosure requirements related to the fair value of financial instruments. The ASU is effective for all annual and interim periods beginning January 1, 2018 and the guidance should be applied by recording a cumulative effect adjustment to the balance sheet or, as it relates to equity investments without readily determinable fair values, prospectively. The adoption of the guidance relating to financial liabilities measured under the fair value option will have a significant impact on our financial statements and will result in recognizing the change in fair value attributable to our own credit risk in other comprehensive income where previously these amounts were recognized in net income. We have elected to early adopt the new guidance related to financial liabilities measured under the fair value option in the first quarter of 2017, which required a cumulative effect adjustment to the consolidated balance sheet, resulting in a reclassification from retained earnings to accumulated other comprehensive loss of an after tax gain of approximately \$174 million as of January 1, 2017. We currently do not anticipate the impact of adopting the remaining guidance in this ASU will have a significant impact on our financial position or results of operations.
- **Leases** In February 2016, the FASB issued an ASU which requires a lessee to recognize a lease liability and a right-of-use asset on its balance sheet for all leases, including operating leases, with a term greater than 12 months. Lease classification will determine whether a lease is reported as a financing transaction in the income statement and statement of cash flows. The ASU does not substantially change lessor accounting, but it does make certain changes related to leases for which collectability of the lease payments is uncertain or there are significant variable payments. Additionally, the ASU makes several other targeted amendments including a) revising the definition of lease payments to include fixed payments by the lessee to cover lessor costs related to ownership of the underlying asset such as for property taxes or insurance; b) narrowing the definition of initial direct costs which an entity is permitted to capitalize to include only those incremental costs of a lease that would not have been incurred if the lease had not been obtained; c) requiring seller-lessees in a sale-leaseback transaction to recognize the entire gain from the sale of the underlying asset at the time of sale rather than over the leaseback term; and d) expanding disclosures to provide quantitative and qualitative information about lease transactions. The ASU is effective for all annual and interim periods beginning January 1, 2019 and is required to be applied retrospectively to the earliest period presented at the date of initial application, with early adoption permitted. While we are currently evaluating the impact the new guidance will have on our financial position and results of operations, we currently expect a gross-up of our balance sheet as a result of recognizing lease liabilities and right of use assets. The extent of such gross-up remains to be determined once we complete a review of our existing lease contracts and service contracts which may contain embedded leases. As we have not yet completed our review, it is currently not practicable to quantify the impact of adopting the ASU at this time.
- **Compensation - Stock Compensation** In March 2016, the FASB issued an ASU that requires all excess tax benefits and tax deficiencies for share-based payment awards to be recorded as income tax benefit or expense in the income statement and for excess tax benefits to be classified as an operating activity in the statement of cash flows. Under the ASU, entities elect whether to account for forfeitures of awards by either recognizing forfeitures as they occur or by estimating the number of awards expected to be forfeited. Additionally, the ASU allows entities to withhold up to the maximum individual statutory tax rate to cover income taxes on awards and classify the entire awards as equity. Cash paid to satisfy the statutory income tax withholding obligation must be classified as a financing activity in the statement of cash flows. The ASU is effective for all annual and interim periods beginning January 1, 2017, with early adoption permitted. The amendments in the ASU have various transition requirements with certain amendments required to be applied retrospectively. The adoption of this ASU will not have a material impact on our financial position and results of operations.
- **Financial Instruments - Credit Impairment** In June 2016, the FASB issued an ASU that significantly changes how entities will measure credit losses for most financial assets and certain other instruments that are not measured at fair value through net income. The ASU requires entities to estimate and recognize an allowance for lifetime expected credit losses for loans (including TDR Loans), held-to-maturity debt securities, off-balance sheet credit exposures and certain other financial assets measured at amortized cost. The ASU also requires entities to recognize an allowance for credit

losses on available-for-sale ("AFS") debt securities and revises the accounting model for purchased credit impaired loans and debt securities. Additionally, the ASU requires new disclosures, the more significant of which include a) for financial assets measured at cost, information about how an entity developed its allowance, including changes in the factors that influenced the estimate of expected credit losses and the reasons for those changes; b) for financing receivables, further disaggregation of credit quality indicators by year of origination; and c) for AFS debt securities, a rollforward of the allowance for credit losses and an aging analysis of securities that are past due. The ASU is effective for all annual and interim periods beginning January 1, 2020, with early adoption permitted beginning January 1, 2019, and is required to be applied by recording a cumulative effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is effective. We have begun our implementation efforts, leveraging our participation in support of HSBC's implementation of IFRS 9 where feasible, to identify key interpretive issues and are assessing existing credit loss forecasting models and processes against the new guidance to determine what modifications may be required. While we are currently evaluating the impact the new guidance will have on our financial position and results of operations, it is currently not practicable to quantify the impact of adopting the ASU at this time, as we have not yet completed our review. The extent of any impact to our allowance will depend, in part, upon the composition of our loan and held to maturity securities portfolios at the adoption date as well as economic conditions and loss forecasts at that date.

- **Statement of Cash Flows - Classification of Certain Cash Receipts and Cash Payments** In August 2016, the FASB issued an ASU that provides targeted amendments to clarify how certain cash receipts and cash payments should be classified in the statement of cash flows. Under the ASU, the portion of the cash payments attributable to accreted interest for the settlement of zero-coupon bonds should be classified as cash outflows for operating activities rather than cash outflows for financing activities. The ASU is effective for all annual and interim periods beginning January 1, 2018 and is required to be applied retrospectively to all periods presented, with early adoption permitted. We are currently evaluating the impact of adopting this ASU. While the new guidance will result in a change in classification in the statement of cash flows, it will not have any impact on our financial position or results of operations.
- **Statement of Cash Flows - Restricted Cash** In November 2016, the FASB issued an ASU that clarifies how restricted cash and restricted cash equivalents should be presented in the statement of cash flows. The ASU requires entities to show the changes in the total of cash, cash equivalents, restricted cash and restricted cash equivalents in the statement of cash flows. The ASU is effective for all annual and interim periods beginning January 1, 2018 and is required to be applied retrospectively to all periods presented, with early adoption permitted. We are currently evaluating the impact of adopting this ASU. While the new guidance will result in a change in classification in the statement of cash flows, it will not have any impact on our financial position or results of operations.
- **Business Combinations - Clarifying the Definition of a Business** In January 2017, the FASB issued an ASU which provides clarification on the definition of a business with the objective of adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The amendments in the ASU provide a screen to determine when a set is not a business. The screen requires that when substantially all of the fair value of the gross assets acquired (or disposed of) is concentrated in a single identifiable asset or a group of similar identifiable assets, the set is not a business. This screen reduces the number of transactions that need to be further evaluated, and therefore are considered businesses. The amendments also provide a framework to assist entities in evaluating whether both an input and a substantive process are present. The ASU is effective for all annual and interim periods beginning January 1, 2018 and should be applied prospectively.
- **Goodwill Impairment Testing** In January 2017, the FASB issued an ASU that simplifies the accounting for goodwill impairment by removing step 2 of the goodwill impairment test. Under step 2, an entity was required to determine the fair value of individual assets and liabilities of a reporting unit (including unrecognized assets and liabilities) using the procedure for determining fair values in a business combination. Under the new guidance, goodwill impairment will now be measured at the amount by which a reporting unit's carrying amount, including those with a zero or negative carrying amount, exceeds its fair value. Any resulting impairment is limited to the carrying amount of goodwill. An entity must also disclose the amount of goodwill allocated to each reporting unit with a zero or negative carrying amount. The ASU is effective for all annual and interim periods beginning January 1, 2020 and is required to be applied prospectively with early adoption permitted for any impairment tests performed after January 1, 2017. The adoption of this guidance is not expected to have a significant impact on the results of our goodwill impairment testing, our financial position or results of operations.

There have been no additional accounting pronouncements issued that are expected to have or could have a significant impact on our financial position or results of operations.

### 3. Trading Assets and Liabilities

Trading assets and liabilities consisted of the following:

At December 31,	2016	2015
	(in millions)	
Trading assets:		
U.S. Treasury.....	\$ 3,560	\$ 3,088
U.S. Government agency issued or guaranteed.....	24	13
U.S. Government sponsored enterprises .....	222	154
Obligations of U.S. states and political subdivisions .....	—	559
Asset-backed securities .....	365	424
Corporate and foreign bonds .....	6,481	6,899
Other securities.....	15	18
Precious metals.....	1,772	780
Derivatives, net.....	4,411	5,150
Total trading assets .....	<u>\$ 16,850</u>	<u>\$ 17,085</u>
Trading liabilities:		
Securities sold, not yet purchased .....	\$ 1,060	\$ 399
Payables for precious metals .....	62	650
Derivatives, net.....	3,786	6,406
Total trading liabilities.....	<u>\$ 4,908</u>	<u>\$ 7,455</u>

At December 31, 2016 and 2015, the fair value of derivatives included in trading assets is net of \$4,462 million and \$4,652 million, respectively, relating to amounts recognized for the obligation to return cash collateral received under master netting agreements with derivative counterparties.

At December 31, 2016 and 2015, the fair value of derivatives included in trading liabilities is net of \$3,826 million and \$1,530 million, respectively, relating to amounts recognized for the right to reclaim cash collateral paid under master netting agreements with derivative counterparties.

See Note 14, "Derivative Financial Instruments," for further information on our trading derivatives and related collateral.

## 4. Securities

Our securities available-for-sale and securities held-to-maturity portfolios consisted of the following:

December 31, 2016	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
(in millions)				
Securities available-for-sale:				
U.S. Treasury .....	\$ 21,366	\$ 102	\$ (559)	\$ 20,909
U.S. Government sponsored enterprises:				
Mortgage-backed securities .....	4,535	4	(122)	4,417
Collateralized mortgage obligations .....	2,139	—	(36)	2,103
Direct agency obligations .....	3,709	118	(10)	3,817
U.S. Government agency issued or guaranteed:				
Mortgage-backed securities .....	3,102	2	(58)	3,046
Collateralized mortgage obligations .....	1,370	2	(15)	1,357
Direct agency obligations .....	423	1	(4)	420
Asset-backed securities collateralized by:				
Home equity .....	69	—	(8)	61
Other .....	108	—	(3)	105
Foreign debt securities <sup>(1)</sup> .....	522	—	(1)	521
Equity securities .....	159	—	(5)	154
Total available-for-sale securities .....	<u>\$ 37,502</u>	<u>\$ 229</u>	<u>\$ (821)</u>	<u>\$ 36,910</u>
Securities held-to-maturity:				
U.S. Government sponsored enterprises:				
Mortgage-backed securities .....	\$ 2,465	\$ 11	\$ (9)	\$ 2,467
Collateralized mortgage obligations .....	1,591	59	(12)	1,638
U.S. Government agency issued or guaranteed:				
Mortgage-backed securities .....	2,557	11	(10)	2,558
Collateralized mortgage obligations .....	6,176	34	(56)	6,154
Obligations of U.S. states and political subdivisions .....	15	1	—	16
Asset-backed securities collateralized by residential mortgages .....	5	—	—	5
Total held-to-maturity securities .....	<u>\$ 12,809</u>	<u>\$ 116</u>	<u>\$ (87)</u>	<u>\$ 12,838</u>

December 31, 2015	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
	(in millions)			
Securities available-for-sale:				
U.S. Treasury .....	\$ 17,026	\$ 142	\$ (270)	\$ 16,898
U.S. Government sponsored enterprises:				
Mortgage-backed securities .....	1,451	2	(12)	1,441
Collateralized mortgage obligations .....	159	—	(5)	154
Direct agency obligations .....	4,136	133	(26)	4,243
U.S. Government agency issued or guaranteed:				
Mortgage-backed securities .....	10,645	9	(145)	10,509
Collateralized mortgage obligations .....	1,293	11	(4)	1,300
Obligations of U.S. states and political subdivisions .....	340	8	—	348
Asset-backed securities collateralized by:				
Commercial mortgages .....	9	—	—	9
Home equity .....	83	—	(8)	75
Other .....	110	—	(21)	89
Foreign debt securities <sup>(1)</sup> .....	548	—	(2)	546
Equity securities .....	161	3	(3)	161
Total available-for-sale securities .....	<u>\$ 35,961</u>	<u>\$ 308</u>	<u>\$ (496)</u>	<u>\$ 35,773</u>
Securities held-to-maturity:				
U.S. Government sponsored enterprises:				
Mortgage-backed securities .....	\$ 2,945	\$ 20	\$ (9)	\$ 2,956
Collateralized mortgage obligations .....	1,755	73	(5)	1,823
U.S. Government agency issued or guaranteed:				
Mortgage-backed securities .....	3,269	19	(11)	3,277
Collateralized mortgage obligations .....	6,029	63	(11)	6,081
Obligations of U.S. states and political subdivisions .....	19	1	—	20
Asset-backed securities collateralized by residential mortgages .....	7	1	—	8
Total held-to-maturity securities .....	<u>\$ 14,024</u>	<u>\$ 177</u>	<u>\$ (36)</u>	<u>\$ 14,165</u>

<sup>(1)</sup> Foreign debt securities represent public sector entity, bank or corporate debt.

Net unrealized losses were higher within the available-for-sale portfolio in 2016 due primarily to increasing yields on U.S. Treasury and U.S. Government sponsored enterprises mortgage-backed securities.

The following table summarizes gross unrealized losses and related fair values at December 31, 2016 and 2015 classified as to the length of time the losses have existed:

December 31, 2016	One Year or Less			Greater Than One Year		
	Number of Securities	Gross Unrealized Losses	Aggregate Fair Value of Investment	Number of Securities	Gross Unrealized Losses	Aggregate Fair Value of Investment
(dollars are in millions)						
Securities available-for-sale:						
U.S. Treasury .....	40	\$ (378)	\$ 13,707	32	\$ (181)	\$ 3,908
U.S. Government sponsored enterprises .....	316	(155)	6,474	18	(13)	427
U.S. Government agency issued or guaranteed .....	57	(66)	3,941	7	(11)	252
Asset-backed securities .....	—	—	—	8	(11)	166
Foreign debt securities .....	7	—	343	1	(1)	178
Equity securities .....	1	(5)	154	—	—	—
Securities available-for-sale .....	<u>421</u>	<u>\$ (604)</u>	<u>\$ 24,619</u>	<u>66</u>	<u>\$ (217)</u>	<u>\$ 4,931</u>
Securities held-to-maturity:						
U.S. Government sponsored enterprises .....	434	\$ (21)	\$ 2,013	45	\$ —	\$ 21
U.S. Government agency issued or guaranteed .....	179	(65)	4,734	503	(1)	112
Obligations of U.S. states and political subdivisions .....	1	—	—	3	—	—
Securities held-to-maturity .....	<u>614</u>	<u>\$ (86)</u>	<u>\$ 6,747</u>	<u>551</u>	<u>\$ (1)</u>	<u>\$ 133</u>
(dollars are in millions)						
December 31, 2015	One Year or Less			Greater Than One Year		
	Number of Securities	Gross Unrealized Losses	Aggregate Fair Value of Investment	Number of Securities	Gross Unrealized Losses	Aggregate Fair Value of Investment
Securities available-for-sale:						
U.S. Treasury .....	52	\$ (227)	\$ 11,046	5	\$ (43)	\$ 924
U.S. Government sponsored enterprises .....	164	(30)	1,451	19	(13)	282
U.S. Government agency issued or guaranteed .....	62	(141)	9,725	3	(8)	101
Obligations of U.S. states and political subdivisions .....	4	—	16	3	—	45
Asset-backed securities .....	1	—	9	8	(29)	164
Foreign debt securities .....	3	(2)	351	—	—	—
Equity securities .....	1	(3)	156	—	—	—
Securities available-for-sale .....	<u>287</u>	<u>\$ (403)</u>	<u>\$ 22,754</u>	<u>38</u>	<u>\$ (93)</u>	<u>\$ 1,516</u>
Securities held-to-maturity:						
U.S. Government sponsored enterprises .....	312	\$ (14)	\$ 1,143	49	\$ —	\$ —
U.S. Government agency issued or guaranteed .....	145	(22)	3,303	657	—	20
Obligations of U.S. states and political subdivisions .....	1	—	—	3	—	1
Securities held-to-maturity .....	<u>458</u>	<u>\$ (36)</u>	<u>\$ 4,446</u>	<u>709</u>	<u>\$ —</u>	<u>\$ 21</u>

Although the fair value of a particular security is below its amortized cost, it does not necessarily result in a credit loss and hence an other-than-temporary impairment. The decline in fair value may be caused by, among other things, the illiquidity of the market. We have reviewed the securities for which there is an unrealized loss for other-than-temporary impairment in accordance with our accounting policies, discussed further below. At December 31, 2016 and 2015, we do not consider any of our debt securities to be other-than-temporarily impaired as we expect to recover their amortized cost basis and we neither intend nor expect to be required

to sell these securities prior to recovery, even if that equates to holding securities until their individual maturities. However, other-than-temporary impairments may occur in future periods if the credit quality of the securities deteriorates.

**Other-Than-Temporary Impairment** On a quarterly basis, we perform an assessment to determine whether there have been any events or economic circumstances to indicate that a security with an unrealized loss has suffered other-than-temporary impairment. A debt security is considered impaired if its fair value is less than its amortized cost at the reporting date. If impaired, we assess whether the impairment is other-than-temporary.

If we intend to sell the debt security or if it is more-likely-than-not that we will be required to sell the debt security before the recovery of its amortized cost basis, the impairment is considered other-than-temporary and the unrealized loss is recorded in earnings. An impairment is also considered other-than-temporary if a credit loss exists (i.e., the present value of the expected future cash flows is less than the amortized cost basis of the debt security). In the event a credit loss exists, the credit loss component of an other-than-temporary impairment is recorded in earnings while the remaining portion of the impairment loss attributable to factors other than credit loss is recognized, net of tax, in other comprehensive income (loss).

For all securities held in the available-for-sale or held-to-maturity portfolios for which unrealized losses attributed to factors other than credit existed, we do not have the intention to sell and believe we will not be required to sell the securities for contractual, regulatory or liquidity reasons as of the reporting date. In determining whether a credit loss exists and the period over which the debt security is expected to recover, we considered the following factors:

- The length of time and the extent to which the fair value has been less than the amortized cost basis;
- The credit protection features embedded within the instrument, which includes but is not limited to credit subordination positions, payment structure, over collateralization, protective triggers and financial guarantees provided by third parties;
- Changes in the near term prospects of the issuer or the underlying collateral of a security such as changes in default rates, loss severities given default and significant changes in prepayment assumptions;
- The level of excess cash flows generated from the underlying collateral supporting the principal and interest payments of the debt securities; and
- Any adverse change to the credit conditions of the issuer, the monoline insurer or the security such as credit downgrades by the rating agencies.

We use a standard valuation model to measure the credit loss for non-U.S. Government asset-backed securities. The valuation model captures the composition of the underlying collateral and the cash flow structure of the security. We make reference to external forecasts on key economic data and consider internal assessments on credit quality in developing significant inputs to the impairment model. Significant inputs to the model include delinquencies, collateral types and related contractual features, estimated rates of default, loss given default and prepayment assumptions. Using the inputs, the model estimates cash flows generated from the underlying collateral and distributes those cash flows to respective tranches of securities considering credit subordination and other credit enhancement features. The projected future cash flows attributable to the debt security held are discounted using the effective interest rates determined at the original acquisition date if the security bears a fixed rate of return. The discount rate is adjusted for the floating index rate for securities which bear a variable rate of return, such as LIBOR-based instruments.

During 2016 and 2015, none of our debt securities were determined to have either initial other-than-temporary impairment or changes to previous other-than-temporary impairment estimates relating to the credit component, as such, there were no other-than-temporary impairment losses recognized related to credit loss.

During 2014, none of our debt securities were determined to have initial other-than-temporary impairment while two held-to-maturity asset-backed debt securities, which were previously determined to be other-than-temporarily impaired, had changes to their other-than-temporary impairment estimates related to the credit component. The additional credit loss associated with the impaired debt securities, which reflects the excess of amortized cost over the present value of expected future cash flows, was \$11 million during 2014, and was recorded as a component of net other-than-temporary impairment losses in the accompanying consolidated statement of income.

The following table summarizes the rollforward of credit losses which have been recognized in income on other-than-temporary impaired securities that we do not intend to sell nor will likely be required to sell:

Year Ended December 31,	2014
	(in millions)
Beginning balance of credit losses on held-to-maturity debt securities for which a portion of an other-than-temporary impairment was recognized in other comprehensive income (loss) .....	\$ 61
Increase in credit losses for which an other-than-temporary impairment was previously recognized.....	11
Reduction of credit losses previously recognized on held-to-maturity debt securities due to closure of a VIE .....	(72)
Ending balance of credit losses on held-to-maturity debt securities for which a portion of an other-than-temporary impairment was recognized in other comprehensive income (loss) .....	<u>\$ —</u>

**Other securities gains (losses), net** The following table summarizes realized gains and losses on investment securities transactions attributable to available-for-sale securities:

Year Ended December 31,	2016	2015	2014
	(in millions)		
Gross realized gains.....	\$ 142	\$ 126	\$ 201
Gross realized losses.....	(72)	(78)	(79)
Net realized gains .....	<u>\$ 70</u>	<u>\$ 48</u>	<u>\$ 122</u>

During 2014, the securities underlying Bryant Park were sold and the related agreements, which had a total carrying value of \$76 million, were terminated and we recognized a loss of \$9 million. These sales were in response to requests we received from the other participants to sell the securities underlying Bryant Park and were executed in connection with the closure of the Bryant Park facility. Therefore, these sales did not affect our intent and ability to hold our remaining held-to-maturity portfolio until maturity.

**Contractual Maturities and Yields** The following table summarizes the amortized cost and fair values of securities available-for-sale and securities held-to-maturity at December 31, 2016 by contractual maturity. Expected maturities differ from contractual maturities because borrowers have the right to prepay obligations without prepayment penalties in certain cases. Securities available-for-sale amounts exclude equity securities as they do not have stated maturities. The table below also reflects the distribution of maturities of debt securities held at December 31, 2016, together with the approximate taxable equivalent yield of the portfolio. The yields shown are calculated by dividing annualized interest income, including the accretion of discounts and the amortization of premiums, by the amortized cost of securities outstanding at December 31, 2016. Yields on tax-exempt obligations have been computed on a taxable equivalent basis using applicable statutory tax rates.

Taxable Equivalent Basis	Within One Year		After One But Within Five Years		After Five But Within Ten Years		After Ten Years	
	Amount	Yield	Amount	Yield	Amount	Yield	Amount	Yield
(dollars are in millions)								
Available-for-sale:								
U.S. Treasury .....	\$ —	—%	\$ 7,169	1.66%	\$ 10,018	1.97%	\$ 4,179	2.89%
U.S. Government sponsored enterprises .....	200	3.25	3,146	2.81	1,180	2.41	5,857	2.32
U.S. Government agency issued or guaranteed .....	—	—	116	2.92	94	2.49	4,685	2.31
Asset-backed securities .....	—	—	—	—	—	—	177	3.48
Foreign debt securities .....	276	.90	67	.00	—	—	179	1.29
Total amortized cost .....	<u>\$ 476</u>	1.89%	<u>\$ 10,498</u>	2.01%	<u>\$ 11,292</u>	2.02%	<u>\$ 15,077</u>	2.48%
Total fair value .....	<u>\$ 478</u>		<u>\$ 10,627</u>		<u>\$ 10,978</u>		<u>\$ 14,673</u>	
Held-to-maturity:								
U.S. Government sponsored enterprises .....	\$ —	—%	\$ 299	2.15%	\$ 393	2.78%	\$ 3,364	2.85%
U.S. Government agency issued or guaranteed .....	—	—	6	1.91	36	3.28	8,691	2.28
Obligations of U.S. states and political subdivisions .....	3	3.83	3	3.74	5	3.33	4	5.63
Asset-backed securities .....	—	—	—	—	—	—	5	7.03
Total amortized cost .....	<u>\$ 3</u>	3.83%	<u>\$ 308</u>	2.16%	<u>\$ 434</u>	2.83%	<u>\$ 12,064</u>	2.44%
Total fair value .....	<u>\$ 3</u>		<u>\$ 309</u>		<u>\$ 436</u>		<u>\$ 12,090</u>	

Investments in Federal Home Loan Bank stock and Federal Reserve Bank stock of \$338 million and \$631 million, respectively, were included in other assets at December 31, 2016. Investments in Federal Home Loan Bank stock and Federal Reserve Bank stock of \$323 million and \$632 million, respectively, were included in other assets at December 31, 2015.

## 5. Loans

During the fourth quarter of 2016, we transferred certain customer relationships from CMB to GB&M as discussed further in Note 22, "Business Segments." As a result, we reclassified \$4.8 billion of loans from business and corporate banking to global banking at December 31, 2015 to conform with the current year presentation. All tables below have been restated to reflect this reclassification, as applicable.

Loans consisted of the following:

At December 31,	2016	2015
	(in millions)	
Commercial loans:		
Construction and other real estate .....	\$ 10,890	\$ 10,000
Business and corporate banking .....	14,080	14,365
Global banking <sup>(1)</sup> .....	26,755	34,720
Other commercial .....	2,491	3,368
Total commercial .....	<u>54,216</u>	<u>62,453</u>
Consumer loans:		
Residential mortgages .....	17,181	17,758
Home equity mortgages .....	1,408	1,600
Credit cards .....	688	699
Other consumer .....	382	407
Total consumer .....	<u>19,659</u>	<u>20,464</u>
Total loans .....	<u>\$ 73,875</u>	<u>\$ 82,917</u>

<sup>(1)</sup> Represents large multinational firms including globally focused U.S. corporate and financial institutions, U.S. dollar lending to multinational banking customers managed by HSBC on a global basis and complex large business customers supported by GB&M relationship managers. Also includes loans to HSBC affiliates which totaled \$3,274 million and \$4,815 million at December 31, 2016 and 2015, respectively. See Note 21, "Related Party Transactions," for additional information regarding loans to HSBC affiliates.

We have loans outstanding to certain executive officers and directors. The loans were made on substantially the same terms, including interest rates and collateral, as those prevailing at the time for comparable transactions with other persons and do not involve more than normal risk of collectibility. The aggregate amount of such loans did not exceed 5 percent of total equity at either December 31, 2016 or 2015.

Net deferred origination fees totaled \$48 million and \$62 million at December 31, 2016 and 2015, respectively. At December 31, 2016 and 2015, we had a net unamortized premium (discount) on our loans of (\$5 million) and \$16 million, respectively.

**Aging Analysis of Past Due Loans** The following table summarizes the past due status of our loans, excluding loans held for sale, at December 31, 2016 and 2015. The aging of past due amounts is determined based on the contractual delinquency status of payments under the loan. An account is generally considered to be contractually delinquent when payments have not been made in accordance with the loan terms. Delinquency status is affected by customer account management policies and practices such as re-age, which results in the re-setting of the contractual delinquency status to current.

At December 31, 2016	Past Due		Total Past Due 30 Days or More	Current <sup>(1)</sup>	Total Loans
	30 - 89 Days	90+ Days			
(in millions)					
Commercial loans:					
Construction and other real estate.....	\$ 17	\$ 6	\$ 23	\$ 10,867	\$ 10,890
Business and corporate banking .....	35	9	44	14,036	14,080
Global banking.....	1	64	65	26,690	26,755
Other commercial .....	4	7	11	2,480	2,491
Total commercial.....	<u>57</u>	<u>86</u>	<u>143</u>	<u>54,073</u>	<u>54,216</u>
Consumer loans:					
Residential mortgages <sup>(2)</sup> .....	402	317	719	16,462	17,181
Home equity mortgages.....	10	43	53	1,355	1,408
Credit cards.....	9	10	19	669	688
Other consumer.....	7	7	14	368	382
Total consumer.....	<u>428</u>	<u>377</u>	<u>805</u>	<u>18,854</u>	<u>19,659</u>
Total loans .....	<u>\$ 485</u>	<u>\$ 463</u>	<u>\$ 948</u>	<u>\$ 72,927</u>	<u>\$ 73,875</u>

At December 31, 2015	Past Due		Total Past Due 30 Days or More	Current <sup>(1)</sup>	Total Loans
	30 - 89 Days	90+ Days			
(in millions)					
Commercial loans:					
Construction and other real estate.....	\$ 31	\$ 33	\$ 64	\$ 9,936	\$ 10,000
Business and corporate banking .....	36	25	61	14,304	14,365
Global banking.....	—	—	—	34,720	34,720
Other commercial .....	—	6	6	3,362	3,368
Total commercial.....	<u>67</u>	<u>64</u>	<u>131</u>	<u>62,322</u>	<u>62,453</u>
Consumer loans:					
Residential mortgages.....	397	781	1,178	16,580	17,758
Home equity mortgages.....	15	50	65	1,535	1,600
Credit cards.....	10	9	19	680	699
Other consumer.....	7	7	14	393	407
Total consumer.....	<u>429</u>	<u>847</u>	<u>1,276</u>	<u>19,188</u>	<u>20,464</u>
Total loans .....	<u>\$ 496</u>	<u>\$ 911</u>	<u>\$ 1,407</u>	<u>\$ 81,510</u>	<u>\$ 82,917</u>

<sup>(1)</sup> Loans less than 30 days past due are presented as current.

<sup>(2)</sup> The decrease in past due loans at December 31, 2016 reflects the impact of transfers of certain residential mortgage loans to held for sale during 2016. See Note 7, "Loans Held for Sale" for additional details.

**Contractual Maturities** Contractual maturities of loans were as follows:

	At December 31,						Total
	2017	2018	2019	2020	2021	Thereafter	
	(in millions)						
Commercial loans:							
Construction and other real estate .....	\$ 4,041	\$ 1,857	\$ 1,775	\$ 1,397	\$ 958	\$ 862	\$ 10,890
Business and corporate banking .....	5,225	2,402	2,294	1,806	1,238	1,115	14,080
Global banking .....	9,927	4,565	4,360	3,431	2,353	2,119	26,755
Other commercial .....	924	425	406	319	219	198	2,491
Consumer loans:							
Residential mortgages .....	663	430	471	432	444	14,741	17,181
Home equity mortgages <sup>(1)</sup> .....	283	433	262	159	101	170	1,408
Credit cards <sup>(2)</sup> .....	—	688	—	—	—	—	688
Other consumer .....	162	218	1	1	—	—	382
Total .....	<u>\$ 21,225</u>	<u>\$ 11,018</u>	<u>\$ 9,569</u>	<u>\$ 7,545</u>	<u>\$ 5,313</u>	<u>\$ 19,205</u>	<u>\$ 73,875</u>

<sup>(1)</sup> Home equity mortgage maturities reflect estimates based on historical payment patterns.

<sup>(2)</sup> As credit card receivables do not have stated maturities, the table reflects estimates based on historical payment patterns.

As a substantial portion of consumer loans, based on our experience, will be renewed or repaid prior to contractual maturity, the above maturity schedule should not be regarded as a forecast of future cash collections. The following table summarizes contractual maturities of loans due after one year by repricing characteristic:

	At December 31, 2016	
	Over 1 But Within 5 Years	Over 5 Years
	(in millions)	
Receivables at predetermined interest rates .....	\$ 4,047	\$ 4,777
Receivables at floating or adjustable rates .....	29,398	14,428
Total .....	<u>\$ 33,445</u>	<u>\$ 19,205</u>

**Nonaccrual Loans** Nonaccrual loans, including nonaccrual loans held for sale, and accruing loans 90 days or more delinquent consisted of the following:

At December 31,	2016	2015
	(in millions)	
<b>Nonaccrual loans:</b>		
Commercial:		
Construction and other real estate .....	\$ 56	\$ 53
Business and corporate banking .....	187	167
Global banking .....	546	44
Other commercial .....	1	1
Commercial nonaccrual loans held for sale .....	11	26
Total commercial .....	<u>801</u>	<u>291</u>
Consumer:		
Residential mortgages <sup>(1)(2)(3)(4)</sup> .....	435	814
Home equity mortgages <sup>(1)(2)</sup> .....	75	71
Consumer nonaccrual loans held for sale <sup>(4)</sup> .....	369	3
Total consumer .....	<u>879</u>	<u>888</u>
<b>Total nonaccruing loans</b> .....	<u>1,680</u>	<u>1,179</u>
<b>Accruing loans contractually past due 90 days or more:</b>		
Commercial:		
Business and corporate banking .....	1	1
Total commercial .....	<u>1</u>	<u>1</u>
Consumer:		
Credit cards .....	10	9
Other consumer .....	7	7
Total consumer .....	<u>17</u>	<u>16</u>
<b>Total accruing loans contractually past due 90 days or more</b> .....	<u>18</u>	<u>17</u>
<b>Total nonperforming loans</b> .....	<u>\$ 1,698</u>	<u>\$ 1,196</u>

<sup>(1)</sup> At December 31, 2016 and 2015, nonaccrual consumer mortgage loans held for investment include \$382 million and \$768 million, respectively, of loans that are carried at the lower of amortized cost or fair value of the collateral less cost to sell.

<sup>(2)</sup> Nonaccrual consumer mortgage loans held for investment include all loans which are 90 or more days contractually delinquent as well as loans discharged under Chapter 7 bankruptcy and not re-affirmed and second lien loans where the first lien loan that we own or service is 90 or more days contractually delinquent.

<sup>(3)</sup> Nonaccrual consumer mortgage loans for all periods does not include guaranteed loans purchased from the Government National Mortgage Association. Repayment of these loans are predominantly insured by the Federal Housing Administration and as such, these loans have different risk characteristics from the rest of our consumer loan portfolio.

<sup>(4)</sup> The trend in nonaccrual loans reflects the impact of transfers of certain residential mortgage loans to held for sale during 2016.

The following table provides additional information on our nonaccrual loans:

Year Ended December 31,	2016	2015	2014
	(in millions)		
Interest income that would have been recorded if the nonaccrual loans had been current in accordance with contractual terms during the period .....	\$ 91	\$ 85	\$ 96
Interest income that was recorded on nonaccrual loans and included in interest income during the period .....	22	22	23

**Impaired Loans** A loan is considered to be impaired when it is deemed probable that not all principal and interest amounts due according to the contractual terms of the loan agreement will be collected. Probable losses from impaired loans are quantified and recorded as a component of the overall allowance for credit losses. Commercial and consumer loans for which we have modified the loan terms as part of a troubled debt restructuring are considered to be impaired loans. Additionally, commercial loans in nonaccrual status, or that have been partially charged-off or assigned a specific allowance for credit losses are also considered impaired loans.

**Troubled debt restructurings** TDR Loans represent loans for which the original contractual terms have been modified to provide for terms that are less than what we would be willing to accept for new loans with comparable risk because of deterioration in the borrower's financial condition.

Modifications for consumer or commercial loans may include changes to one or more terms of the loan, including, but not limited to, a change in interest rate, extension of the amortization period, reduction in payment amount and partial forgiveness or deferment of principal, accrued interest or other loan covenants. A substantial amount of our modifications involve interest rate reductions which lower the amount of interest income we are contractually entitled to receive in future periods. Through lowering the interest rate and other loan term changes, we believe we are able to increase the amount of cash flow that will ultimately be collected from the loan, given the borrower's financial condition. TDR Loans are reserved for either based on the present value of expected future cash flows discounted at the loans' original effective interest rates which generally results in a higher reserve requirement for these loans or in the case of certain secured loans, the estimated fair value of the underlying collateral. Once a consumer loan is classified as a TDR Loan, it continues to be reported as such until it is paid off or charged-off. For commercial loans, if subsequent performance is in accordance with the new terms and such terms reflect current market rates at the time of restructure, they will no longer be reported as a TDR Loan beginning in the year after restructuring. During the years ended 2016, 2015 and 2014 there were no commercial loans that met this criteria and were removed from TDR Loan classification.

The following table presents information about loans which were modified during 2016, 2015 and 2014 and as a result of this action became classified as TDR Loans:

Year Ended December 31,	2016	2015	2014
	(in millions)		
<b>Commercial loans:</b>			
Construction and other real estate .....	\$ —	\$ 4	\$ 5
Business and corporate banking .....	323	162	16
Global banking .....	—	67	—
Other commercial .....	—	—	10
Total commercial.....	<u>323</u>	<u>233</u>	<u>31</u>
<b>Consumer loans:</b>			
Residential mortgages .....	62	168	157
Home equity mortgages.....	8	4	4
Credit cards.....	4	4	5
Total consumer .....	<u>74</u>	<u>176</u>	<u>166</u>
Total.....	<u>\$ 397</u>	<u>\$ 409</u>	<u>\$ 197</u>

The weighted-average contractual rate reduction for consumer loans which became classified as TDR Loans during 2016, 2015 and 2014 was 1.48 percent, 1.74 percent and 1.64 percent, respectively. The weighted-average contractual rate reduction for commercial loans was not significant in either the number of loans or rate.

The following table presents information about our TDR Loans and the related allowance for credit losses for TDR Loans:

	December 31, 2016		December 31, 2015	
	Carrying Value	Unpaid Principal Balance	Carrying Value	Unpaid Principal Balance
	(in millions)			
TDR Loans <sup>(1)(2)</sup> :				
Commercial loans:				
Construction and other real estate.....	\$ 32	\$ 33	\$ 94	\$ 106
Business and corporate banking .....	300	363	152	165
Global banking.....	150	152	119	119
Total commercial <sup>(3)</sup> .....	<u>482</u>	<u>548</u>	<u>365</u>	<u>390</u>
Consumer loans:				
Residential mortgages <sup>(4)(5)</sup> .....	708	797	1,060	1,233
Home equity mortgages <sup>(4)</sup> .....	27	59	23	50
Credit cards .....	5	5	5	5
Total consumer.....	<u>740</u>	<u>861</u>	<u>1,088</u>	<u>1,288</u>
Total TDR Loans <sup>(6)</sup> .....	<u>\$ 1,222</u>	<u>\$ 1,409</u>	<u>\$ 1,453</u>	<u>\$ 1,678</u>
Allowance for credit losses for TDR Loans <sup>(7)</sup> :				
Commercial loans:				
Construction and other real estate.....	\$ —		\$ —	
Business and corporate banking .....	37		24	
Global banking.....	—		—	
Total commercial.....	<u>37</u>		<u>24</u>	
Consumer loans:				
Residential mortgages.....	9		33	
Home equity mortgages.....	1		1	
Credit cards .....	1		1	
Total consumer.....	<u>11</u>		<u>35</u>	
Total allowance for credit losses for TDR Loans .....	<u>\$ 48</u>		<u>\$ 59</u>	

(1) TDR Loans are considered to be impaired loans. For consumer loans, all such loans are considered impaired loans regardless of accrual status. For commercial loans, impaired loans include other loans in addition to TDR Loans which totaled \$571 million and \$88 million at December 31, 2016 and 2015, respectively.

(2) The carrying value of TDR Loans includes basis adjustments on the loans, such as unearned income, unamortized deferred fees and costs on originated loans, partial charge-offs and premiums or discounts on purchased loans.

(3) Additional commitments to lend to commercial borrowers whose loans have been modified in TDR Loans totaled \$184 million and \$112 million at December 31, 2016 and 2015, respectively.

(4) At December 31, 2016 and 2015, the carrying value of consumer mortgage TDR Loans held for investment includes \$672 million and \$881 million, respectively, of loans that are recorded at the lower of amortized cost or fair value of the collateral less cost to sell.

(5) The decrease in TDR Loans at December 31, 2016 reflects the impact of transfers of certain residential mortgage loans to held for sale during 2016. There is no allowance for credit losses associated with loans classified as held for sale as they are carried at the lower of amortized cost or fair value less cost to sell.

(6) At December 31, 2016 and 2015, the carrying value of TDR Loans includes \$645 million and \$676 million, respectively, of loans which are classified as nonaccrual.

(7) Included in the allowance for credit losses.

The following table presents information about average TDR Loans and interest income recognized on TDR Loans:

Year Ended December 31,	2016	2015	2014
	(in millions)		
Average balance of TDR Loans:			
Commercial loans:			
Construction and other real estate.....	\$ 69	\$ 136	\$ 224
Business and corporate banking.....	292	76	24
Global banking.....	121	44	10
Other commercial.....	—	—	7
Total commercial.....	482	256	265
Consumer loans:			
Residential mortgages.....	740	1,017	942
Home equity mortgages.....	25	21	19
Credit cards.....	5	6	8
Total consumer.....	770	1,044	969
Total average balance of TDR Loans.....	\$ 1,252	\$ 1,300	\$ 1,234
Interest income recognized on TDR Loans:			
Commercial loans:			
Construction and other real estate.....	\$ 4	\$ 4	\$ 10
Business and corporate banking.....	8	3	1
Global banking.....	1	—	—
Total commercial.....	13	7	11
Consumer loans:			
Residential mortgages.....	25	37	36
Home equity mortgages.....	1	1	1
Total consumer.....	26	38	37
Total interest income recognized on TDR Loans.....	\$ 39	\$ 45	\$ 48

The following table presents consumer loans which were classified as TDR Loans during the previous 12 months which subsequently became 60 days or greater contractually delinquent during the years ended December 31, 2016, 2015 and 2014:

Year Ended December 31,	2016	2015	2014
	(in millions)		
Consumer loans:			
Residential mortgages.....	\$ 24	\$ 36	\$ 34
Home equity mortgages.....	—	1	—
Total consumer.....	24	37	34
Total.....	\$ 24	\$ 37	\$ 34

During the years ended 2016, 2015 and 2014, there were no commercial TDR Loans which were classified as TDR Loans during the previous 12 months which subsequently became 90 days or greater contractually delinquent.

*Impaired commercial loans* The following table presents information about impaired commercial loans and the related impairment reserve for impaired commercial loans:

	Amount with Impairment Reserves <sup>(1)</sup>	Amount without Impairment Reserves <sup>(1)</sup>	Total Impaired Commercial Loans <sup>(1)(2)</sup>	Impairment Reserve	Unpaid Principal Balance
(in millions)					
<b>At December 31, 2016</b>					
Construction and other real estate .....	\$ 2	\$ 41	\$ 43	\$ 1	\$ 45
Business and corporate banking .....	176	166	342	55	397
Global banking .....	417	244	661	251	674
Other commercial .....	1	6	7	1	7
Total commercial .....	<u>\$ 596</u>	<u>\$ 457</u>	<u>\$ 1,053</u>	<u>\$ 308</u>	<u>\$ 1,123</u>
<b>At December 31, 2015</b>					
Construction and other real estate .....	\$ 2	\$ 108	\$ 110	\$ 1	\$ 125
Business and corporate banking .....	168	49	217	52	267
Global banking .....	—	119	119	—	119
Other commercial .....	1	6	7	1	8
Total commercial .....	<u>\$ 171</u>	<u>\$ 282</u>	<u>\$ 453</u>	<u>\$ 54</u>	<u>\$ 519</u>

<sup>(1)</sup> Reflects the carrying value of impaired commercial loans and includes basis adjustments on the loans, such as partial charge-offs, unamortized deferred fees and costs on originated loans and any premiums or discounts on purchased loans.

<sup>(2)</sup> Includes impaired commercial loans that are also considered TDR Loans which totaled \$482 million and \$365 million at December 31, 2016 and 2015, respectively.

The following table presents information about average impaired commercial loans and interest income recognized on impaired commercial loans:

Year Ended December 31,	2016	2015	2014
(in millions)			
Average balance of impaired commercial loans:			
Construction and other real estate .....	\$ 83	\$ 151	\$ 241
Business and corporate banking .....	344	125	48
Global banking .....	487	44	13
Other commercial .....	7	7	18
Total average balance of impaired commercial loans .....	<u>\$ 921</u>	<u>\$ 327</u>	<u>\$ 320</u>
Interest income recognized on impaired commercial loans:			
Construction and other real estate .....	\$ 4	\$ 4	\$ 10
Business and corporate banking .....	9	4	2
Total interest income recognized on impaired commercial loans .....	<u>\$ 13</u>	<u>\$ 8</u>	<u>\$ 12</u>

**Commercial Loan Credit Quality Indicators** The following credit quality indicators are monitored for our commercial loan portfolio:

**Criticized loans** Criticized loan classifications presented in the table below are determined by the assignment of various criticized facility grades based on the risk rating standards of our regulator. The following table summarizes criticized commercial loans:

	Special Mention	Substandard	Doubtful	Total
(in millions)				
<b>At December 31, 2016</b>				
Construction and other real estate.....	\$ 445	\$ 152	\$ 1	\$ 598
Business and corporate banking.....	597	803	58	1,458
Global banking.....	899	2,478	298	3,675
Other commercial.....	—	6	1	7
Total commercial.....	<u>\$ 1,941</u>	<u>\$ 3,439</u>	<u>\$ 358</u>	<u>\$ 5,738</u>
<b>At December 31, 2015</b>				
Construction and other real estate.....	\$ 239	\$ 187	\$ —	\$ 426
Business and corporate banking.....	935	615	52	1,602
Global banking.....	1,075	2,375	12	3,462
Other commercial.....	1	37	1	39
Total commercial.....	<u>\$ 2,250</u>	<u>\$ 3,214</u>	<u>\$ 65</u>	<u>\$ 5,529</u>

**Nonperforming** The following table summarizes the status of our commercial loan portfolio, excluding loans held for sale:

	Performing Loans	Nonaccrual Loans	Accruing Loans Contractually Past Due 90 days or More	Total
(in millions)				
<b>At December 31, 2016</b>				
Construction and other real estate.....	\$ 10,834	\$ 56	\$ —	\$ 10,890
Business and corporate banking.....	13,892	187	1	14,080
Global banking.....	26,209	546	—	26,755
Other commercial.....	2,490	1	—	2,491
Total commercial.....	<u>\$ 53,425</u>	<u>\$ 790</u>	<u>\$ 1</u>	<u>\$ 54,216</u>
<b>At December 31, 2015</b>				
Construction and other real estate.....	\$ 9,947	\$ 53	\$ —	\$ 10,000
Business and corporate banking.....	14,197	167	1	14,365
Global banking.....	34,676	44	—	34,720
Other commercial.....	3,367	1	—	3,368
Total commercial.....	<u>\$ 62,187</u>	<u>\$ 265</u>	<u>\$ 1</u>	<u>\$ 62,453</u>

*Credit risk profile* The following table shows the credit risk profile of our commercial loan portfolio:

	Investment Grade <sup>(1)</sup>	Non-Investment Grade	Total
	(in millions)		
<b>At December 31, 2016</b>			
Construction and other real estate .....	\$ 7,857	\$ 3,033	\$ 10,890
Business and corporate banking .....	6,348	7,732	14,080
Global banking .....	17,597	9,158	26,755
Other commercial .....	1,312	1,179	2,491
Total commercial .....	<u>\$ 33,114</u>	<u>\$ 21,102</u>	<u>\$ 54,216</u>
<b>At December 31, 2015</b>			
Construction and other real estate .....	\$ 8,487	\$ 1,513	\$ 10,000
Business and corporate banking .....	6,862	7,503	14,365
Global banking .....	26,622	8,098	34,720
Other commercial .....	1,883	1,485	3,368
Total commercial .....	<u>\$ 43,854</u>	<u>\$ 18,599</u>	<u>\$ 62,453</u>

<sup>(1)</sup> Investment grade includes commercial loans with credit ratings of at least BBB- or above or the equivalent based on our internal credit rating system.

**Consumer Loan Credit Quality Indicators** The following credit quality indicators are utilized for our consumer loan portfolio:

*Delinquency* The following table summarizes dollars of two-months-and-over contractual delinquency and as a percent of total loans and loans held for sale ("delinquency ratio") for our consumer loan portfolio:

	December 31, 2016		December 31, 2015	
	Delinquent Loans	Delinquency Ratio	Delinquent Loans	Delinquency Ratio
	(dollars are in millions)			
Residential mortgages <sup>(1)(2)</sup> .....	\$ 765	4.23%	\$ 858	4.83%
Home equity mortgages <sup>(1)(2)</sup> .....	46	3.26	56	3.50
Credit cards .....	14	2.03	13	1.86
Other consumer .....	11	2.43	11	2.26
Total consumer .....	<u>\$ 836</u>	<u>4.05%</u>	<u>\$ 938</u>	<u>4.56%</u>

<sup>(1)</sup> At December 31, 2016 and 2015, consumer mortgage loan delinquency includes \$711 million and \$793 million, respectively, of loans that are carried at the lower of amortized cost or fair value of the collateral less cost to sell, including \$358 million and \$3 million, respectively, relating to loans held for sale.

<sup>(2)</sup> At December 31, 2016 and 2015, consumer mortgage loans and loans held for sale include \$474 million and \$567 million, respectively, of loans that were in the process of foreclosure.

*Nonperforming* The following table summarizes the status of our consumer loan portfolio, excluding loans held for sale:

	Performing Loans	Nonaccrual Loans	Accruing Loans Contractually Past Due 90 days or More	Total
(in millions)				
<b>At December 31, 2016</b>				
Residential mortgages <sup>(1)</sup> .....	\$ 16,746	\$ 435	\$ —	\$ 17,181
Home equity mortgages .....	1,333	75	—	1,408
Credit cards .....	678	—	10	688
Other consumer .....	375	—	7	382
Total consumer .....	<u>\$ 19,132</u>	<u>\$ 510</u>	<u>\$ 17</u>	<u>\$ 19,659</u>
<b>At December 31, 2015</b>				
Residential mortgages .....	\$ 16,944	\$ 814	\$ —	\$ 17,758
Home equity mortgages .....	1,529	71	—	1,600
Credit cards .....	690	—	9	699
Other consumer .....	400	—	7	407
Total consumer .....	<u>\$ 19,563</u>	<u>\$ 885</u>	<u>\$ 16</u>	<u>\$ 20,464</u>

<sup>(1)</sup> The decrease in nonaccrual loans at December 31, 2016 reflects the impact of transfers of certain residential mortgage loans to held for sale during 2016.

*Troubled debt restructurings* See discussion of impaired loans above for further details on this credit quality indicator.

*Concentration of Credit Risk* At December 31, 2016 and 2015, our loan portfolios included interest-only residential mortgage and home equity mortgage loans totaling \$3,589 million and \$3,645 million, respectively. An interest-only residential mortgage loan allows a customer to pay the interest-only portion of the monthly payment for a period of time which results in lower payments during the initial loan period. However, subsequent events affecting a customer's financial position could affect the ability of customers to repay the loan in the future when the principal payments are required which increases the credit risk of this loan type.

## 6. Allowance for Credit Losses

The following table summarizes the changes in the allowance for credit losses by product and the related loan balance by product during the years ended December 31, 2016, 2015 and 2014:

	Commercial				Consumer				Total
	Construction and Other Real Estate	Business and Corporate Banking <sup>(1)</sup>	Global Banking <sup>(1)</sup>	Other Comm'l	Residential Mortgages	Home Equity Mortgages	Credit Cards	Other Consumer	
(in millions)									
<b>Year Ended December 31, 2016</b>									
Allowance for credit losses – beginning of period.....	\$ 86	\$ 407	\$ 267	\$ 19	\$ 68	\$ 24	\$ 32	\$ 9	\$ 912
Provision charged (credited) to income <sup>(2)</sup> ...	—	10	348	(6)	(9)	(1)	26	4	372
Charge-offs <sup>(2)(3)</sup> .....	(1)	(110)	(107)	—	(45)	(8)	(30)	(8)	(309)
Recoveries.....	7	10	—	—	12	5	6	2	42
Net (charge-offs) recoveries.....	6	(100)	(107)	—	(33)	(3)	(24)	(6)	(267)
Allowance for credit losses – end of period.....	\$ 92	\$ 317	\$ 508	\$ 13	\$ 26	\$ 20	\$ 34	\$ 7	\$ 1,017
Ending balance: collectively evaluated for impairment.....	\$ 91	\$ 262	\$ 257	\$ 12	\$ 17	\$ 19	\$ 33	\$ 7	\$ 698
Ending balance: individually evaluated for impairment.....	1	55	251	1	9	1	1	—	319
Total allowance for credit losses.....	\$ 92	\$ 317	\$ 508	\$ 13	\$ 26	\$ 20	\$ 34	\$ 7	\$ 1,017
<b>Loans:</b>									
Collectively evaluated for impairment <sup>(4)</sup> ...	\$ 10,847	\$ 13,738	\$ 26,094	\$ 2,484	\$ 16,165	\$ 1,335	\$ 683	\$ 382	\$ 71,728
Individually evaluated for impairment <sup>(5)</sup> ...	43	342	661	7	60	3	5	—	1,121
Loans carried at lower of amortized cost or fair value less cost to sell.....	—	—	—	—	956	70	—	—	1,026
Total loans.....	\$ 10,890	\$ 14,080	\$ 26,755	\$ 2,491	\$ 17,181	\$ 1,408	\$ 688	\$ 382	\$ 73,875
<b>Year Ended December 31, 2015</b>									
Allowance for credit losses – beginning of period.....	\$ 89	\$ 251	\$ 131	\$ 21	\$ 107	\$ 32	\$ 39	\$ 10	\$ 680
Provision charged (credited) to income.....	2	215	136	(2)	(15)	(4)	20	9	361
Charge-offs.....	(10)	(69)	—	(1)	(35)	(8)	(32)	(12)	(167)
Recoveries.....	5	10	—	1	11	4	5	2	38
Net (charge-offs) recoveries.....	(5)	(59)	—	—	(24)	(4)	(27)	(10)	(129)
Allowance for credit losses – end of period.....	\$ 86	\$ 407	\$ 267	\$ 19	\$ 68	\$ 24	\$ 32	\$ 9	\$ 912
Ending balance: collectively evaluated for impairment.....	\$ 85	\$ 355	\$ 267	\$ 18	\$ 35	\$ 23	\$ 31	\$ 9	\$ 823
Ending balance: individually evaluated for impairment.....	1	52	—	1	33	1	1	—	89
Total allowance for credit losses.....	\$ 86	\$ 407	\$ 267	\$ 19	\$ 68	\$ 24	\$ 32	\$ 9	\$ 912
<b>Loans:</b>									
Collectively evaluated for impairment <sup>(4)</sup> ...	\$ 9,890	\$ 14,148	\$ 34,601	\$ 3,361	\$ 16,112	\$ 1,523	\$ 694	\$ 407	\$ 80,736
Individually evaluated for impairment <sup>(5)</sup> ...	110	217	119	7	197	5	5	—	660
Loans carried at lower of amortized cost or fair value less cost to sell.....	—	—	—	—	1,449	72	—	—	1,521
Total loans.....	\$ 10,000	\$ 14,365	\$ 34,720	\$ 3,368	\$ 17,758	\$ 1,600	\$ 699	\$ 407	\$ 82,917

	Commercial				Consumer				Total
	Construction and Other Real Estate	Business and Corporate Banking <sup>(1)</sup>	Global Banking <sup>(1)</sup>	Other Comm'l	Residential Mortgages	Home Equity Mortgages	Credit Cards	Other Consumer	
(in millions)									
<b>Year Ended December 31, 2014</b>									
Allowance for credit losses – beginning of period .....	\$ 108	\$ 105	\$ 75	\$ 20	\$ 186	\$ 49	\$ 50	\$ 13	\$ 606
Provision charged (credited) to income.....	2	157	64	(7)	(40)	(14)	23	3	188
Charge-offs .....	(24)	(19)	(8)	(1)	(55)	(13)	(41)	(8)	(169)
Recoveries .....	3	8	—	9	16	10	7	2	55
Net (charge-offs) recoveries .....	(21)	(11)	(8)	8	(39)	(3)	(34)	(6)	\$ (114)
Allowance for credit losses – end of period .....	\$ 89	\$ 251	\$ 131	\$ 21	\$ 107	\$ 32	\$ 39	\$ 10	\$ 680
Ending balance: collectively evaluated for impairment .....	\$ 84	\$ 227	\$ 131	\$ 20	\$ 64	\$ 30	\$ 37	\$ 10	\$ 603
Ending balance: individually evaluated for impairment .....	5	24	—	1	43	2	2	—	77
Total allowance for credit losses .....	\$ 89	\$ 251	\$ 131	\$ 21	\$ 107	\$ 32	\$ 39	\$ 10	\$ 680
<b>Loans:</b>									
Collectively evaluated for impairment <sup>(4)</sup> ...	\$ 10,103	\$ 13,788	\$ 30,328	\$ 3,573	\$ 14,926	\$ 1,709	\$ 714	\$ 489	\$ 75,630
Individually evaluated for impairment <sup>(5)</sup> ...	197	90	—	8	224	5	6	—	530
Loans carried at lower of amortized cost or fair value less cost to sell .....	—	—	—	—	1,511	70	—	—	1,581
Total loans .....	\$ 10,300	\$ 13,878	\$ 30,328	\$ 3,581	\$ 16,661	\$ 1,784	\$ 720	\$ 489	\$ 77,741

<sup>(1)</sup> During the fourth quarter of 2016, we transferred certain customer relationships from CMB to GB&M as discussed further in Note 22, "Business Segments," in the accompanying consolidated financial statements. As a result, we reclassified \$4.8 billion, \$3.9 billion and \$3.4 billion of loans and \$27 million, \$24 million and \$7 million of allowance for credit losses from business and corporate banking to global banking at December 31, 2015, 2014 and 2013, respectively, to conform with the current year presentation.

<sup>(2)</sup> The provision for credit losses and charge-offs for residential mortgage loans during 2016 includes \$11 million related to the lower of amortized cost or fair value adjustment attributable to credit factors for loans transferred to held for sale. See Note 7, "Loans Held for Sale," for additional information.

<sup>(3)</sup> For collateral dependent loans that are transferred to held for sale, the existing allowance for credit losses at the time of transfer are recognized as a charge-off. We transferred to held for sale certain residential mortgage loans during 2016 and, accordingly, we recognized the existing allowance for credit losses on these loans as additional charge-offs totaling \$22 million during 2016.

<sup>(4)</sup> Global banking includes loans to HSBC affiliates totaling \$3,274 million, \$4,815 million and 4,821 million at December 31, 2016, 2015 and 2014, respectively, for which we do not carry an associated allowance for credit losses.

<sup>(5)</sup> For consumer loans and certain small business loans, these amounts represent TDR Loans for which we evaluate reserves using a discounted cash flow methodology. Each loan is individually identified as a TDR Loan and then grouped together with other TDR Loans with similar characteristics. The discounted cash flow analysis is then applied to these groups of TDR Loans. Loans individually evaluated for impairment exclude TDR Loans that are carried at the lower of amortized cost or fair value of the collateral less cost to sell which totaled \$672 million, \$881 million and \$763 million at December 31, 2016, 2015 and 2014, respectively.

## 7. Loans Held for Sale

Loans held for sale consisted of the following:

At December 31,	2016	2015
	(in millions)	
Commercial loans:		
Construction and other real estate .....	\$ 17	\$ 1,895
Global banking .....	827	200
Total commercial.....	<u>844</u>	<u>2,095</u>
Consumer loans:		
Residential mortgages .....	890	11
Home equity mortgages .....	4	—
Other consumer .....	71	79
Total consumer .....	<u>965</u>	<u>90</u>
Total loans held for sale .....	<u>\$ 1,809</u>	<u>\$ 2,185</u>

*Commercial Loans* In 2016, we sold \$1,161 million of commercial real estate loans to a third party and recognized a loss on sale of approximately \$3 million, including transaction costs. Upon completion of the sale, certain loans which had a carrying value of \$612 million were transferred back to held for investment as we now intend to hold these loans for the foreseeable future.

Global banking loans held for sale includes commercial loans that we originate in connection with our participation in a number of syndicated credit facilities with the intent of selling them to unaffiliated third parties as well as commercial loans that we purchase from the secondary market and hold as hedges against our exposure to certain total return swaps. The fair value of these loans, which we have elected to designate under the fair value option, totaled \$725 million and \$151 million at December 31, 2016 and 2015, respectively. See Note 15, "Fair Value Option," for additional information.

Global banking loans held for sale also includes certain loans that we no longer intend to hold for investment and were transferred to held for sale which totaled \$102 million and \$49 million at December 31, 2016 and 2015, respectively.

We recorded lower of amortized cost or fair value adjustments associated with the write-down of commercial loans held for sale of \$35 million, \$16 million and \$5 million during 2016, 2015 and 2014, respectively, as a component of other income (loss) in the consolidated statement of income.

*Consumer Loans* As previously disclosed, we continue to evaluate our overall operations as we seek to optimize our risk profile and cost efficiencies, as well as our liquidity, capital and funding requirements. As part of this on-going evaluation, as well as continued market demand for non-performing residential mortgage loans, during 2016 we determined we no longer have the intent to hold for investment certain residential mortgage loans which had been written down to the lower of amortized cost or fair value of the collateral less cost to sell (generally 180 days past due) in accordance with our existing charge-off policies. These loans were largely originated by us prior to the implementation of our Premier strategy. As a result of this decision, during 2016, we transferred residential mortgage loans to held for sale with a total unpaid principal balance of approximately \$568 million at the time of transfer. The carrying value of these loans prior to transfer, after considering the fair value of the property less costs to sell, was approximately \$473 million, including related escrow advances. We recorded an initial lower of amortized cost or fair value adjustment of \$45 million associated with newly transferred loans, all of which was attributed to non-credit factors and recorded as a component of other income (loss) in the consolidated statement of income. We also recorded \$8 million of additional lower of amortized cost or fair value adjustment on these loans held for sale as a component of other income (loss) in the consolidated statement of income as a result of a change in the estimated pricing on specific pools of loans subsequent to the initial transfer. As we plan to sell these loans to third party investors, fair value represents the price we believe a third party investor would pay to acquire the loan portfolios.

In addition to the residential mortgage loan transfers discussed above, during the third quarter of 2016, we determined we no longer have the intent to hold for investment a portfolio of residential mortgage loans that we previously purchased from HSBC Finance Corporation ("HSBC Finance"), along with any home equity mortgage balances associated with these loans. As a result of this decision, during the third quarter of 2016, we transferred residential mortgage and home equity mortgage loans to held for sale with a total unpaid principal balance of approximately \$648 million at the time of transfer. The carrying value of these loans prior to transfer, after considering the fair value of the property less costs to sell, as applicable, was approximately \$628 million, including accrued interest. During the third quarter of 2016, we recorded an initial lower of cost or fair value adjustment of \$11 million associated with the newly transferred loans, all of which was attributed to credit factors and recorded as a component of the provision for credit losses in the consolidated statement of income. During the fourth quarter of 2016, we recorded \$4 million of

additional lower of amortized cost or fair value adjustment on these loans held for sale as a component of other income (loss) in the consolidated statement of income as a result of a change in the estimated pricing on specific pools of loans. As we plan to sell these loans to third party investors, fair value represents the price we believe a third party investor would pay to acquire the loans.

We also continue to sell all our agency eligible residential mortgage loan originations servicing released directly to PHH Mortgage Corporation ("PHH Mortgage"). Gains and losses from the sale of these residential mortgage loans are reflected as a component of residential mortgage banking revenue (expense) in the accompanying consolidated statement of income. Residential mortgage loans held for sale also includes subprime residential mortgage loans with a fair value of \$3 million at both December 31, 2016 and 2015 which were previously acquired from unaffiliated third parties and from HSBC Finance with the intent of securitizing or selling the loans to third parties.

Loans held for sale are subject to market risk, liquidity risk and interest rate risk, in that their value will fluctuate as a result of changes in market conditions, as well as the credit environment. PHH Mortgage is obligated to purchase agency eligible loans from us as of the earlier of when the customer locks the mortgage loan pricing or when the mortgage loan application is approved. As such, we retain none of the risk of market changes in mortgage rates for these loans purchased by PHH Mortgage.

Other consumer loans held for sale reflects student loans which we no longer originate.

*Valuation Allowances* Excluding the commercial loans designated under fair value option discussed above, loans held for sale are recorded at the lower of amortized cost or fair value, with adjustments to fair value being recorded as a valuation allowance through other revenues. The valuation allowance on consumer loans held for sale was \$57 million and \$13 million at December 31, 2016 and 2015, respectively. The valuation allowance on commercial loans held for sale was \$55 million and \$21 million at December 31, 2016 and 2015, respectively.

## 8. Properties and Equipment, Net

Properties and equipment, net is summarized in the following table:

At December 31,	2016	2015
	(in millions)	
Land .....	\$ 8	\$ 8
Buildings and improvements .....	594	578
Furniture and equipment .....	142	140
Total.....	<u>744</u>	<u>726</u>
Accumulated depreciation and amortization.....	(542)	(496)
Properties and equipment, net.....	<u>\$ 202</u>	<u>\$ 230</u>

Depreciation and amortization expense totaled \$60 million, \$59 million and \$58 million in 2016, 2015 and 2014, respectively.

## 9. Intangible Assets

Intangible assets consisted of the following:

At December 31,	2016	2015
	(in millions)	
Mortgage servicing rights .....	\$ —	\$ 140
Purchased credit card relationships.....	34	41
Total intangible assets.....	<u>\$ 34</u>	<u>\$ 181</u>

**Mortgage Servicing Rights ("MSRs")** A servicing asset is a contract under which estimated future revenues from contractually specified cash flows, such as servicing fees and other ancillary revenues, are expected to exceed the obligation to service the financial assets. Prior to our agreement with PHH Mortgage, we recognized the right to service residential mortgage loans as a separate and distinct asset at the time they were acquired or when originated loans were sold. Following the conversion of our mortgage processing and servicing operations to PHH Mortgage in 2013, we sell our agency eligible originations directly to PHH Mortgage on a servicing released basis, resulting in no new mortgage servicing rights being recognized.

During the fourth quarter of 2016, we sold our remaining MSRs portfolio, which was in run-off for several years, and related servicing advances to a third party. The resulting loss on sale, including transaction costs, was not significant.

The following table summarizes MSR activity during 2016 and 2015:

Year Ended December 31,	2016	2015
	(in millions)	
Fair value of MSRs:		
Beginning balance .....	\$ 140	\$ 159
Changes in fair value due to changes in valuation inputs or assumptions .....	(27)	1
Reductions related to customer payments .....	(17)	(20)
Reduction related to sale of MSRs .....	(96)	—
Ending balance .....	<u>\$ —</u>	<u>\$ 140</u>

MSRs were subject to credit, prepayment and interest rate risk, in that their value would fluctuate as a result of changes in these economic variables. Interest rate risk was mitigated through an economic hedging program that used securities and derivatives to offset changes in the fair value of MSRs. Since the hedging program involved trading activity, risk was quantified and managed using a number of risk assessment techniques.

MSRs were initially measured at fair value at the time that the related loans were sold and remeasured at fair value at each reporting date. Changes in fair value of MSRs were reflected in residential mortgage banking revenue in the period in which the changes occurred. Previously, fair value was determined based upon the application of valuation models and other inputs. The valuation models incorporated assumptions market participants would use in estimating future cash flows. The reasonableness of these valuation models was periodically validated by reference to external independent broker valuations and industry surveys.

The following table summarizes the critical assumptions that were used to calculate the fair value of MSRs at December 31, 2015:

At December 31,	2015
Annualized constant prepayment rate.....	13.8%
Constant discount rate.....	12.6%
Weighted average life (in years).....	4.5

The outstanding principal balance of mortgages serviced for others, which were not included in the consolidated balance sheet, totaled \$18,930 million at December 31, 2015.

Servicing fees collected were included in residential mortgage banking revenue and totaled \$36 million, \$57 million and \$68 million during 2016, 2015 and 2014, respectively.

**Purchased credit card relationships** In 2012, we purchased from HSBC Finance the account relationships associated with \$746 million of credit card receivables which were not included in the sale to Capital One Financial Corporation at a fair value of \$108 million. Approximately \$43 million of this value was associated with the credit card receivables sold to First Niagara Bank, National Association and was written off at the time of sale. The remaining \$65 million was included in intangible assets and is being amortized over the estimated useful life of the credit card relationships which is ten years.

## 10. Goodwill

Goodwill was \$1,612 million at both December 31, 2016 and 2015. Included in goodwill for these periods were accumulated impairment losses of \$670 million.

During the third quarter of 2016, we completed our annual impairment test of goodwill and determined that the fair value of all of our reporting units exceeded their carrying amounts. During the fourth quarter of 2016, we performed an interim impairment test of the goodwill associated with our Commercial Banking reporting unit as a result of the transfer of certain customer relationships to Global Banking and Markets. As a result of this testing, the fair value of our Commercial Banking reporting unit continued to exceed its carrying value, including goodwill.

## 11. Deposits

Total deposits was \$129,248 million and \$118,579 million at December 31, 2016 and 2015, respectively, of which \$7,526 million and \$6,919 million, respectively, were carried at fair value. The following table presents the aggregate amount of time deposit accounts with a minimum of \$250,000 at December 31, 2016 and 2015:

At December 31,	2016	2015
	(in millions)	
Domestic deposits .....	\$ 14,419	\$ 16,288
Foreign deposits .....	4,225	4,038
Total .....	<u>\$ 18,644</u>	<u>\$ 20,326</u>

The scheduled maturities of all time deposits at December 31, 2016 are summarized in the following table:

	Domestic Deposits	Foreign Deposits	Total
	(in millions)		
2017:			
0-90 days .....	\$ 9,911	\$ 1,481	\$ 11,392
91-180 days .....	2,941	1,448	4,389
181-365 days .....	2,878	1,321	4,199
	<u>15,730</u>	<u>4,250</u>	<u>19,980</u>
2018 .....	870	1	871
2019 .....	703	1	704
2020 .....	918	1	919
2021 .....	1,184	—	1,184
Later years .....	3,031	—	3,031
	<u>\$ 22,436</u>	<u>\$ 4,253</u>	<u>\$ 26,689</u>

Overdraft deposits, which are classified as loans, were approximately \$442 million and \$327 million at December 31, 2016 and 2015, respectively.

## 12. Short-Term Borrowings

Short-term borrowings consisted of the following:

	December 31,					
	2016		2015		2014	
		Rate		Rate		Rate
(dollars are in millions)						
Securities sold under repurchase agreements <sup>(1)</sup> .....	\$ 3,672	1.17%	\$ 2,986	.48%	\$ 7,707	.32%
Average during year.....	\$ 7,272	.72	\$ 9,839	.34	\$13,498	.16
Maximum month-end balance.....	11,950		14,582		19,254	
Commercial paper.....	1,251	1.20	1,978	.46	4,772	.23
Average during year.....	2,551	.82	3,408	.30	4,537	.23
Maximum month-end balance.....	3,687		4,870		4,963	
Other .....	178		31		316	
Total short-term borrowings .....	<u>\$ 5,101</u>		<u>\$ 4,995</u>		<u>\$12,795</u>	

<sup>(1)</sup> The following table presents the quarter end and average quarterly balances of securities sold under repurchase agreements:

	2016				2015				2014			
	Fourth	Third	Second	First	Fourth	Third	Second	First	Fourth	Third	Second	First
(in millions)												
Quarter end balance .....	\$ 3,672	\$ 3,986	\$ 3,969	\$ 5,529	\$ 2,986	\$ 5,870	\$ 7,689	\$12,217	\$ 7,707	\$ 6,634	\$ 6,481	\$19,254
Average quarterly balance .....	4,593	5,959	10,461	8,117	7,513	6,914	12,761	12,251	8,902	9,106	16,849	19,300

### 13. Long-Term Debt

The composition of long-term debt is presented in the following table. Interest rates on floating rate notes are determined periodically by formulas based on certain money market rates or, in certain instances, by minimum interest rates as specified in the agreements governing the issues. Interest rates and maturity dates in effect at December 31, 2016 are shown in the below table.

	Maturity Date Range	Interest Rate Range	Interest Rate Weighted Average	At December 31,	
				2016	2015
(in millions)					
Issued or acquired by HSBC USA:					
Senior debt:					
Fixed-rate notes .....	2017-2024	1.30% - 3.50%	2.20%	\$ 11,423	\$ 11,412
Floating-rate notes .....	2017-2019	1.24% - 1.88%	1.48%	1,748	2,747
Structured notes .....	2017-2045	.85% - 3.29%	1.75%	7,849	7,071
Total senior debt .....				<u>21,020</u>	<u>21,230</u>
Subordinated debt:					
Fixed-rate notes .....	2020-2097	5.00% - 9.30%	6.15%	1,171	1,170
Floating-rate notes .....	2025	3.13%	3.13%	850	850
Total subordinated debt .....				<u>2,021</u>	<u>2,020</u>
Mark-to-market adjustment on fair value option debt .....				337	(62)
Total issued or acquired by HSBC USA .....				<u>23,378</u>	<u>23,188</u>
Issued or acquired by HSBC Bank USA and its subsidiaries:					
Senior debt:					
Floating-rate notes .....	2019-2036	.74% - 2.62%	2.37%	4,031	6
Structured notes .....	2017-2040	.92% - 2.35%	1.25%	218	262
FHLB advances - floating-rate .....	2017-2036	1.06% - 1.51%	1.28%	5,700	5,600
Total senior debt .....				<u>9,949</u>	<u>5,868</u>
Subordinated fixed-rate notes .....	2017-2039	4.88% - 7.00%	5.86%	4,103	4,201
Long term debt issued by VIE - fixed-rate .....	2018	17.20%	17.20%	79	92
Mark-to-market adjustment on fair value option debt .....				230	160
Total issued or acquired by HSBC Bank USA and its subsidiaries .....				<u>14,361</u>	<u>10,321</u>
Total long-term debt .....				<u>\$ 37,739</u>	<u>\$ 33,509</u>

At December 31, 2016 and 2015, we have elected fair value option accounting for all of our structured notes and certain subordinated debt. See Note 15, "Fair Value Option," for further details. At December 31, 2016 and 2015, structured notes totaling \$8,372 million and \$7,164 million, respectively, and subordinated debt totaling \$2,012 million and \$2,007 million, respectively, were carried at fair value.

As a member of the Federal Home Loan Bank of New York ("FHLB") and the Federal Reserve Bank of New York, we have secured borrowing facilities which are collateralized by loans and investment securities. At December 31, 2016 and 2015, borrowings from the FHLB facility totaled \$5,700 million and \$5,600 million, respectively, which is included in long-term debt. Based upon the amounts pledged as collateral under these facilities, we were allowed access to further overnight borrowings of up to \$13,597 million at December 31, 2016.

During 2015, HSBC USA exercised the option to call \$560 million of junior subordinated debentures previously issued by HSBC USA to HSBC USA Capital Trusts I, II and III at the contractual call prices of 100.781 percent, 100.84 percent and 100.732 percent, respectively, which resulted in a net loss on extinguishment of approximately \$11 million. The trusts used the proceeds to redeem the trust preferred securities previously issued to third party investors.

Maturities of long-term debt at December 31, 2016 were as follows:

	<b>(in millions)</b>
2017 .....	\$ 4,870
2018 .....	9,436
2019 .....	4,569
2020 .....	6,353
2021 .....	3,448
Thereafter .....	9,063
Total .....	<u>\$ 37,739</u>

#### **14. Derivative Financial Instruments**

In the normal course of business, the derivative instruments entered into are for trading, market making and risk management purposes. For financial reporting purposes, derivative instruments are designated in one of the following categories: (a) hedging instruments designated as qualifying hedges under derivative and hedge accounting principles, (b) financial instruments held for trading or (c) non-qualifying economic hedges. The derivative instruments held are predominantly swaps, futures, options and forward contracts. All derivatives are stated at fair value. Where we enter into enforceable master netting agreements with counterparties, the master netting agreements permit us to net those derivative asset and liability positions and to offset cash collateral held and posted with the same counterparty.

The following table presents the fair value of derivative contracts by major product type on a gross basis. Gross fair values exclude the effects of both counterparty netting as well as collateral, and therefore are not representative of our exposure. The table below presents the amounts of counterparty netting and cash collateral that have been offset in the consolidated balance sheet, as well as cash and securities collateral posted and received under enforceable master netting agreements that do not meet the criteria for netting. Derivative assets and liabilities which are not subject to an enforceable master netting agreement, or are subject to a netting agreement where an appropriate legal opinion to determine such agreements are enforceable has not been either sought or obtained, have not been netted in the table below. Where we have received or posted collateral under netting agreements where an appropriate legal opinion to determine such agreements are enforceable has not been either sought or obtained, the related collateral also has not been netted in the table below.

	December 31, 2016		December 31, 2015	
	Derivative assets	Derivative liabilities	Derivative assets	Derivative liabilities
	(in millions)			
<b>Derivatives accounted for as fair value hedges<sup>(1)</sup></b>				
OTC-cleared <sup>(2)</sup> .....	\$ 142	\$ 341	\$ 42	\$ 240
Bilateral OTC <sup>(2)</sup> .....	—	196	—	292
<b>Interest rate contracts</b> .....	<b>142</b>	<b>537</b>	<b>42</b>	<b>532</b>
<b>Derivatives accounted for as cash flow hedges<sup>(1)</sup></b>				
<b>Foreign exchange contracts - bilateral OTC<sup>(2)</sup></b> .....	<b>12</b>	<b>—</b>	<b>17</b>	<b>—</b>
OTC-cleared <sup>(2)</sup> .....	6	57	6	16
Bilateral OTC <sup>(2)</sup> .....	—	94	—	137
<b>Interest rate contracts</b> .....	<b>6</b>	<b>151</b>	<b>6</b>	<b>153</b>
<b>Total derivatives accounted for as hedges</b> .....	<b>160</b>	<b>688</b>	<b>65</b>	<b>685</b>
<b>Trading derivatives not accounted for as hedges<sup>(3)</sup></b>				
Exchange-traded <sup>(2)</sup> .....	35	84	27	27
OTC-cleared <sup>(2)</sup> .....	15,248	14,189	15,717	14,723
Bilateral OTC <sup>(2)</sup> .....	16,045	17,480	18,716	19,906
<b>Interest rate contracts</b> .....	<b>31,328</b>	<b>31,753</b>	<b>34,460</b>	<b>34,656</b>
Exchange-traded <sup>(2)</sup> .....	24	6	—	15
Bilateral OTC <sup>(2)</sup> .....	24,020	22,645	24,160	22,324
<b>Foreign exchange contracts</b> .....	<b>24,044</b>	<b>22,651</b>	<b>24,160</b>	<b>22,339</b>
<b>Equity contracts - bilateral OTC<sup>(2)</sup></b> .....	<b>1,658</b>	<b>1,653</b>	<b>1,344</b>	<b>1,340</b>
Exchange-traded <sup>(2)</sup> .....	81	13	38	39
Bilateral OTC <sup>(2)</sup> .....	1,038	867	891	552
<b>Precious metals contracts</b> .....	<b>1,119</b>	<b>880</b>	<b>929</b>	<b>591</b>
OTC-cleared <sup>(2)</sup> .....	227	289	899	1,212
Bilateral OTC <sup>(2)</sup> .....	1,291	1,076	2,913	2,565
<b>Credit contracts</b> .....	<b>1,518</b>	<b>1,365</b>	<b>3,812</b>	<b>3,777</b>
<b>Other derivatives not accounted for as hedges<sup>(1)</sup></b>				
OTC-cleared <sup>(2)</sup> .....	287	41	—	—
Bilateral OTC <sup>(2)</sup> .....	437	170	761	120
<b>Interest rate contracts</b> .....	<b>724</b>	<b>211</b>	<b>761</b>	<b>120</b>
<b>Foreign exchange contracts - bilateral OTC<sup>(2)</sup></b> .....	<b>—</b>	<b>31</b>	<b>—</b>	<b>97</b>
<b>Equity contracts - bilateral OTC<sup>(2)</sup></b> .....	<b>672</b>	<b>222</b>	<b>462</b>	<b>422</b>
<b>Credit contracts - bilateral OTC<sup>(2)</sup></b> .....	<b>32</b>	<b>4</b>	<b>73</b>	<b>6</b>
<b>Other contracts - bilateral OTC<sup>(2)(4)</sup></b> .....	<b>5</b>	<b>14</b>	<b>—</b>	<b>—</b>
<b>Total derivatives</b> .....	<b>61,260</b>	<b>59,472</b>	<b>66,066</b>	<b>64,033</b>
<b>Less: Gross amounts of receivable / payable subject to enforceable master netting agreements<sup>(5)(7)</sup></b> .....	<b>51,111</b>	<b>51,111</b>	<b>55,510</b>	<b>55,510</b>
<b>Less: Gross amounts of cash collateral received / posted subject to enforceable master netting agreements<sup>(6)(7)</sup></b> .....	<b>5,145</b>	<b>3,826</b>	<b>4,942</b>	<b>1,530</b>
<b>Net amounts of derivative assets / liabilities presented in the balance sheet</b> .....	<b>5,004</b>	<b>4,535</b>	<b>5,614</b>	<b>6,993</b>
<b>Less: Gross amounts of financial instrument collateral received / posted subject to enforceable master netting agreements but not offset in the consolidated balance sheet</b> .....	<b>787</b>	<b>1,050</b>	<b>1,114</b>	<b>3,674</b>
<b>Net amounts of derivative assets / liabilities</b> .....	<b>\$ 4,217</b>	<b>\$ 3,485</b>	<b>\$ 4,500</b>	<b>\$ 3,319</b>

<sup>(1)</sup> Derivative assets / liabilities related to cash flow hedges, fair value hedges and derivative instruments held for purposes other than for trading are recorded in other assets / interest, taxes and other liabilities on the consolidated balance sheet.

<sup>(2)</sup> Over-the-counter (OTC) derivatives include derivatives executed and settled bilaterally with counterparties without the use of an organized exchange or central clearing house. The credit risk associated with bilateral OTC derivatives is managed through master netting agreements and obtaining collateral. OTC-cleared derivatives are executed bilaterally in the OTC market but then novated to a central clearing counterparty, whereby the central clearing counterparty becomes the counterparty to both of the original counterparties. Exchange traded derivatives are executed directly on an organized exchange that provides pre-trade price transparency. Credit risk is minimized for OTC-cleared derivatives and exchange traded derivatives through daily margining required by central clearing counterparties.

<sup>(3)</sup> Trading related derivative assets/liabilities are recorded in trading assets / trading liabilities on the consolidated balance sheet.

- (4) Consists of swap agreements entered into in conjunction with the sale of certain Visa Inc. ("Visa") Class B common shares ("Class B Shares").
- (5) Represents the netting of derivative receivable and payable balances for the same counterparty under enforceable netting agreements.
- (6) Represents the netting of cash collateral posted and received by counterparty under enforceable netting agreements.
- (7) Netting is performed at a counterparty level in cases where enforceable master netting agreements are in place, regardless of the type of derivative instrument. Therefore, we have not attempted to allocate netting to the different types of derivative instruments shown in the table above.

See Note 25, "Guarantee Arrangements, Pledged Assets and Repurchase Agreements," for further information on offsetting related to resale and repurchase agreements and securities borrowing and lending arrangements.

**Derivatives Held for Risk Management Purposes** Our risk management policy requires us to identify, analyze and manage risks arising from the activities conducted during the normal course of business. We use derivative instruments as an asset and liability management tool to manage our exposures in interest rate, foreign currency and credit risks in existing assets and liabilities, commitments and forecasted transactions. The accounting for changes in fair value of a derivative instrument will depend on whether the derivative has been designated and qualifies for hedge accounting.

We designate derivative instruments to offset the fair value risk and cash flow risk arising from fixed-rate and floating-rate assets and liabilities as well as forecasted transactions. We assess the hedging relationships, both at the inception of the hedge and on an ongoing basis, using a regression approach to determine whether the designated hedging instrument is highly effective in offsetting changes in the fair value or the cash flows attributable to the hedged risk. Accounting principles for qualifying hedges require us to prepare detailed documentation describing the relationship between the hedging instrument and the hedged item, including, but not limited to, the risk management objective, the hedging strategy and the methods to assess and measure the ineffectiveness of the hedging relationship. We discontinue hedge accounting when we determine that the hedge is no longer highly effective, the hedging instrument is terminated, sold or expired, the designated forecasted transaction is not probable of occurring, or when the designation is removed by us.

**Fair Value Hedges** In the normal course of business, we hold fixed-rate loans and securities and issue fixed-rate senior and subordinated debt obligations. The fair value of fixed-rate (U.S. dollar and non-U.S. dollar denominated) assets and liabilities fluctuates in response to changes in interest rates or foreign currency exchange rates. We utilize interest rate swaps, forward and futures contracts and foreign currency swaps to minimize the effect on earnings caused by interest rate and foreign currency volatility. The changes in the fair value of the hedged item designated in a qualifying hedge are captured as an adjustment to the carrying amount of the hedged item (basis adjustment). If the hedging relationship is terminated and the hedged item continues to exist, the basis adjustment is amortized over the remaining life of the hedged item.

We recorded basis adjustments for active fair value hedges which decreased the carrying amount of our debt by \$104 million and \$24 million at December 31, 2016 and 2015, respectively. During 2016, 2015 and 2014, we amortized \$6 million, \$6 million and \$8 million, respectively, of basis adjustments related to terminated and/or re-designated fair value hedges of our debt. The total accumulated unamortized basis adjustments related to terminated and-or re-designated fair value hedges amounted to increases in the carrying amount of our debt of \$12 million and \$18 million at December 31, 2016 and 2015, respectively.

We recorded basis adjustments for active fair value hedges of AFS securities which increased the carrying amount of the securities by \$258 million and \$439 million at December 31, 2016 and 2015, respectively.

The following table presents information on gains and losses on derivative instruments designated and qualifying as hedging instruments in fair value hedges and the hedged items in fair value hedges and their location on the consolidated statement of income:

	Gain (Loss) on Derivative		Gain (Loss) on Hedged Items		Net Ineffective Gain (Loss) Recognized
	Interest Income (Expense)	Other Income (Loss)	Interest Income (Expense)	Other Income (Loss)	Other Income (Loss)
(in millions)					
<b>Year Ended December 31, 2016</b>					
Interest rate contracts/AFS Securities .....	\$ (178)	\$ 59	\$ 374	\$ (74)	\$ (15)
Interest rate contracts/long-term debt .....	32	(82)	(155)	80	(2)
Total .....	<u>\$ (146)</u>	<u>\$ (23)</u>	<u>\$ 219</u>	<u>\$ 6</u>	<u>\$ (17)</u>
<b>Year Ended December 31, 2015</b>					
Interest rate contracts/AFS Securities .....	\$ (202)	\$ (82)	\$ 363	\$ 66	\$ (16)
Interest rate contracts/long-term debt .....	10	(18)	(83)	20	2
Total .....	<u>\$ (192)</u>	<u>\$ (100)</u>	<u>\$ 280</u>	<u>\$ 86</u>	<u>\$ (14)</u>
<b>Year Ended December 31, 2014</b>					
Interest rate contracts/AFS Securities .....	\$ (246)	\$ (684)	\$ 375	\$ 668	\$ (16)
Interest rate contracts/long-term debt .....	9	(4)	(22)	4	—
Total .....	<u>\$ (237)</u>	<u>\$ (688)</u>	<u>\$ 353</u>	<u>\$ 672</u>	<u>\$ (16)</u>

**Cash Flow Hedges** We own or issue floating rate financial instruments and enter into forecasted transactions that give rise to variability in future cash flows. As a part of our risk management strategy, we use interest rate swaps, currency swaps and futures contracts to mitigate risk associated with variability in the cash flows. Changes in fair value of a derivative instrument associated with the effective portion of a qualifying cash flow hedge are recognized initially in other comprehensive income (loss). When the cash flows being hedged materialize and are recorded in income or expense, the associated gain or loss from the hedging derivative previously recorded in accumulated other comprehensive loss ("AOCI") is reclassified into earnings in the same accounting period in which the designated forecasted transaction or hedged item affects earnings. If a cash flow hedge of a forecasted transaction is de-designated because it is no longer highly effective, or if the hedge relationship is terminated, the cumulative gain or loss on the hedging derivative to that date will continue to be reported in AOCI unless it is probable that the hedged forecasted transaction will not occur by the end of the originally specified time period as documented at the inception of the hedge, at which time the cumulative gain or loss is released into earnings.

At December 31, 2016 and 2015, active cash flow hedge relationships extend or mature through July 2036. During 2016, \$17 million of losses related to terminated and/or re-designated cash flow hedge relationships were amortized to earnings from AOCI compared with losses of \$11 million and \$6 million during 2015 and 2014, respectively. During the next twelve months, we expect to amortize \$14 million of remaining losses to earnings resulting from these terminated and/or re-designated cash flow hedges. The interest accrual related to the hedging instruments is recognized in interest income.

The following table presents information on gains and losses on derivative instruments designated and qualifying as hedging instruments in cash flow hedges (including amounts recognized in AOCI from all terminated cash flow hedges) and their locations on the consolidated statement of income:

	Gain (Loss) Recognized in AOCI on Derivative (Effective Portion)			Location of Gain (Loss) Reclassified from AOCI into Income (Effective Portion)	Gain (Loss) Reclassified From AOCI into Income (Effective Portion)			Location of Gain (Loss) Recognized in Income on the Derivative (Ineffective Portion and Amount Excluded from Effectiveness Testing)	Gain (Loss) Recognized in Income on the Derivative (Ineffective Portion)		
	2016	2015	2014		2016	2015	2014		2016	2015	2014
(in millions)											
<b>Year Ended December 31,</b>											
Foreign exchange contracts.....	\$ (1)	\$ (2)	\$ 2	Interest income (expense)	\$ —	\$ —	\$ —	Other income (loss)	\$ —	\$ —	\$ —
Interest rate contracts.....	6	(21)	(127)	Interest income (expense)	(17)	(11)	(6)	Other income (loss)	—	—	—
Total.....	<u>\$ 5</u>	<u>\$ (23)</u>	<u>\$ (125)</u>		<u>\$ (17)</u>	<u>\$ (11)</u>	<u>\$ (6)</u>		<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>

**Trading Derivatives and Non-Qualifying Hedging Activities** In addition to risk management, we enter into derivative instruments, including buy- and sell-protection credit derivatives, for trading and market making purposes, to repackage risks and structure trades to facilitate clients' needs for various risk taking and risk modification purposes. We manage our risk exposure by entering into offsetting derivatives with other financial institutions to mitigate the market risks, in part or in full, arising from our trading activities with our clients. In addition, we also enter into buy-protection credit derivatives with other market participants to manage our counterparty credit risk exposure. Where we enter into derivatives for trading purposes, realized and unrealized gains and losses are recognized in trading revenue. Prior to the sale of our remaining MSRs portfolio during the fourth quarter of 2016, we used forward purchases or sales of to-be-announced ("TBA") securities to economically hedge our MSRs. Changes in the fair value of TBA positions, which were considered derivatives, were recorded in residential mortgage banking revenue. Credit losses arising from counterparty risk on over-the-counter derivative instruments and offsetting buy protection credit derivative positions are recognized as an adjustment to the fair value of the derivatives and are recorded in trading revenue.

Our non-qualifying hedging and other activities include:

- Derivative contracts related to the fixed-rate long-term debt issuances and hybrid instruments, including all structured notes and structured deposits, for which we have elected fair value option accounting. These derivative contracts are non-qualifying hedges but are considered economic hedges.
- Credit default swaps which are designated as economic hedges against the credit risks within our loan portfolio. In the event of an impairment loss occurring in a loan that is economically hedged, the impairment loss is recognized as provision for credit losses while the gain on the credit default swap is recorded as other income.
- Swap agreements entered into during 2016 in conjunction with the sale of certain Visa Class B Shares to a third party to retain the litigation risk associated with the Class B Shares sold until the related litigation is settled and the Class B Shares can be converted into Class A common shares ("Class A Shares"). See Note 25, "Guarantee Arrangements, Pledged Assets and Repurchase Agreements," for additional information.

Derivative instruments designated as economic hedges that do not qualify for hedge accounting are recorded at fair value through profit and loss. Realized and unrealized gains and losses on economic hedges are recognized in gain (loss) on instruments designated at fair value and related derivatives, other income (loss) or residential mortgage banking revenue while the derivative asset or liability positions are reflected as other assets or other liabilities.

The following table presents information on gains and losses on derivative instruments held for trading purposes and their locations on the consolidated statement of income:

Location of Gain (Loss) Recognized in Income on Derivatives		Amount of Gain (Loss) Recognized in Income on Derivatives		
		Year Ended December 31,		
		2016	2015	2014
(in millions)				
Interest rate contracts .....	Trading revenue	\$ (283)	\$ 899	\$ 166
Interest rate contracts .....	Residential mortgage banking revenue	36	26	63
Foreign exchange contracts .....	Trading revenue	386	(472)	21
Equity contracts .....	Trading revenue	6	4	—
Precious metals contracts.....	Trading revenue	(20)	52	65
Credit contracts .....	Trading revenue	(71)	(23)	(253)
Total .....		<u>\$ 54</u>	<u>\$ 486</u>	<u>\$ 62</u>

The following table presents information on gains and losses on derivative instruments held for non-qualifying hedging and other activities and their locations on the consolidated statement of income:

Location of Gain (Loss) Recognized in Income on Derivatives		Amount of Gain (Loss) Recognized in Income on Derivatives		
		Year Ended December 31,		
		2016	2015	2014
(in millions)				
Interest rate contracts .....	Gain (loss) on instruments designated at fair value and related derivatives	\$ (12)	\$ 89	\$ 439
Interest rate contracts .....	Residential mortgage banking revenue	—	1	(1)
Foreign exchange contracts .....	Gain (loss) on instruments designated at fair value and related derivatives	30	(10)	20
Equity contracts .....	Gain (loss) on instruments designated at fair value and related derivatives	466	(110)	442
Precious metals contracts.....	Gain (loss) on instruments designated at fair value and related derivatives	—	—	11
Credit contracts .....	Gain (loss) on instruments designated at fair value and related derivatives	—	(3)	1
Credit contracts .....	Other income (loss)	(70)	42	32
Total .....		<u>\$ 414</u>	<u>\$ 9</u>	<u>\$ 944</u>

**Credit-Risk Related Contingent Features** We enter into total return swap, interest rate swap, cross-currency swap and credit default swap contracts, amongst others, which contain provisions that require us to maintain a specific credit rating from each of the major credit rating agencies. Sometimes the derivative instrument transactions are a part of broader structured product transactions. If our credit ratings were to fall below the current ratings, the counterparties to our derivative instruments could demand us to post additional collateral. The amount of additional collateral required to be posted will depend on whether we are downgraded by one or more notches. The aggregate fair value of all derivative instruments with credit-risk related contingent features that were in a liability position at December 31, 2016 was \$586 million, for which we had posted collateral of \$581 million. The aggregate fair value of all derivative instruments with credit-risk-related contingent features that were in a liability position at December 31, 2015 was \$1,267 million, for which we had posted collateral of \$720 million. Substantially all of the collateral posted is in the form of cash or securities available-for-sale. See Note 25, "Guarantee Arrangements, Pledged Assets and Repurchase Agreements," for further details.

The following table presents the amount of additional collateral that we would be required to post (from the current collateral level) related to derivative instruments with credit-risk related contingent features if our long term ratings were downgraded by one or two notches. A downgrade by a single rating agency that does not result in a rating lower than a preexisting corresponding rating provided by another rating agency will generally not result in additional collateral.

	One-notch downgrade	Two-notch downgrade
	(in millions)	
Amount of additional collateral to be posted upon downgrade .....	\$ 68	\$ 75

**Notional Value of Derivative Contracts** The following table summarizes the notional values of derivative contracts:

At December 31,	2016	2015
	(in millions)	
Interest rate:		
Futures and forwards .....	\$ 501,635	\$ 149,413
Swaps .....	2,142,183	2,453,526
Options written .....	74,741	65,747
Options purchased .....	87,020	80,092
	<u>2,805,579</u>	<u>2,748,778</u>
Foreign exchange:		
Swaps, futures and forwards .....	965,301	980,811
Options written .....	52,845	81,132
Options purchased .....	53,260	82,004
Spot.....	34,565	42,724
	<u>1,105,971</u>	<u>1,186,671</u>
Commodities, equities and precious metals:		
Swaps, futures and forwards .....	49,555	35,546
Options written .....	19,495	19,601
Options purchased .....	30,632	33,374
	<u>99,682</u>	<u>88,521</u>
Credit derivatives .....	123,714	188,070
Other contracts <sup>(1)</sup> .....	184	—
Total.....	<u>\$ 4,135,130</u>	<u>\$ 4,212,040</u>

<sup>(1)</sup> Consists of swap agreements entered into in conjunction with the sale of certain Visa Class B Shares.

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## 15. Fair Value Option

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We report our results to HSBC in accordance with HSBC Group accounting and reporting policies ("Group Reporting Basis"), which apply International Financial Reporting Standards ("IFRSs") as issued by the International Accounting Standards Board ("IASB") and as endorsed by the European Union ("EU"). We typically have elected to apply fair value option ("FVO") accounting to selected financial instruments to align the measurement attributes of those instruments under U.S. GAAP and the Group Reporting Basis and to simplify the accounting model applied to those financial instruments. We elected to apply FVO accounting to certain commercial loans held for sale, certain securities sold under repurchase agreements, certain fixed-rate long-term debt issuances and hybrid instruments which include all structured notes and structured deposits. Changes in fair value for these assets and liabilities are reported as gain (loss) on instruments designated at fair value and related derivatives in the consolidated statement of income.

**Loans** We elected to apply FVO accounting to certain commercial syndicated loans which are originated with the intent to sell and certain commercial loans that we purchased from the secondary market and hold as hedges against our exposure to certain total return swaps and include these loans as loans held for sale in the consolidated balance sheet. The election allows us to account for these loans at fair value which is consistent with the manner in which the instruments are managed. Where available, fair value is based on observable market consensus pricing obtained from independent sources, relevant broker quotes or observed market prices of instruments with similar characteristics. Where observable market parameters are not available, fair value is determined based on contractual cash flows adjusted for estimates of prepayment rates, expected default rates and loss severity discounted at management's estimate of the expected rate of return required by market participants. We also consider loan specific risk mitigating factors such as collateral arrangements in determining the fair value estimate. Interest from these loans is recorded as interest income in the consolidated statement of income. Because a substantial majority of the loans elected for the fair value option are floating rate assets, changes in their fair value are primarily attributable to changes in loan-specific credit risk factors. The components of gain (loss) related to loans designated at fair value are summarized in the table below. At December 31, 2016 and 2015, no loans for which the fair value option has been elected were 90 days or more past due or in nonaccrual status.

**Resale and Repurchase Agreements** We elected to apply FVO accounting to certain securities purchased and sold under resale and repurchase agreements which are trading in nature. The election allows us to account for these resale and repurchase agreements at fair value which is consistent with the manner in which the instruments are managed. The fair value of the resale and repurchase agreements is determined using market rates currently offered on comparable transactions with similar underlying collateral and maturities. Interest on these resale and repurchase agreements is recorded as interest income or expense in the consolidated statement of income. The components of gain (loss) related to these resale and repurchase agreements designated at fair value are summarized in the table below.

**Long-Term Debt (Own Debt Issuances)** We elected to apply FVO accounting for certain fixed-rate long-term debt for which we had applied or otherwise would elect to apply fair value hedge accounting. The election allows us to achieve a similar accounting effect without having to meet the hedge accounting requirements. The own debt issuances elected under FVO are traded in secondary markets and, as such, the fair value is determined based on observed prices for the specific instruments. The observed market price of these instruments reflects the effect of changes to our own credit spreads and interest rates. Interest on the fixed-rate debt accounted for under FVO is recorded as interest expense in the consolidated statement of income. The components of gain (loss) related to long-term debt designated at fair value are summarized in the table below.

**Hybrid Instruments** We elected to apply FVO accounting to all of our hybrid instruments issued, including structured notes and structured deposits. The valuation of the hybrid instruments is predominantly driven by the derivative features embedded within the instruments and own credit risk. Cash flows of the hybrid instruments in their entirety, including the embedded derivatives, are discounted at an appropriate rate for the applicable duration of the instrument adjusted for our own credit spreads. The credit spreads applied to structured notes are determined with reference to our own debt issuance rates observed in the primary and secondary markets, internal funding rates, and structured note rates in recent executions while the credit spreads applied to structured deposits are determined using market rates currently offered on comparable deposits with similar characteristics and maturities. Interest on this debt is recorded as interest expense in the consolidated statement of income. The components of gain (loss) related to hybrid instruments designated at fair value which reflect the instruments described above are summarized in the table below.

The following table summarizes the fair value and unpaid principal balance for items we account for under FVO:

	Fair Value	Unpaid Principal Balance	Fair Value over (under) Unpaid Principal Balance
	(in millions)		
<b>At December 31, 2016</b>			
Commercial loans held for sale.....	\$ 725	\$ 728	\$ (3)
Securities purchased under resale agreements .....	770	767	3
Securities sold under repurchase agreements .....	2,672	2,670	2
Fixed rate long-term debt.....	2,012	1,750	262
Hybrid instruments:			
Structured deposits .....	7,526	7,881	(355)
Structured notes.....	8,372	8,067	305
<b>At December 31, 2015</b>			
Commercial loans held for sale.....	\$ 151	\$ 159	\$ (8)
Securities sold under repurchase agreements .....	1,976	1,970	6
Fixed rate long-term debt.....	2,007	1,750	257
Hybrid instruments:			
Structured deposits .....	6,919	7,016	(97)
Structured notes.....	7,164	7,323	(159)

**Components of Gain (Loss) on Instruments at Fair Value and Related Derivatives** Gain (loss) on instruments designated at fair value and related derivatives includes the changes in fair value related to interest rate, credit and other risks as well as the mark-to-market adjustment on the related derivatives and the net realized gains or losses on these derivatives. The following table summarizes the components of gain (loss) on instruments designated at fair value and related derivatives related to the changes in fair value of the financial instrument accounted for under FVO:

	Loans	Securities Purchased Under Resale Agreements	Securities Sold Under Repurchase Agreements	Long-Term Debt	Hybrid Instruments	Total
(in millions)						
<b>Year Ended December 31, 2016</b>						
Interest rate and other components <sup>(1)</sup> .....	\$ —	\$ —	\$ 4	\$ (2)	\$ (543)	\$ (541)
Credit risk component <sup>(2)(3)</sup> .....	22	—	—	(3)	(33)	(14)
Total mark-to-market on financial instruments designated at fair value.....	22	—	4	(5)	(576)	(555)
Mark-to-market on the related derivatives.....	—	—	—	(31)	452	421
Net realized gain on the related long-term debt derivatives .....	—	—	—	63	—	63
Gain (loss) on instruments designated at fair value and related derivatives .....	<u>\$ 22</u>	<u>\$ —</u>	<u>\$ 4</u>	<u>\$ 27</u>	<u>\$ (124)</u>	<u>\$ (71)</u>
<b>Year Ended December 31, 2015</b>						
Interest rate and other components <sup>(1)</sup> .....	\$ —	\$ —	\$ (6)	\$ (23)	\$ 127	\$ 98
Credit risk component <sup>(2)(3)</sup> .....	(14)	—	—	194	20	200
Total mark-to-market on financial instruments designated at fair value.....	(14)	—	(6)	171	147	298
Mark-to-market on the related derivatives.....	—	—	—	7	(109)	(102)
Net realized gain on the related long-term debt derivatives .....	—	—	—	68	—	68
Gain (loss) on instruments designated at fair value and related derivatives .....	<u>\$ (14)</u>	<u>\$ —</u>	<u>\$ (6)</u>	<u>\$ 246</u>	<u>\$ 38</u>	<u>\$ 264</u>
<b>Year Ended December 31, 2014</b>						
Interest rate and other components <sup>(1)</sup> .....	\$ —	\$ —	\$ —	\$ (292)	\$ (628)	\$ (920)
Credit risk component <sup>(2)(3)</sup> .....	—	—	—	6	76	82
Total mark-to-market on financial instruments designated at fair value.....	—	—	—	(286)	(552)	(838)
Mark-to-market on the related derivatives.....	—	—	—	239	606	845
Net realized gain on the related long-term debt derivatives .....	—	—	—	68	—	68
Gain (loss) on instruments designated at fair value and related derivatives .....	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 21</u>	<u>\$ 54</u>	<u>\$ 75</u>

<sup>(1)</sup> As it relates to hybrid instruments, interest rate and other components primarily includes interest rate, foreign exchange and equity contract risks.

<sup>(2)</sup> During 2016, the loss in the credit risk component for long term debt was attributable to the tightening of our own credit spreads while the gains during 2015 and 2014 were attributable to the widening of our own credit spreads.

<sup>(3)</sup> During 2016, the loss in the credit risk component for hybrid instruments was attributable to the tightening of credit spreads on structured deposits, partially offset by the widening of our own credits spreads related to structured notes. During 2015, the gain in the credit risk component for hybrid instruments was attributable primarily to the widening of credit spreads on structured deposits, partially offset by a loss due to changes in estimates associated with the valuation techniques used to measure the fair value of certain structured notes and deposits. The gain in the credit risk component for hybrid instruments during 2014 was attributable primarily to the widening of our own credit spreads on structured notes.

## 16. Income Taxes

Total income taxes were as follows:

Year Ended December 31,	2016	2015	2014
	(in millions)		
Provision (benefit) for income taxes .....	\$ 89	\$ 230	\$ (56)
Income taxes related to adjustments included in common equity:			
Unrealized gains (losses) on investment securities, net.....	(135)	(242)	114
Unrealized gains (losses) on derivatives classified as cash flow hedges.....	9	2	(46)
Employer accounting for post-retirement plans .....	2	—	(4)
Other-than-temporary impairment on debt securities.....	—	—	43
Total income taxes.....	\$ (35)	\$ (10)	\$ 51

The components of income tax expense (benefit) were as follows:

Year Ended December 31,	2016	2015	2014
	(in millions)		
Current:			
Federal .....	\$ 191	\$ 3	\$ (35)
State and local.....	27	35	(222)
Foreign.....	11	2	16
Total current.....	229	40	(241)
Deferred.....	(140)	190	185
Total income tax expense (benefit).....	\$ 89	\$ 230	\$ (56)

The significant components of deferred provision attributable to income were:

Year Ended December 31,	2016	2015	2014
	(in millions)		
Deferred income tax provision (excluding the effects of other components) .....	\$ (140)	\$ 201	\$ 144
Decrease in Federal operating loss carryforwards.....	—	—	1
(Decrease) increase in State valuation allowance .....	—	(5)	11
Increase in State capital loss carryforwards .....	—	(6)	—
(Increase) decrease in foreign and general business tax credits.....	—	—	29
Deferred income tax provision .....	\$ (140)	\$ 190	\$ 185

The following table provides an analysis of the difference between effective rates based on the total income tax provision attributable to pretax income and the statutory U.S. Federal income tax rate:

Year Ended December 31,	2016		2015		2014	
	(dollars are in millions)					
Tax expense at the U.S. Federal statutory income tax rate.....	\$ 76	35.0%	\$ 196	35.0%	\$ 104	35.0%
Increase (decrease) in rate resulting from:						
State and local taxes, net of Federal benefit .....	10	4.6	20	3.6	15	5.0
Adjustment of tax rate used to value deferred taxes <sup>(1)</sup> .....	4	1.8	47	8.4	63	21.1
Other non-deductible / non-taxable items <sup>(2)</sup> .....	21	9.6	1	.2	—	—
Items affecting prior periods <sup>(3)</sup> .....	(2)	(.9)	(7)	(1.3)	(29)	(9.7)
Uncertain tax positions <sup>(4)</sup> .....	(4)	(1.8)	4	.7	(192)	(64.4)
Low income housing tax credit investments.....	(17)	(7.8)	(26)	(4.6)	(26)	(8.7)
Change in valuation allowances reserves <sup>(5)</sup> .....	—	—	(5)	(.9)	10	3.4
Other .....	1	.5	—	—	(1)	(.3)
Total income tax expense (benefit).....	<u>\$ 89</u>	<u>40.8%</u>	<u>\$ 230</u>	<u>41.1%</u>	<u>\$ (56)</u>	<u>(18.8)%</u>

<sup>(1)</sup> For 2015, the amount mainly relates to the effects of revaluing our deferred tax assets for New York City Tax Reform that was enacted on April 13, 2015. For 2014, the amount mainly relates to the effects of revaluing our deferred tax assets for New York State Tax Reform that was enacted on March 31, 2014.

<sup>(2)</sup> For 2016, the amount mainly relates to the accrual of non-deductible penalties.

<sup>(3)</sup> For 2014, the amount relates to changes in estimates as a result of filing the Federal and State income tax returns and a change in State tax expense as a result of filing amended State tax returns upon the closing of the Federal audits for the 2006 - 2009 tax years.

<sup>(4)</sup> For 2014, the amount mainly reflects the resolution and settlement with taxation authorities of certain significant State and local tax audits during 2014 which is discussed further below.

<sup>(5)</sup> For 2014, the amount relates to the establishment of a valuation allowance against our deferred tax assets as a result of New York State Tax Reform that was enacted on March 31, 2014.

The components of the net deferred tax asset are presented in the following table:

At December 31,	2016	2015
	(in millions)	
Deferred tax assets:		
Allowance for credit losses.....	\$ 392	\$ 346
Employee benefit accruals.....	108	124
Accrued expenses .....	110	79
Interests in real estate mortgage investment conduits <sup>(1)</sup> .....	548	561
Unrealized losses on investment securities.....	275	140
Partnerships.....	113	104
Other .....	360	360
Total deferred tax assets.....	<u>1,906</u>	<u>1,714</u>
Valuation allowance.....	<u>(6)</u>	<u>(6)</u>
Total deferred tax assets, net of valuation allowance.....	<u>1,900</u>	<u>1,708</u>
Deferred tax liabilities:		
Fair value adjustments .....	48	137
Mortgage servicing rights .....	—	52
Other .....	49	45
Total deferred tax liabilities.....	<u>97</u>	<u>234</u>
Net deferred tax asset.....	<u>\$ 1,803</u>	<u>\$ 1,474</u>

<sup>(1)</sup> Real estate mortgage investment conduits ("REMICs") are investment vehicles that hold commercial and residential mortgages in trust and issue securities representing an undivided interest in these mortgages. HSBC Bank USA holds portfolios of noneconomic residual interests in a number of REMICs. This item represents tax basis in such interests which has accumulated as a result of tax rules requiring the recognition of income related to such noneconomic residuals.

A reconciliation of the beginning and ending amount of unrecognized tax benefits related to uncertain tax positions is as follows:

	2016	2015	2014
	(in millions)		
Balance at January 1,.....	\$ 26	\$ 14	\$ 540
Additions based on tax positions related to the current year .....	2	4	18
Reductions based on tax positions related to the current year .....	—	—	(10)
Additions for tax positions of prior years .....	—	8	5
Reductions for tax positions of prior years .....	(8)	—	(337)
Reductions related to settlements with taxing authorities.....	(4)	—	(202)
Balance at December 31,.....	<u>\$ 16</u>	<u>\$ 26</u>	<u>\$ 14</u>

During 2014, certain State and local tax audits were concluded resulting in the settlement of significant uncertain tax positions covering a number of years. As a result, tax reserves previously maintained in relation to the periods and issues under review were released which resulted in an income tax benefit of \$183 million. In addition, we released our accrued interest associated with the tax reserves released which resulted in a \$120 million benefit to interest expense.

The total amount of unrecognized tax benefits that, if recognized, would affect the effective income tax rate was \$10 million, \$14 million and \$11 million at December 31, 2016, 2015 and 2014, respectively. Included in the unrecognized tax benefits are certain items the recognition of which would not affect the effective tax rate, such as the tax effect of temporary differences and the amount of State taxes that would be deductible for U.S. Federal tax purposes. It is reasonably possible that there could be a change in the amount of our unrecognized tax benefits within the next 12 months due to settlements or statutory expirations in various State and local tax jurisdictions.

It is our policy to recognize accrued interest related to uncertain tax positions in interest expense in the consolidated statement of income and to recognize penalties, if any, related to uncertain tax positions as a component of other expenses in the consolidated statement of income. Accruals for the payment of interest associated with uncertain tax positions totaled \$3 million, \$4 million and \$3 million at December 31, 2016, 2015 and 2014, respectively. Our accrual for the payment of interest associated with uncertain tax positions decreased by \$1 million during 2016 and increased by \$1 million during 2015.

Deferred tax assets and liabilities are recognized for the future tax consequences related to the differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases, for State net operating losses and for State tax credits. Our net deferred tax assets, including deferred tax liabilities, totaled \$1,803 million and \$1,474 million at December 31, 2016 and 2015, respectively.

See Note 2, "Summary of Significant Accounting Policies and New Accounting Pronouncements," for further discussion regarding our accounting policy relating to the evaluation, recognition and measurement of both the HNAH Group's and HSBC USA's deferred tax assets and liabilities. In evaluating the need for a valuation allowance at December 31, 2016, it has been determined that HNAH Group projections of future taxable income from U.S. operations based on management approved business plans provide sufficient and appropriate support for the recognition of our net deferred tax assets. At December 31, 2016, we have valuation allowances against certain State capital loss carryforwards for which the aforementioned projections of future taxable income do not provide the appropriate support.

The Internal Revenue Service concluded its examination of our 2012 and 2013 Federal income tax returns in the fourth quarter of 2016. The final impact did not significantly affect our financial statements.

We remain subject to State and local income tax examinations for years 2008 and forward. We are currently under audit by various State and local tax jurisdictions. Uncertain tax positions are reviewed on an ongoing basis and are adjusted in light of changing facts and circumstances, including progress of tax audits, developments in case law and the closing of statute of limitations. Such adjustments are reflected in the tax provision.

At December 31, 2016, for State tax purposes, we had apportioned and pre-tax effected net operating loss carryforwards of \$21 million which expire as follows: \$1 million in 2022 - 2026 and \$20 million in 2027 - 2031.

## 17. Preferred Stock

The following table presents information related to the issues of HSBC USA preferred stock outstanding:

At December 31,	Shares Outstanding	Dividend Rate	Amount Outstanding	
	2016	2016	2016	2015
(dollars are in millions)				
6.0% Non-Cumulative Preferred Stock, Series I (\$1,000,000 stated value) .....	1,265	6.0%	\$ 1,265	\$ —
Floating Rate Non-Cumulative Preferred Stock, Series F (\$25 stated value) ....	—	—	—	517
14,950,000 Depositary Shares each representing a one-fortieth interest in a share of Floating Rate Non-Cumulative Preferred Stock, Series G (\$1,000 stated value) .....	—	—	—	374
14,950,000 Depositary Shares each representing a one-fortieth interest in a share of 6.5% Non-Cumulative Preferred Stock, Series H (\$1,000 stated value) .....	—	—	—	374
			<u>\$ 1,265</u>	<u>\$ 1,265</u>

During the second quarter of 2016, HSBC USA redeemed all of its remaining externally issued preferred stock, including its Floating Rate Non-Cumulative Series F Preferred Stock, Floating Rate Non-Cumulative Series G Preferred Stock and 6.5 percent Non-Cumulative Series H Preferred Stock, at their stated values of \$25 per share, \$1,000 per share and \$1,000 per share, respectively, resulting in a total cash payment of \$1,265 million. In connection with these redemptions, HSBC USA issued 1,265 shares of 6.0 percent Non-Cumulative Series I Preferred Stock to HSBC North America in exchange for cash consideration of \$1,265 million.

Dividends on the 6.0 percent Non-Cumulative Series I Preferred Stock are non-cumulative and will be payable when and if declared by our Board of Directors semi-annually on the first business day of June and December of each year at the stated rate of 6.0 percent. The Series I Preferred Stock may be redeemed at our option, in whole or in part, on or after May 31, 2021 or at any time after we receive notice from the Federal Reserve Board ("FRB") that the Series I Preferred Stock may no longer be included in the calculation of regulatory capital as a result of any subsequent changes in applicable laws, rules or regulations, at a redemption price equal to \$1,000,000 per share, plus an amount equal to any declared and unpaid dividends, but only after receipt of written approval from the FRB.

During 2015, HSBC USA redeemed all of its Adjustable Rate Cumulative Preferred Stock, Series D and its \$2.8575 Cumulative Preferred Stock at their stated values of \$100 per share and \$50 per share, respectively, resulting in a total cash payment of \$300 million.

## 18. Accumulated Other Comprehensive Loss

Accumulated other comprehensive loss includes certain items that are reported directly within a separate component of equity. The following table presents changes in accumulated other comprehensive loss balances:

Year Ended December 31,	2016	2015	2014
	(in millions)		
<b>Unrealized gains (losses) on investment securities:</b>			
Balance at beginning of period .....	\$ (234)	\$ 158	\$ (18)
Other comprehensive income (loss) for period:			
Net unrealized gains (losses) arising during period, net of tax of \$(125) million, \$(239) million and \$159 million, respectively .....	(209)	(387)	244
Reclassification adjustment for gains realized in net income, net of tax of \$(26) million, \$(18) million and \$(48) million, respectively <sup>(1)</sup> .....	(44)	(30)	(74)
Amortization of net unrealized losses on securities transferred from available-for-sale to held-to-maturity realized in net income, net of tax of \$16 million, \$15 million and \$3 million, respectively <sup>(2)</sup> .....	26	25	6
Total other comprehensive income (loss) for period .....	(227)	(392)	176
Balance at end of period .....	(461)	(234)	158
<b>Unrealized losses on other-than-temporarily impaired debt securities held-to-maturity:</b>			
Balance at beginning of period .....	—	—	(60)
Other comprehensive income for period:			
Reclassification adjustment related to the accretion of unrealized other-than-temporary impairment, net of tax of \$7 million <sup>(3)</sup> .....	—	—	9
Reclassification adjustment to reverse other-than-temporary impairment due to closure of VIE, net of tax of \$36 million <sup>(3)</sup> .....	—	—	51
Total other comprehensive income for period .....	—	—	60
Balance at end of period .....	—	—	—
<b>Unrealized losses on derivatives designated as cash flow hedges:</b>			
Balance at beginning of period .....	(170)	(156)	(83)
Other comprehensive income (loss) for period:			
Net unrealized gains (losses) arising during period, net of tax of \$3 million, \$(2) million and \$(48) million, respectively .....	2	(21)	(77)
Reclassification adjustment for losses realized in net income, net of tax of \$6 million, \$4 million and \$2 million, respectively <sup>(4)</sup> .....	11	7	4
Total other comprehensive income (loss) for period .....	13	(14)	(73)
Balance at end of period .....	(157)	(170)	(156)
<b>Pension and postretirement benefit liability:</b>			
Balance at beginning of period .....	(3)	(3)	2
Other comprehensive income (loss) for period:			
Change in unfunded pension and postretirement liability, net of tax of \$2 million, \$0 million and \$(4) million, respectively .....	3	—	(5)
Total other comprehensive income (loss) for period .....	3	—	(5)
Balance at end of period .....	—	(3)	(3)
<b>Total accumulated other comprehensive loss at end of period .....</b>	<b>\$ (618)</b>	<b>\$ (407)</b>	<b>\$ (1)</b>

<sup>(1)</sup> Amount reclassified to net income is included in other securities gains, net in our consolidated statement of income.

<sup>(2)</sup> Amount amortized to net income is included in interest income in our consolidated statement of income. During 2014, we transferred securities from available-for-sale to held-to-maturity. At the date of transfer, AOCI included net pretax unrealized losses of \$234 million related to the transferred securities which will be amortized over the remaining contractual life of each security as an adjustment of yield in a manner consistent with the amortization of any premium or discount.

<sup>(3)</sup> Amount reclassified to the carrying value of the debt securities is included in securities held-to-maturity in our consolidated balance sheet.

<sup>(4)</sup> Amount reclassified to net income is included in interest income (expense) in our consolidated statement of income.

## 19. Share-Based Plans

**Employee Stock Purchase Plans** During 2016, 2015 and 2014, we offered the HSBC International Employee Share Purchase Plan (the "HSBC ShareMatch Plan") which allows eligible employees to purchase HSBC shares with a maximum monthly purchase of \$325 in 2016, \$400 in 2015 and \$420 in 2014. For every three shares purchased under the HSBC ShareMatch Plan (the "Investment Share") the employee is awarded an additional share at no charge (the "Matching Share"). The Investment Share is fully vested at the time of purchase while the Matching Share vests at the end of three years contingent upon continuing employment with the HSBC Group.

Compensation expense related to Employee Stock Purchase Plans was less than \$1 million in 2016, 2015 and 2014, respectively.

**Restricted Share Plans** Under the HSBC Group Share Plan, share-based awards have been granted to key employees typically in the form of restricted share units. These shares have been granted subject to either time-based vesting or performance based-vesting, typically over three to five years. Annual awards to employees are generally subject to three-year time-based graded vesting. We also issue a small number of off-cycle grants each year, primarily for reasons related to recruitment of new employees. Compensation expense for restricted share awards totaled \$38 million, \$42 million and \$39 million in 2016, 2015 and 2014, respectively. At December 31, 2016, future compensation cost related to grants which have not yet fully vested is approximately \$41 million. This amount is expected to be recognized over a weighted-average period of one year.

In addition, under a fixed pay allowance ("FPA") program, HSBC shares are granted to certain key employees on a quarterly basis. The FPA shares are not linked to the achievement of any performance conditions and they vest immediately. However, these shares are subject to various retention periods of up to five years based on the role of the employee. Compensation expense related to FPA shares totaled less than \$1 million, \$7 million and \$7 million in 2016, 2015 and 2014, respectively.

## 20. Pension and Other Postretirement Benefits

**Defined Benefit Pension Plan** Certain employees are eligible to participate in the HSBC North America qualified defined benefit pension plan (either the "HSBC North America Pension Plan" or the "Plan") which facilitates the development of a unified employee benefit policy and unified employee benefit plan administration for HSBC companies operating in the United States. Future benefit accruals for legacy participants under the final average pay formula components of the Plan ceased effective January 1, 2011, while future contributions under the cash balance formula were discontinued effective January 1, 2013 and, as a result, the Plan is now frozen.

The components of pension expense for the defined benefit pension plan recorded in our consolidated statement of income and shown in the table below reflect the portion of pension expense of the combined HSBC North America Pension Plan which has been allocated to us. We have not been allocated any portion of the Plan's net pension liability.

Year Ended December 31,	2016	2015	2014
	(in millions)		
Interest cost on projected benefit obligation .....	\$ 70	\$ 70	\$ 70
Expected return on plan assets .....	(86)	(90)	(87)
Amortization of net actuarial loss.....	42	38	34
Administrative costs .....	4	5	7
Pension expense.....	\$ 30	\$ 23	\$ 24

During the year ended December 31, 2016, pension expense was impacted by an immaterial out of period adjustment which increased pension expense by \$6 million in connection with pension valuation changes related to prior periods.

The assumptions used in determining pension expense of the HSBC North America Pension Plan are as follows:

	2016	2015	2014
Discount rate.....	4.25%	3.95%	4.80%
Expected long-term rate of return on Plan assets .....	5.50	6.00	6.00

**Defined Contribution and Other Supplemental Retirement Plans** We maintain a 401(k) plan covering substantially all employees. Employer contributions to the plan are based on employee contributions. Total expense recognized for this plan was approximately \$33 million, \$33 million and \$31 million in 2016, 2015 and 2014, respectively.

Certain employees are participants in various defined contribution and other non-qualified supplemental retirement plans all of which have been frozen. Total expense recognized for these plans was approximately \$3 million in each of 2016, 2015 and 2014.

**Postretirement Plans Other Than Pensions** Our employees also participate in plans which provide medical and life insurance benefits to retirees and eligible dependents. These plans cover substantially all employees who meet certain age and vested service requirements. We have instituted dollar limits on payments under the plans to control the cost of future medical benefits. The following table reflects the components of the net periodic postretirement benefit cost:

Year Ended December 31,	2016	2015	2014
	(in millions)		
Interest cost on accumulated benefit obligation .....	\$ 2	\$ 2	\$ 3
Amortization of net actuarial gain .....	—	—	(1)
Net periodic postretirement benefit cost.....	<u>\$ 2</u>	<u>\$ 2</u>	<u>\$ 2</u>

The assumptions used in determining the net periodic postretirement benefit cost for our postretirement benefit plans are as follows:

	2016	2015	2014
Discount rate.....	3.95%	3.60%	4.35%
Salary increase assumption.....	3.00	3.00	2.75

A reconciliation of the beginning and ending balances of the accumulated postretirement benefit obligation is as follows:

	2016	2015
	(in millions)	
Accumulated benefit obligation at beginning of year .....	\$ 60	\$ 62
Interest cost .....	2	2
Actuarial losses (gains) .....	(3)	4
Benefits paid, net.....	(4)	(4)
Plan amendments .....	—	(4)
Accumulated benefit obligation at end of year .....	<u>\$ 55</u>	<u>\$ 60</u>

During 2015, the substantial majority of our postretirement benefit plans were amended relating to post-65 retirees which resulted in a reduction of our postretirement benefit liability as the amendments eliminated future health cost increases which were previously included in the liability. This reduction is being amortized to postretirement benefit expense over the remaining estimated covered period for affected employees which is approximately seven years.

Our postretirement benefit plans are funded on a pay-as-you-go basis. We currently estimate that we will pay benefits of approximately \$5 million relating to our postretirement benefit plans in 2017. The funded status of our postretirement benefit plans was a liability of \$55 million at December 31, 2016.

Estimated future benefit payments for our postretirement benefit plans are summarized in the following table:

	(in millions)
2017 .....	\$ 5
2018 .....	5
2019 .....	5
2020 .....	5
2021 .....	5
2022-2026 .....	20

The assumptions used in determining the benefit obligation of our postretirement benefit plans at December 31 are as follows:

	2016	2015	2014
Discount rate .....	3.95%	3.95%	3.60%
Salary increase assumption .....	3.00	3.00	3.00

For measurement purposes, 6.9 percent (pre-65) and, as it related to the postretirement benefit plans which were not amended, 8.3 percent (post-65) annual rates of increase in the per capita costs of covered health care benefits were assumed for 2016. These rates are assumed to decrease gradually reaching the ultimate rate of 4.5 percent in 2027, and remain at that level thereafter.

While assumed health care cost trend rates have an effect on the amounts reported for health care plans, a one-percentage point change in assumed health care cost trend rates would not have a material impact on service or interest costs or the postretirement benefit obligation.

## 21. Related Party Transactions

In the normal course of business, we conduct transactions with HSBC and its subsidiaries. HSBC policy requires that these transactions occur at prevailing market rates and terms and include funding arrangements, derivative transactions, servicing arrangements, information technology support, centralized support services, banking and other miscellaneous services and where applicable, these transactions are compliant with United States banking regulations. All extensions of credit by (and certain credit exposures of) HSBC Bank USA to other HSBC affiliates (other than Federal Deposit Insurance Corporation ("FDIC") insured banks) are legally required to be secured by eligible collateral. The following tables and discussions below present the more significant related party balances and the income (expense) generated by related party transactions:

At December 31,	2016	2015
	(in millions)	
<b>Assets:</b>		
Cash and due from banks.....	\$ 364	\$ 169
Interest bearing deposits with banks.....	980	244
Securities purchased under agreements to resell <sup>(1)</sup> .....	949	4,000
Trading assets.....	74	212
Loans.....	3,274	4,815
Other <sup>(2)</sup> .....	291	458
Total assets.....	<u>\$ 5,932</u>	<u>\$ 9,898</u>
<b>Liabilities:</b>		
Deposits.....	\$ 23,999	\$ 13,486
Trading liabilities.....	510	1,954
Short-term borrowings.....	2,148	2,004
Long-term debt.....	4,834	1,827
Other <sup>(2)</sup> .....	247	346
Total liabilities.....	<u>\$ 31,738</u>	<u>\$ 19,617</u>

<sup>(1)</sup> Reflects overnight purchases of U.S. Treasury securities which HSBC Securities (USA) Inc. ("HSI") has agreed to repurchase.

<sup>(2)</sup> Other assets and other liabilities primarily consist of derivative balances associated with hedging activities and other miscellaneous account receivables and payables.

Year Ended December 31,	2016	2015	2014
	(in millions)		
<b>Income/(Expense):</b>			
Interest income.....	\$ 122	\$ 117	\$ 71
Interest expense.....	(166)	(63)	(66)
Net interest income (expense).....	(44)	54	5
Trading revenue (expense).....	(1,297)	402	(676)
Servicing and other fees from HSBC affiliates:			
HSBC Bank plc.....	95	82	49
HSBC Finance Corporation.....	40	53	81
HSBC Markets (USA) Inc. ("HMUS").....	23	25	22
Other HSBC affiliates.....	59	53	47
Total servicing and other fees from HSBC affiliates.....	217	213	199
Gain (loss) on instruments designed at fair value and related derivatives.....	467	(116)	453
Support services from HSBC affiliates:			
HMUS.....	(176)	(256)	(248)
HSBC Technology & Services (USA) ("HTSU").....	(994)	(999)	(1,103)
Other HSBC affiliates.....	(193)	(180)	(198)
Total support services from HSBC affiliates.....	(1,363)	(1,435)	(1,549)
Stock based compensation expense with HSBC <sup>(1)</sup> .....	(39)	(49)	(46)

<sup>(1)</sup> Employees may participate in one or more stock compensation plans sponsored by HSBC. These expenses are included in salaries and employee benefits in our consolidated statement of income. Certain employees are also eligible to participate in a defined benefit pension plan and other postretirement plans sponsored by HSBC North America which are discussed in Note 20, "Pension and Other Postretirement Benefits."

#### Funding Arrangements with HSBC Affiliates:

We use HSBC affiliates to fund a portion of our borrowing and liquidity needs. At December 31, 2016 and 2015, long-term debt with affiliates reflected \$4.9 billion and \$1.9 billion, respectively, of floating rate borrowings from HSBC North America. During the fourth quarter of 2016, \$1.0 billion of these borrowings matured and was repaid. The remaining outstanding balances include:

- \$2.0 billion of senior debt which was issued during the third quarter of 2016 and matures in August 2021;
- \$0.9 billion of subordinated debt which was issued during the second quarter of 2015 and matures in May 2025; and
- \$2.0 billion of senior debt which was issued during the third quarter of 2016 and matures in August 2026.

At December 31, 2015, we had a \$150 million uncommitted line of credit with HNAI which was transferred to HSBC North America during 2016. There was no outstanding balance under this credit facility at either December 31, 2016 or 2015, respectively.

We have also incurred short-term borrowings with certain affiliates, largely securities sold under repurchase agreements with HSI. In addition, certain affiliates have also placed deposits with us.

#### Lending and Derivative Related Arrangements Extended to HSBC Affiliates:

At December 31, 2016 and 2015, we have the following loan balances outstanding with HSBC affiliates:

At December 31,	2016	2015
	(in millions)	
HSBC Finance Corporation.....	\$ 2,501	\$ 3,014
HSBC Markets (USA) Inc. ("HMUS") and subsidiaries.....	563	978
HSBC Mexico S.A.....	195	725
Regency Assets Limited ("Regency") <sup>(1)</sup> .....	—	58
Other short-term affiliate lending.....	15	40
Total loans.....	\$ 3,274	\$ 4,815

<sup>(1)</sup> An asset-backed commercial paper conduit consolidated by an HSBC affiliate.

*HSBC Finance Corporation* We have extended a \$5.0 billion, 364-day uncommitted unsecured revolving credit agreement to HSBC Finance which expires during the fourth quarter of 2017. The credit agreement allows for borrowings with maturities of up to 5 years. At December 31, 2016 and 2015, \$2.5 billion and \$3.0 billion, respectively, was outstanding under this credit agreement. In December 2016, HSBC Finance prepaid \$512 million that was outstanding under this credit agreement including a loan prepayment fee of \$6 million which is included in servicing and other fees from HSBC affiliates. Of the remaining balances outstanding, \$1.5 billion matures in January 2018 and \$1.0 billion matures in September 2018. At December 31, 2015, we also had extended a committed revolving credit facility to HSBC Finance of \$1.0 billion which did not have any outstanding balance. During the third quarter of 2016, this credit facility was terminated.

*HMUS and subsidiaries* We have extended loans and lines, some of them uncommitted, to HMUS and its subsidiaries in the amount of \$5.9 billion and \$10.7 billion at both December 31, 2016 and 2015, respectively, of which \$563 million and \$978 million, respectively, was outstanding. The maturities of the outstanding balances range from overnight to three months. Each borrowing is re-evaluated prior to its maturity date and either extended or allowed to mature.

*HSBC Mexico S.A.* We have extended an uncommitted line of credit to HSBC Mexico S.A. in the amount of \$1.2 billion at both December 31, 2016 and 2015, of which \$195 million and \$725 million was outstanding at December 31, 2016 and 2015, respectively. The outstanding balances mature at various stages in 2018.

*Regency* During the third quarter of 2016, Regency was restructured and the liquidity facilities we previously provided to them were terminated. See Note 24, "Variable Interest Entities," for additional discussion. Prior to the third quarter of 2016, HUSI was committed to provide liquidity facilities to backstop the liquidity risk in Regency in relation to assets originated in the United States. The notional amount of the liquidity facilities provided by HUSI to Regency was approximately \$3.4 billion at December 31, 2015 which was less than half of Regency's total liquidity facilities. At December 31, 2015, \$58 million was outstanding under these facilities.

We have extended lines of credit to various other HSBC affiliates totaling \$3.1 billion which did not have any outstanding balances at either December 31, 2016 and 2015.

*Other short-term affiliate lending* In addition to loans and lines extended to affiliates discussed above, from time to time we may extend loans to affiliates which are generally short term in nature. At December 31, 2016 and 2015, there were \$15 million and \$40 million, respectively, of these loans outstanding.

As part of a global HSBC strategy to offset interest rate or other market risks associated with certain securities, debt issues and derivative contracts with unaffiliated third parties, we routinely enter into derivative transactions with HSBC Finance, HSBC Bank plc and other HSBC affiliates. The notional value of derivative contracts related to these transactions was approximately \$878.5 billion and \$1,004.1 billion at December 31, 2016 and 2015, respectively. The net credit exposure (defined as the net fair value of derivative assets and liabilities, including any collateral received) related to the contracts was approximately \$29 million and \$216 million at December 31, 2016 and 2015, respectively. Our Global Banking and Markets business accounts for these transactions on a mark to market basis, with the change in value of contracts with HSBC affiliates substantially offset by the change in value of related contracts entered into with unaffiliated third parties.

#### **Services Provided Between HSBC Affiliates:**

Under multiple service level agreements, we provide services to and receive services from various HSBC affiliates. The following summarizes these activities:

- Servicing activities for residential mortgage loans across North America are performed both by us and HSBC Finance. As a result, we receive servicing fees from HSBC Finance for services performed on their behalf and pay servicing fees to HSBC Finance for services performed on our behalf. The fees we receive from HSBC Finance are reported in servicing and other fees from HSBC affiliates. Fees we pay to HSBC Finance are reported in support services from HSBC affiliates. This includes fees paid for the servicing of residential mortgage loans (with a carrying amount of \$558 million and \$696 million at December 31, 2016 and 2015, respectively) that we purchased from HSBC Finance in 2003 and 2004. During the third quarter of 2016, we transferred these residential mortgage loans to held for sale. See Note 7, "Loans Held for Sale," for additional information.
- HSBC North America's technology and certain centralized support services including human resources, corporate affairs, risk management, legal, compliance, tax, finance and other shared services that are centralized within HTSU. HTSU also provides certain item processing and statement processing activities to us. The fees we pay HTSU for the centralized support services and processing activities are included in support services from HSBC affiliates. We also receive fees from HTSU for providing certain administrative services to them. The fees we receive from HTSU are included in servicing and other fees from HSBC affiliates. In certain cases, for facilities used by HTSU, we may guarantee their performance under the lease agreements.
- We use HSBC Global Services Limited, an HSBC affiliate located outside of the United States, to provide various support services to our operations including among other areas, customer service, systems, collection and accounting functions. The expenses related to these services are included in support services from HSBC affiliates.

- We utilize HSI, a subsidiary of HMUS, for broker dealer, debt underwriting, customer referrals, loan syndication and other treasury and traded markets related services, pursuant to service level agreements. Debt underwriting fees charged by HSI are deferred as a reduction of long-term debt and amortized to interest expense over the life of the related debt. Fees charged by HSI for the other services are included in support services from HSBC affiliates.
- We receive fees from other subsidiaries of HSBC, including HSBC Bank plc and HSI, for providing them with banking and other miscellaneous services as well as support for certain administrative and global business activities. These fees are reported in servicing and other fees from HSBC affiliates.

### Other Transactions with HSBC Affiliates

We received revenue from our affiliates for rent on certain office space, which has been recorded as a component of support services from HSBC affiliates. Rental revenue from our affiliates totaled \$60 million, \$58 million and 55 million during the years ended December 31, 2016, 2015 and 2014, respectively.

During the second quarter of 2016, HSBC USA issued \$1,265 million of 6.0 percent Non-Cumulative Series I Preferred Stock to HSBC North America. See Note 23, "Retained Earnings and Regulatory Capital Requirements," for additional details.

## 22. Business Segments

We have four distinct business segments that we utilize for management reporting and analysis purposes, which are aligned with HSBC's global business strategy: Retail Banking and Wealth Management ("RBWM"), Commercial Banking ("CMB"), Global Banking and Markets ("GB&M") and Private Banking ("PB").

We previously announced that with effect from January 1, 2016, a portion of our Business Banking client group, generally representing those small business customers with \$3 million or less in annual revenue (now referred to as Retail Business Banking), would be better managed as part of RBWM rather than CMB given the similarities in their banking activities with the RBWM customer base. Therefore, to coincide with the change in our management reporting effective beginning in the first quarter of 2016, we have included the results of Retail Business Banking in the RBWM segment for all periods presented. As a result, loss before tax for the RBWM segment was increased \$33 million and \$48 million during the years ended December 31, 2015 and 2014, respectively.

During 2016, we determined that a portion of our Large Corporate client group, generally representing those large business customers with more complex banking activities which require the levels of support routinely provided by relationship managers in GB&M, would be better managed as part of GB&M rather than CMB, effective October 1, 2016. Therefore, to coincide with the change in our management reporting effective beginning in the fourth quarter of 2016, we have included the results of the transferred client relationships in the GB&M segment for all periods presented. As a result, profit before tax for the GB&M segment was increased \$83 million and \$53 million during the years ended December 31, 2015 and 2014, respectively. In addition, loans and deposits for the GB&M segment were increased \$4.8 billion and \$2.8 billion, respectively, at December 31, 2015 and \$3.8 billion and \$1.1 billion, respectively, at December 31, 2014.

There have been no other changes in the basis of our segmentation or measurement of segment profit as compared with the presentation in our 2015 Form 10-K.

Net interest income of each segment represents the difference between actual interest earned on assets and interest incurred on liabilities of the segment, adjusted for a funding charge or credit. Segments are charged a cost to fund assets (e.g. customer loans) and receive a funding credit for funds provided (e.g. customer deposits) based on equivalent market rates. The objective of these charges/credits is to transfer interest rate risk from the segments to one centralized unit in Balance Sheet Management and more appropriately reflect the profitability of the segments.

Certain other revenue and operating expense amounts are also apportioned among the business segments based upon the benefits derived from this activity or the relationship of this activity to other segment activity. These inter-segment transactions are accounted for as if they were with third parties.

Our segment results are presented in accordance with HSBC Group accounting and reporting policies, which apply IFRSs as issued by the IASB and as endorsed by the EU, and, as a result, our segment results are prepared and presented using financial information prepared on the Group Reporting Basis as operating results are monitored and reviewed, trends are evaluated and decisions about allocating resources, such as employees, are primarily made on this basis. However, we continue to monitor capital adequacy and report to regulatory agencies on a U.S. GAAP basis. During the fourth quarter of 2016, HSBC Group made changes to its internal management reporting and, as a result, its segment reporting which we plan to implement during the first quarter of 2017, as discussed below.

In January 2017, we made the decision to implement changes to our internal management reporting for certain activities and functions and report them within a new Corporate Center segment. These activities and functions include Balance Sheet

Management and our legacy structured credit products which are both currently reported in GB&M, as well as a portfolio of residential mortgage loans previously purchased from HSBC Finance, including certain loan servicing activities performed on behalf of HSBC Finance, which are currently reported in RBWM. In addition, we have reviewed central costs currently reported in the Other segment and will reallocate these costs to the global businesses where appropriate. Remaining residual costs will be reported in the Corporate Center along with all other remaining items currently reported in the Other segment. As a result, beginning in the first quarter of 2017, we will align our segment reporting with the changes made to our internal management reporting and begin to report these changes as part of the newly created Corporate Center segment for all periods presented.

A summary of differences between U.S. GAAP and the Group Reporting Basis as they impact our results are presented below:

### ***Net Interest Income***

*Effective interest rate* - The calculation of effective interest rates under the Group Reporting Basis requires an estimate of changes in estimated contractual cash flows, including fees and points paid or received between parties to the contract that are an integral part of the effective interest rate to be included. U.S. GAAP generally prohibits recognition of interest income to the extent the net interest in the loan would increase to an amount greater than the amount at which the borrower could settle the obligation. Under U.S. GAAP, prepayment penalties are generally recognized as received. U.S. GAAP also includes interest income on loans originated as held for sale which is included in other operating income under the Group Reporting Basis.

*Deferred loan origination costs and fees* - Certain loan fees and incremental direct loan costs, which would not have been incurred but for the origination of the loans, are deferred and amortized to earnings over the life of the loan under the Group Reporting Basis. Certain loan fees and direct incremental loan origination costs, including internal costs directly attributable to the origination of loans in addition to direct salaries, are deferred and amortized to earnings under U.S. GAAP.

Loan origination deferrals under the Group Reporting Basis are more stringent and generally result in lower costs being deferred than permitted under U.S. GAAP. In addition, all deferred loan origination fees, costs and loan premiums must be recognized based on the expected life of the loan under the Group Reporting Basis as part of the effective interest calculation while under U.S. GAAP they may be recognized on either a contractual or expected life basis.

*Derivative interest expense* - Under the Group Reporting Basis, net interest income includes the interest element for derivatives which corresponds to debt designated at fair value. For U.S. GAAP, this is included in gain (loss) on instruments designated at fair value and related derivatives which is a component of other revenues.

### ***Other Operating Income (Total Other Revenues)***

*Derivatives* - Under the Group Reporting Basis, the up-front recognition of the difference between transaction price and fair value in the consolidated statement of income is permissible only if the inputs used in calculating fair value are based on observable inputs. If the inputs are not observable, profit and loss is deferred and is recognized (1) over the period of contract, (2) when the data becomes observable, or (3) when the contract is settled. There is no similar observability requirement under U.S. GAAP.

*Loans held for sale* - For loans transferred to held for sale subsequent to origination, the Group Reporting Basis requires these loans to be reported separately on the balance sheet when certain criteria are met which are generally more stringent than those under U.S. GAAP, but does not change the recognition and measurement criteria. Accordingly, for Group Reporting Basis purposes such loans continue to be accounted for and impairment continues to be measured in accordance with IAS 39, "Financial Instruments: Recognition and Measurement" ("IAS 39"), with any gain or loss recorded at the time of sale. U.S. GAAP requires loans that meet the held for sale classification requirements be transferred to a held for sale category and subsequently be measured at the lower of amortized cost or fair value. Under U.S. GAAP, the component of the lower of amortized cost or fair value adjustment upon transfer to held for sale related to credit risk is recorded in the statement of income as a provision for credit losses while the component related to interest rates and liquidity factors is reported in the statement of income in other revenues. Changes in the lower of amortized cost or fair value after the initial transfer to held for sale are reported in the statement of income in other revenues.

For loans originated with the intent to sell, the Group Reporting Basis requires these loans to be classified as trading assets and recorded at their fair value, with income recorded in trading revenue. Under U.S. GAAP, such loans are classified as loans held for sale and, with the exception of certain loans accounted for under FVO accounting, are recorded at the lower of amortized cost or fair value, with changes in the lower of amortized cost or fair value adjustment recorded in other revenues.

*Servicing assets* - Under the Group Reporting Basis, servicing assets are initially recorded on the balance sheet at cost and amortized over the projected life of the assets. Servicing assets are periodically tested for impairment with impairment adjustments charged against current earnings. Under U.S. GAAP, servicing assets are initially recorded on the balance sheet at fair value. All subsequent adjustments to fair value are reflected in other revenues. During the fourth quarter of 2016, we sold our remaining MSR portfolio.

*REO expense* - Other revenues under the Group Reporting Basis include losses on sale and the lower of amortized cost or fair value of the collateral less cost to sell adjustments on REO properties which are classified as other expense under U.S. GAAP.

*Gain on sale of London Branch precious metals business to affiliate* - The Group Reporting Basis requires that operations be transferred to held for sale and carried at the lower of cost or fair value with gains recorded through earnings upon completion of the sale, regardless of whether the sale was to a third party or related party. Under U.S. GAAP, when the transfer of net assets is between affiliates under common control, gains are reflected as a capital transaction upon completion of the sale. The sale was completed in 2014.

*Low income housing tax credits* - Under the Group Reporting Basis, given the inter-relationship between the tax benefits obtained from our investment in low income housing tax credit investments and the amortization of our investment balance, such amounts are presented net in other operating income. Under U.S. GAAP, such amounts are presented net in income tax expense.

#### ***Loan Impairment Charges (Provision for Credit Losses)***

*Loan impairment* - The Group Reporting Basis requires a discounted cash flow methodology for estimating impairment on pools of homogeneous customer loans which requires the discounting of cash flows including recovery estimates at the original effective interest rate of the pool of customer loans. The amount of impairment relating to the discounting of future cash flows unwinds with the passage of time, and is recognized in interest income. Under U.S. GAAP, a discounted cash flow methodology on pools of homogeneous loans is applied only to the extent loans are considered TDR Loans. Also under the Group Reporting Basis, if the fair value on secured loans previously written down increases because collateral values have improved and the improvement can be related objectively to an event occurring after recognition of the write-down, such write-down is reversed, which is not permitted under U.S. GAAP. Additionally under the Group Reporting Basis, future recoveries on charged-off loans or loans written down to fair value less cost to obtain title and sell are accrued for on a discounted basis and a recovery asset is recorded. Subsequent recoveries are recorded to earnings under U.S. GAAP, but are adjusted against the recovery asset under the Group Reporting Basis. Under the Group Reporting Basis, interest on impaired loans is recorded at the effective interest rate on the customer loan balance net of impairment allowances.

For commercial loans collectively evaluated for impairment, we utilize different loss emergence periods for U.S. GAAP and the Group Reporting Basis. In 2016 and 2015, we updated the default populations utilized in determining the emergence period to include more recent defaults while dropping off the oldest defaults to maintain a consistent look-back period. These updates resulted in modest changes to our loss emergence period under U.S. GAAP which decreased our provision for credit losses by approximately \$24 million in 2016 and increased our provision for credit losses by approximately \$28 million in 2015 solely relating to these updates (in addition to differences otherwise attributable to applying the different approaches for calculating loan impairment charges discussed below), while the loss emergence period under the Group Reporting Basis did not significantly change. In 2016, loan impairment charges under the Group Reporting Basis were greater than under U.S. GAAP due to the default of certain credits where existing loan impairment allowances, prior to default, were lower under the Group Reporting Basis than under U.S. GAAP due to the shorter loss emergence period utilized for computing loan impairment allowances for commercial loans collectively evaluated for impairment under the Group Reporting Basis.

Prior to 2014, we utilized the same loss emergence period for both U.S. GAAP and the Group Reporting Basis, which resulted in a consistent calculation of loan impairment charges under the two bases of reporting. In 2014, we conducted a review of our loss emergence period estimate used for U.S. GAAP reporting purposes based upon regulatory guidance and bank industry practice in the U.S. As a result of this review, our emergence period was increased, resulting in an increase in loan impairment charges under U.S. GAAP. A separate review of our loss experience under the Group Reporting Basis was completed in 2014. This review did not significantly change the loss emergence period compared with the prior year and resulted in a deviation between U.S. GAAP and the Group Reporting Basis of approximately \$174 million on a pre-tax basis. The difference was primarily attributable to different approaches for estimating loss emergence periods for U.S. GAAP and the Group Reporting Basis. We have determined that, based on the judgment involved and the practice which has evolved in different jurisdictions, both approaches for estimating loss emergence periods result in an appropriate allowance for credit losses under the reporting basis to which each is being applied.

*Loans held for sale* - Under U.S. GAAP, the credit risk component of the lower of amortized cost or fair value adjustment related to the transfer of loans to held for sale is recorded in the consolidated statement of income as provision for credit losses. There is no similar requirement under the Group Reporting Basis.

#### ***Operating Expenses***

*Pension and other postretirement benefit costs* - Pension expense under U.S. GAAP is generally higher than under the Group Reporting Basis as a result of the amortization of the amount by which actuarial losses exceeds the higher of 10 percent of the projected benefit obligation or fair value of plan assets (the corridor). In addition, under the Group Reporting Basis, pension expense is determined using a finance cost component comprising the net interest on the net defined benefit liability which does not reflect the benefit from the expectation of higher returns on plan assets. During 2015, the substantial majority of our postretirement benefit plans were amended relating to post-65 retirees which resulted in a reduction of our postretirement benefit liability as the amendments eliminated future health cost increases which were previously included in the liability. Under the Group Reporting Basis, the benefit from the amendments was recognized immediately while under U.S. GAAP the benefit is amortized to postretirement benefit expense over the remaining estimated covered period for those affected.

*Share-based payments* - Under the Group Reporting Basis, the recognition of compensation expense related to share-based bonuses begins on January 1 of the current year for awards expected to be granted in the first quarter of the following year. Under U.S. GAAP, the recognition of compensation expense related to share-based bonuses does not begin until the date the awards are granted.

*Property* - Under the Group Reporting Basis, the carrying amount of property held for own use reflects revaluation surpluses recorded prior to January 1, 2004. Consequently, the carrying amounts of tangible fixed assets and equity are lower under U.S. GAAP than under the Group Reporting Basis. There is a correspondingly lower depreciation charge and higher net income as well as higher gains (or smaller losses) on the disposal of fixed assets under U.S. GAAP. For investment properties, net income under U.S. GAAP does not reflect the unrealized gain or loss recorded under the Group Reporting Basis for the period. In addition, the sale and leaseback of our 452 Fifth Avenue property, including the 1 W. 39th Street building, in April 2010 resulted in the recognition of a gain under the Group Reporting Basis while under U.S. GAAP such gain is deferred and is being recognized over the lease term (which is ten years) due to our continuing involvement.

*Litigation expense* - Under U.S. GAAP, litigation accruals are recorded when it is probable a liability has been incurred and the amount is reasonably estimable. Under the Group Reporting Basis, a present obligation and a probable outflow of economic benefits must exist for an accrual to be recorded. This creates differences in the timing of accrual recognition between the Group Reporting Basis and U.S. GAAP. Additionally, under the Group Reporting Basis, legal costs to defend litigation are accrued at the time that a liability is recorded for the related litigation while under U.S. GAAP these costs are recognized as services are performed.

### **Assets**

*Unquoted equity securities* – Under the Group Reporting Basis, equity securities which are not quoted on a recognized exchange, but for which fair value can be reliably measured, are required to be measured at fair value. Securities measured at fair value under the Group Reporting Basis are classified as either available-for-sale securities, with changes in fair value recognized in equity, or as trading securities, with changes in fair value recognized in income. Under U.S. GAAP, equity securities that are not quoted on a recognized exchange are not considered to have a readily determinable fair value and are required to be measured at cost, less any provisions for known impairment, and classified in other assets.

*Customer loans (Loans)* - As discussed more fully above under "Other Operating Income (Total Other Revenues) - Loans held for sale," on a Group Reporting Basis, loans designated as held for sale at the time of origination and accrued interest are classified as trading assets. However, the accounting requirements governing when loans previously held for investment are transferred to a held for sale category are more stringent under the Group Reporting Basis than under U.S. GAAP which results in loans generally being reported as held for sale later than under U.S. GAAP.

*Precious metals* - Under U.S. GAAP, precious metals leased or loaned to customers are reclassified from trading precious metals into loans. Under the Group Reporting Basis, precious metals leased or loaned to customers continue to be part of the precious metal inventory recorded in other assets.

*Derivatives* - Under U.S. GAAP, derivative receivables and payables with the same counterparty may be reported on a net basis in the balance sheet when there is a legally enforceable netting agreement in place. In addition, under U.S. GAAP, fair value amounts recognized for the obligation to return cash collateral received or the right to reclaim cash collateral paid are offset against the fair value of derivative instruments. Under the Group Reporting Basis, these agreements do not necessarily meet the requirements for offset, and therefore such derivative receivables and payables are presented gross on the balance sheet.

*Goodwill* - The Group Reporting Basis and U.S. GAAP require goodwill to be tested for impairment at least annually, or more frequently if circumstances indicate that goodwill may be impaired. Under the Group Reporting Basis, goodwill was amortized until 2005, however goodwill was amortized under U.S. GAAP until 2002, which resulted in a lower carrying amount of goodwill under the Group Reporting Basis.

The following table summarizes the results for each segment on a Group Reporting Basis, as well as provides a reconciliation of total results under the Group Reporting Basis to U.S. GAAP consolidated totals:

	Group Reporting Basis Consolidated Amounts							Group Reporting Basis Adjustments <sup>(3)</sup>	Group Reporting Basis Reclassifications <sup>(4)</sup>	U.S. GAAP Consolidated Totals
	RBWM	CMB	GB&M	PB	Other	Adjustments/Reconciling Items	Total			
(in millions)										
<b>Year Ended December 31, 2016</b>										
Net interest income <sup>(1)</sup> .....	\$ 807	\$ 735	\$ 780	\$ 202	\$ (51)	\$ (2)	\$ 2,471	\$ (76)	\$ 89	\$ 2,484
Other operating income.....	370	227	766	89	69	2	1,523	(104)	(87)	1,332
Total operating income .....	1,177	962	1,546	291	18	—	3,994	(180)	2	3,816
Loan impairment charges...	60	50	384	—	—	—	494	(78)	(44)	372
	1,117	912	1,162	291	18	—	3,500	(102)	46	3,444
Operating expenses <sup>(2)</sup> .....	1,144	588	987	232	255	—	3,206	(26)	46	3,226
Profit (loss) before income tax expense .....	\$ (27)	\$ 324	\$ 175	\$ 59	\$ (237)	\$ —	\$ 294	\$ (76)	\$ —	\$ 218
<b>Balances at end of period:</b>										
Total assets.....	\$ 20,203	\$ 25,082	\$ 192,995	\$ 7,714	\$ 512	\$ —	\$ 246,506	\$ (45,234)	\$ 29	\$ 201,301
Total loans, net.....	17,473	24,125	24,842	6,024	—	—	72,464	(405)	799	72,858
Goodwill .....	581	358	—	325	—	—	1,264	348	—	1,612
Total deposits .....	32,472	22,005	29,249	11,618	—	—	95,344	(4,379)	38,283	129,248
<b>Year Ended December 31, 2015</b>										
Net interest income <sup>(1)</sup> .....	\$ 793	\$ 736	\$ 621	\$ 201	\$ (22)	\$ (12)	\$ 2,317	\$ (78)	\$ 231	\$ 2,470
Other operating income.....	336	244	1,017	99	239	12	1,947	(39)	(236)	1,672
Total operating income .....	1,129	980	1,638	300	217	—	4,264	(117)	(5)	4,142
Loan impairment charges...	65	139	65	(5)	—	—	264	130	(33)	361
	1,064	841	1,573	305	217	—	4,000	(247)	28	3,781
Operating expenses <sup>(2)</sup> .....	1,185	608	1,055	245	152	—	3,245	(52)	28	3,221
Profit (loss) before income tax expense .....	\$ (121)	\$ 233	\$ 518	\$ 60	\$ 65	\$ —	\$ 755	\$ (195)	\$ —	\$ 560
<b>Balances at end of period:</b>										
Total assets.....	\$ 20,396	\$ 26,763	\$ 178,143	\$ 8,428	\$ 800	\$ —	\$ 234,530	\$ (46,569)	\$ 317	\$ 188,278
Total loans, net.....	17,396	23,538	30,565	6,715	—	—	78,214	317	3,474	82,005
Goodwill .....	581	358	—	325	—	—	1,264	348	—	1,612
Total deposits .....	31,814	20,599	27,921	13,811	—	—	94,145	(4,097)	28,531	118,579
<b>Year Ended December 31, 2014</b>										
Net interest income <sup>(1)</sup> .....	\$ 820	\$ 703	\$ 457	\$ 199	\$ 60	\$ (3)	\$ 2,236	\$ (74)	\$ 142	\$ 2,304
Other operating income.....	417	272	1,067	104	36	3	1,899	(132)	(161)	1,606
Total operating income .....	1,237	975	1,524	303	96	—	4,135	(206)	(19)	3,910
Loan impairment charges...	29	36	70	(8)	—	—	127	80	(19)	188
	1,208	939	1,454	311	96	—	4,008	(286)	—	3,722
Operating expenses <sup>(2)</sup> .....	1,294	561	1,363	238	126	—	3,582	(158)	—	3,424
Profit (loss) before income tax expense .....	\$ (86)	\$ 378	\$ 91	\$ 73	\$ (30)	\$ —	\$ 426	\$ (128)	\$ —	\$ 298
<b>Balances at end of period:</b>										
Total assets.....	\$ 19,731	\$ 25,122	\$ 185,750	\$ 8,184	\$ 849	\$ —	\$ 239,636	\$ (54,138)	\$ 41	\$ 185,539
Total loans, net.....	16,787	23,890	26,497	6,528	—	—	73,702	1,032	2,327	77,061
Goodwill .....	581	358	—	325	—	—	1,264	348	—	1,612
Total deposits .....	29,005	20,275	32,613	10,818	—	—	92,711	(4,811)	28,218	116,118

- (1) Net interest income of each segment represents the difference between actual interest earned on assets and interest paid on liabilities of the segment adjusted for a funding charge or credit. Segments are charged a cost to fund assets (e.g. customer loans) and receive a funding credit for funds provided (e.g. customer deposits) based on equivalent market rates. The objective of these charges/credits is to transfer interest rate risk from the segments to one centralized unit in Balance Sheet Management and more appropriately reflect the profitability of the segments.
- (2) Expenses for the segments include fully apportioned corporate overhead expenses.
- (3) Represents adjustments associated with differences between U.S. GAAP and the Group Reporting Basis. These adjustments, which are more fully described above, consist of the following:

	Net Interest Income	Other Revenues	Provision for Credit Losses	Operating Expenses	Profit (Loss) before Income Tax Expense	Total Assets
(in millions)						
<b>December 31, 2016</b>						
Unquoted equity securities.....	\$ —	\$ —	\$ —	\$ —	\$ —	\$ (163)
Derivatives.....	—	—	—	—	—	(44,911)
Loan impairment.....	(57)	7	(58)	1	7	(326)
Property.....	—	—	—	(19)	19	16
Pension and other postretirement benefit costs.....	—	—	—	19	(19)	(191)
Goodwill.....	—	—	—	—	—	348
Litigation.....	—	—	—	(8)	8	(3)
Loan origination.....	(21)	—	—	(19)	(2)	35
Loans held for sale.....	—	(80)	(20)	—	(60)	(31)
Low Income Housing Tax Credits.....	—	(9)	—	—	(9)	—
Other.....	2	(22)	—	—	(20)	(8)
Total adjustments.....	<u>\$ (76)</u>	<u>\$ (104)</u>	<u>\$ (78)</u>	<u>\$ (26)</u>	<u>\$ (76)</u>	<u>\$ (45,234)</u>
<b>December 31, 2015</b>						
Unquoted equity securities.....	\$ —	\$ —	\$ —	\$ —	\$ —	\$ (228)
Derivatives.....	—	(3)	—	—	(3)	(46,245)
Loan impairment.....	(61)	3	132	1	(191)	(329)
Property.....	—	—	—	(19)	19	21
Pension and other postretirement benefit costs.....	—	—	—	15	(15)	(177)
Goodwill.....	—	—	—	—	—	348
Litigation.....	—	—	—	(2)	2	—
Loan origination.....	(22)	(3)	—	(47)	22	49
Loans held for sale.....	—	(16)	(2)	—	(14)	(4)
Low Income Housing Tax Credits.....	—	(12)	—	—	(12)	—
Other.....	5	(8)	—	—	(3)	(4)
Total adjustments.....	<u>\$ (78)</u>	<u>\$ (39)</u>	<u>\$ 130</u>	<u>\$ (52)</u>	<u>\$ (195)</u>	<u>\$ (46,569)</u>
<b>December 31, 2014</b>						
Unquoted equity securities.....	\$ —	\$ —	\$ —	\$ —	\$ —	\$ (195)
Derivatives.....	—	(4)	—	—	(4)	(53,973)
Loan impairment.....	(56)	1	120	1	(176)	(204)
Property.....	—	—	—	(16)	16	28
Pension and other postretirement benefit costs.....	—	—	—	11	(11)	(166)
Goodwill.....	—	—	—	—	—	348
Litigation.....	—	—	—	(135)	135	1
Gain on sale of London Branch precious metals business to affiliate.....	—	(98)	—	—	(98)	—
Low Income Housing Tax Credits.....	—	(16)	—	—	(16)	—
Other.....	(18)	(15)	(40)	(19)	26	23
Total adjustments.....	<u>\$ (74)</u>	<u>\$ (132)</u>	<u>\$ 80</u>	<u>\$ (158)</u>	<u>\$ (128)</u>	<u>\$ (54,138)</u>

- (4) Represents differences in financial statement presentation between U.S. GAAP and the Group Reporting Basis.

### 23. Retained Earnings and Regulatory Capital Requirements

Bank dividends are one of the sources of funds used for payment of shareholder dividends and other HSBC USA cash needs. Any non-contractual dividend from HSBC Bank USA would require the approval of the Office of the Comptroller of the Currency ("the OCC"). Approval is also required if the total of all dividends HSBC Bank USA declares in any year exceeds the cumulative net profits for that year, combined with the profits for the two preceding years reduced by dividends attributable to those years. Under a separate restriction, payment of dividends is prohibited in amounts greater than undivided profits then on hand, after deducting actual losses and bad debts. Bad debts are debts due and unpaid for a period of six months unless well secured, as defined, and in the process of collection.

HSBC Bank USA is also required to maintain reserve balances either in the form of vault cash or on deposit with the Federal Reserve Bank, based on a percentage of deposits. At December 31, 2016 and 2015, HSBC Bank USA was required to maintain \$3,139 million and \$2,188 million, respectively, of reserve balances with the Federal Reserve Bank.

The following table summarizes the capital amounts and ratios of HSBC USA and HSBC Bank USA, calculated in accordance with banking regulations in effect at December 31, 2016 and 2015:

	December 31, 2016			December 31, 2015		
	Capital Amount	Well-Capitalized Ratio <sup>(1)</sup>	Actual Ratio	Capital Amount	Well-Capitalized Ratio <sup>(1)</sup>	Actual Ratio
(dollars are in millions)						
Common equity Tier 1 ratio:						
HSBC USA.....	\$ 17,544	4.5% <sup>(2)</sup>	13.7%	\$ 17,766	4.5% <sup>(2)</sup>	12.0%
HSBC Bank USA.....	19,577	6.5	15.7	19,796	6.5	13.8
Tier 1 capital ratio:						
HSBC USA.....	18,640	6.0	14.5	18,764	6.0	12.6
HSBC Bank USA.....	21,971	8.0	17.6	22,109	8.0	15.4
Total capital ratio:						
HSBC USA.....	23,549	10.0	18.3	24,425	10.0	16.5
HSBC Bank USA.....	26,325	10.0	21.1	26,670	10.0	18.6
Tier 1 leverage ratio:						
HSBC USA.....	18,640	4.0 <sup>(2)</sup>	9.2	18,764	4.0 <sup>(2)</sup>	9.5
HSBC Bank USA.....	21,971	5.0	11.1	22,109	5.0	11.6
Risk weighted assets:						
HSBC USA.....	128,482			148,421		
HSBC Bank USA.....	124,666			143,393		
Adjusted quarterly average assets: <sup>(3)</sup> .....						
HSBC USA.....	203,000			197,639		
HSBC Bank USA.....	197,944			191,254		

<sup>(1)</sup> HSBC USA and HSBC Bank USA are categorized as "well-capitalized," as defined by their principal regulators. To be categorized as well-capitalized under regulatory guidelines, a banking institution must have the ratios reflected in the above table, and must not be subject to a directive, order, or written agreement to meet and maintain specific capital levels.

<sup>(2)</sup> There are no common equity Tier 1 or Tier 1 leverage ratio components in the definition of a well-capitalized bank holding company. The ratios shown are the regulatory minimum ratios.

<sup>(3)</sup> Represents the Tier 1 leverage ratio denominator which reflects quarterly average assets adjusted for amounts permitted to be deducted from Tier 1 capital for the three months ended December 31, 2016 and 2015, respectively.

In 2013, U.S. banking regulators issued a final rule implementing the Basel III capital framework in the U.S. ("the Basel III final rule") which, for banking organizations such as HSBC North America and HSBC Bank USA, became effective in 2014 with certain provisions being phased in over time through the beginning of 2019. As a result, the capital ratios in the table above are reported in accordance with the Basel III transition rules within the final rule. In addition, risk weighted assets in the table above are calculated using the Basel III Standardized Approach.

As previously reported, as a result of the adoption of the final rules by the U.S. banking regulators implementing the Basel III regulatory capital and liquidity reforms from the Basel Committee on Banking Supervision, together with the impact of similar

implementation by United Kingdom banking regulators, we continued to review the composition of our capital structure. During the second quarter of 2016, HSBC USA redeemed all of its remaining externally issued preferred stock, including its Floating Rate Non-Cumulative Series F Preferred Stock, Floating Rate Non-Cumulative Series G Preferred Stock and 6.5 percent Non-Cumulative Series H Preferred Stock, at their stated values of \$25 per share, \$1,000 per share and \$1,000 per share, respectively, resulting in a total cash payment of \$1,265 million. In connection with these redemptions, HSBC USA issued 1,265 shares of 6.0 percent Non-Cumulative Series I Preferred Stock to HSBC North America in exchange for cash consideration of \$1,265 million.

During 2016, HSBC USA did not receive any cash capital contributions from its parent, HSBC North America, and did not make any capital contributions to its subsidiary, HSBC Bank USA.

During 2015, HSBC USA repaid \$4,000 million of senior long-term debt previously issued to HSBC North America and HSBC Bank USA repaid \$900 million of subordinated long-term debt previously issued to HSBC USA. In conjunction with these repayments, HSBC USA received a capital contribution of \$4,000 million from our then parent HNAI, in exchange for one share of common stock and HSBC USA made capital contributions to HSBC Bank USA of \$2,400 million in exchange for two shares of common stock and \$2,500 million in exchange for 250 shares of non-cumulative preferred stock. These capital actions were taken to support our growth strategy and to strengthen the Basel III regulatory capital positions of both HSBC USA and HSBC Bank USA.

#### 24. Variable Interest Entities

In the ordinary course of business, we have organized special purpose entities ("SPEs") primarily to structure financial products to meet our clients' investment needs, to facilitate clients to access and raise financing from capital markets and to securitize financial assets held to meet our own funding needs. For disclosure purposes, we aggregate SPEs based on the purpose, risk characteristics and business activities of the SPEs. An SPE is a VIE if it lacks sufficient equity investment at risk to finance its activities without additional subordinated financial support or, as a group, the holders of the equity investment at risk lack either a) the power through voting or similar rights to direct the activities of the entity that most significantly impacts the entity's economic performance; or b) the obligation to absorb the entity's expected losses, the right to receive the expected residual returns, or both.

**Variable Interest Entities** We consolidate VIEs in which we hold a controlling financial interest as evidenced by the power to direct the activities of a VIE that most significantly impact its economic performance and the obligation to absorb losses of, or the right to receive benefits from, the VIE that could potentially be significant to the VIE and therefore are deemed to be the primary beneficiary. We take into account our entire involvement in a VIE (explicit or implicit) in identifying variable interests that individually or in the aggregate could be significant enough to warrant our designation as the primary beneficiary and hence require us to consolidate the VIE or otherwise require us to make appropriate disclosures. We consider our involvement to be potentially significant where we, among other things, (i) provide liquidity put options or other liquidity facilities to support the VIE's debt obligations; (ii) enter into derivative contracts to absorb the risks and benefits from the VIE or from the assets held by the VIE; (iii) provide a financial guarantee that covers assets held or liabilities issued by a VIE; (iv) sponsor the VIE in that we design, organize and structure the transaction; and (v) retain a financial or servicing interest in the VIE.

We are required to evaluate whether to consolidate a VIE when we first become involved and on an ongoing basis. In almost all cases, a qualitative analysis of our involvement in the entity provides sufficient evidence to determine whether we are the primary beneficiary. In rare cases, a more detailed analysis to quantify the extent of variability to be absorbed by each variable interest holder is required to determine the primary beneficiary.

**Consolidated VIEs** The following table summarizes assets and liabilities related to our consolidated VIEs at December 31, 2016 and 2015 which are consolidated on our balance sheet. Assets and liabilities exclude intercompany balances that eliminate in consolidation.

	December 31, 2016		December 31, 2015	
	Consolidated Assets	Consolidated Liabilities	Consolidated Assets	Consolidated Liabilities
	(in millions)			
<b>Low income housing limited liability partnership:</b>				
Other assets .....	\$ 231	\$ —	\$ 320	\$ —
Long-term debt.....	—	79	—	92
Interest, taxes and other liabilities.....	—	60	—	68
Total .....	<u>\$ 231</u>	<u>\$ 139</u>	<u>\$ 320</u>	<u>\$ 160</u>

**Low income housing limited liability partnership** In 2009, all low income housing investments held by us at the time were transferred to a Limited Liability Partnership ("LLP") in exchange for debt and equity while a third party invested cash for an equity interest that is mandatorily redeemable at a future date. The LLP was created in order to ensure the utilization of future tax benefits from these low income housing tax projects. The LLP was deemed to be a VIE as it does not have sufficient equity investment at risk to finance its activities. Upon entering into this transaction, we concluded that we are the primary beneficiary of the LLP due to the nature of our continuing involvement and, as a result, consolidate the LLP and report the equity interest issued to the third party investor in other liabilities and the assets of the LLP in other assets on our consolidated balance sheet. The investments held by the LLP represent equity investments in the underlying low income housing partnerships. The LLP does not consolidate the underlying partnerships because it does not have the power to direct the activities of the partnerships that most significantly impact the economic performance of the partnerships.

As a practical expedient, we amortize our low income housing investments in proportion to the allocated tax benefits under the proportional amortization method and present the associated tax benefits net of investment amortization in income tax expense.

**Unconsolidated VIEs** We also have variable interests in other VIEs that are not consolidated because we are not the primary beneficiary. The following table provides additional information on these unconsolidated VIEs, including the variable interests held by us and our maximum exposure to loss arising from our involvements in these VIEs, at December 31, 2016 and 2015:

	Variable Interests Held Classified as Assets	Variable Interests Held Classified as Liabilities	Total Assets in Unconsolidated VIEs	Maximum Exposure to Loss
(in millions)				
<b>At December 31, 2016</b>				
Structured note vehicles.....	\$ 2,888	\$ 7	\$ 5,908	\$ 5,896
Limited partnership investments.....	427	227	1,853	427
Refinancing SPE.....	353	—	659	353
Total.....	<u>\$ 3,668</u>	<u>\$ 234</u>	<u>\$ 8,420</u>	<u>\$ 6,676</u>
<b>At December 31, 2015</b>				
Asset-backed commercial paper conduit.....	\$ 58	\$ —	\$ 15,183	\$ 3,362
Structured note vehicles.....	2,870	8	5,888	5,879
Limited partnership investments.....	138	121	302	138
Refinancing SPE <sup>(1)</sup> .....	1,181	—	1,252	1,181
Total.....	<u>\$ 4,247</u>	<u>\$ 129</u>	<u>\$ 22,625</u>	<u>\$ 10,560</u>

<sup>(1)</sup> During 2016, we revised the above table to include a refinancing SPE which was an unconsolidated VIE at December 31, 2015 as discussed further below. This revision did not have any impact on our financial position or results of operations.

Information on the types of variable interest entities with which we are involved, the nature of our involvement and the variable interests held in those entities is presented below.

**Asset-backed commercial paper ("ABCP") conduit** Prior to the third quarter of 2016, we provided liquidity facilities to Regency, a multi-seller ABCP conduit consolidated by an HSBC affiliate. Customers sold financial assets, such as trade receivables, to Regency, which funded the purchases by issuing short-term highly-rated commercial paper collateralized by the assets acquired. We, along with other financial institutions, provided liquidity facilities to Regency in the form of lines of credit or asset purchase commitments. These liquidity facilities supported transactions associated with a specific seller of assets to the conduit and we were only required to provide support in the event of certain triggers associated with those transactions and assets. Our obligations were generally pari passu with those of other institutions that also provided liquidity support to the same conduit or for the same transactions. We did not provide any program-wide credit enhancements to Regency. Each seller of assets to an ABCP conduit typically provides credit enhancements in the form of asset overcollateralization and, therefore, bears the risk of first loss related to the specific assets transferred. We did not transfer our own assets to Regency. We also did not provide the majority of the liquidity facilities to Regency. We had no ownership interests in, performed no administrative duties for, and did not service any of the assets held by Regency. We were not the primary beneficiary and did not consolidate Regency. Credit risk related to the liquidity facilities provided was managed by subjecting these facilities to our normal underwriting and risk management processes. The \$3,362 million maximum exposure to loss at December 31, 2015 presented in the table above represented the maximum amount of loans and asset purchases we could have been required to fund under the liquidity facilities. The maximum loss exposure was estimated assuming the facilities were fully drawn and the underlying collateralized assets were in default with zero recovery value.

During the third quarter of 2016, Regency was restructured and these liquidity facilities were terminated. In lieu of providing the liquidity facilities, we entered into risk participation agreements with Regency under which we purchased the specific underlying third party customer receivables from Regency and committed to provide funding to the specific third party customers on an ongoing basis as they draw or repay. Following the restructure, Regency will no longer issue commercial paper against these specific receivables as they will be fully-funded from our balance sheet. As a result of terminating the liquidity facilities and entering into the risk participation agreements, we no longer have a variable interest in Regency and we reported \$2,138 million and \$1,174 million of third party loans and unfunded commitments, respectively, at December 31, 2016.

*Structured note vehicles* We provide derivatives, such as interest rate and currency swaps, to structured note vehicles and, in certain instances, invest in the vehicles' debt instruments. We hold variable interests in these structured note vehicles in the form of total return swaps under which we take on the risks and benefits of the structured notes they issue. The same risks and benefits are passed on to third party entities through back-end total return swaps. We earn a spread for facilitating the transaction. Since we do not have the power to direct the activities of the VIE and are not the primary beneficiary, we do not consolidate them. Our maximum exposure to loss is the notional amount of the derivatives wrapping the structured notes. The maximum exposure to loss of \$5,896 million at December 31, 2016 will occur in the unlikely scenario where the value of the structured notes is reduced to zero and, at the same time, the counterparty of the back-end swap defaults with zero recovery. In certain instances, we hold credit default swaps with the structured note vehicles under which we receive credit protection on specified reference assets in exchange for the payment of a premium. Through these derivatives, the vehicles assume the credit risk associated with the reference assets which are then passed on to the holders of the debt instruments they issue. Because they create rather than absorb variability, the credit default swaps we hold are not considered variable interests. We record all investments in, and derivative contracts with, unconsolidated structured note vehicles at fair value on our consolidated balance sheet.

*Limited partnership investments* We invest as a limited partner in partnerships that operate qualified affordable housing, renewable energy and community development projects. The returns of these investments are generated primarily from the tax benefits, including Federal tax credits and tax deductions from operating losses in the project companies. In addition, some of the investments also help us comply with the Community Reinvestment Act. Certain limited partnership structures are considered to be VIEs because either (a) they do not have sufficient equity investment at risk or (b) the limited partners with equity at risk do not have substantive kick-out rights through voting rights or substantive participating rights over the general partner. As a limited partner, we are not the primary beneficiary of the VIEs and do not consolidate them. Our investments in these partnerships are recorded in other assets on the consolidated balance sheet. The maximum exposure to loss shown in the table above represents our recorded investments.

*Refinancing SPE* We organized and provided loans to a SPE to purchase a senior secured financing facility from the originator designed to finance a third party borrower's acquisition of a portfolio of commercial real estate loans in Mexico. Interest and principal repayments of the prepayable financing facility are dependent on and are secured by the rental cash flows generated from the underlying commercial real estate properties. The financing facility contains additional credit enhancements, including a 15 percent equity subordination in the borrower's capital structure and a financial guarantee over 25 percent of the outstanding balance provided by the borrower's parent.

The SPE is a refinancing vehicle designed to secure term financing from external investors to repay our loans. The loans issued to the SPE are supported by the financing facility and the security interests in the commercial real estate loans and the credit enhancements. The refinancing vehicle is a VIE because it does not have sufficient equity investment at risk to permit the entity to finance the activities without additional subordination provided by any parties. We have a variable interest in the VIE through our ownership of the loans. In view of the purpose and design of the SPE, the overall funding structure, the additional credit enhancements and the risks inherent in the VIE, we concluded the investors absorb an insignificant amount of expected loss and/or benefit in the VIE. Rather, the borrower and its parent take on the risks and benefits in the VIE through the credit enhancements provided to the holder of the financing facility. In addition, the investors do not have the power to direct the activities that most significantly impact the economic performance of the VIE and, therefore, we are not the primary beneficiary of the VIE. The maximum exposure to loss shown in the table above represents our investment in the loans without consideration of any recovery benefits from the credit enhancements.

*Third-party sponsored securitization entities* We invest in asset-backed securities issued by third party sponsored securitization entities which may be considered VIEs. The investments are transacted at arm's-length and decisions to invest are based on a credit analysis of the underlying collateral assets or the issuer. We are a passive investor in these issuers and do not have the power to direct the activities of these issuers. As such, we do not consolidate these securitization entities. Additionally, we do not have other involvements in servicing or managing the collateral assets or provide financial or liquidity support to these issuers which potentially give rise to risk of loss exposure. These investments are an integral part of the disclosure in Note 3, "Trading Assets and Liabilities," Note 4, "Securities," and Note 26, "Fair Value Measurements," and, therefore, are not disclosed in this note to avoid redundancy.

## 25. Guarantee Arrangements, Pledged Assets and Repurchase Agreements

**Guarantee Arrangements** As part of our normal operations, we enter into credit derivatives and various off-balance sheet guarantee arrangements with affiliates and third parties. These arrangements arise principally in connection with our lending and client intermediation activities and include standby letters of credit and certain credit derivative transactions. The contractual amounts of these arrangements represent our maximum possible credit exposure in the event that we are required to fulfill the maximum obligation under the contractual terms of the guarantee.

The following table presents total carrying value and contractual amounts of our sell protection credit derivatives and major off-balance sheet guarantee arrangements at December 31, 2016 and 2015. Following the table is a description of the various arrangements.

	December 31, 2016		December 31, 2015	
	Carrying Value	Notional / Maximum Exposure to Loss	Carrying Value	Notional / Maximum Exposure to Loss
	(in millions)			
Credit derivatives <sup>(1)(4)</sup>	\$ (627)	\$ 58,329	\$ (2,621)	\$ 91,435
Financial standby letters of credit, net of participations <sup>(2)(3)</sup>	—	5,423	—	5,842
Performance standby letters of credit, net of participations <sup>(2)(3)</sup>	—	2,969	—	3,008
Liquidity asset purchase agreements <sup>(3)</sup>	—	—	—	3,362
Total	\$ (627)	\$ 66,721	\$ (2,621)	\$ 103,647

<sup>(1)</sup> Includes \$29,999 million and \$44,130 million of notional issued for the benefit of HSBC affiliates at December 31, 2016 and 2015, respectively.

<sup>(2)</sup> Includes \$1,315 million and \$910 million issued for the benefit of HSBC affiliates at December 31, 2016 and 2015, respectively.

<sup>(3)</sup> For standby letters of credit and liquidity asset purchase agreements, maximum loss represents losses to be recognized assuming the letter of credit and liquidity facilities have been fully drawn and the obligors have defaulted with zero recovery.

<sup>(4)</sup> For credit derivatives, the maximum loss is represented by the notional amounts without consideration of mitigating effects from collateral or recourse arrangements.

### Credit-Risk Related Guarantees

**Credit derivatives** Credit derivatives are financial instruments that transfer the credit risk of a reference obligation from the credit protection buyer to the credit protection seller who is exposed to the credit risk without buying the reference obligation. We sell credit protection on underlying reference obligations (such as loans or securities) by entering into credit derivatives, primarily in the form of credit default swaps, with various institutions. We account for all credit derivatives at fair value. Where we sell credit protection to a counterparty that holds the reference obligation, the arrangement is effectively a financial guarantee on the reference obligation. Under a credit derivative contract, the credit protection seller will reimburse the credit protection buyer upon occurrence of a credit event (such as bankruptcy, insolvency, restructuring or failure to meet payment obligations when due) as defined in the derivative contract, in return for a periodic premium. Upon occurrence of a credit event, we will pay the counterparty the stated notional amount of the derivative contract and receive the underlying reference obligation. The recovery value of the reference obligation received could be significantly lower than its notional principal amount when a credit event occurs.

Certain derivative contracts are subject to master netting arrangements and related collateral agreements. A party to a derivative contract may demand that the counterparty post additional collateral in the event its net exposure exceeds certain predetermined limits and when the credit rating falls below a certain grade. We set the collateral requirements by counterparty such that the collateral covers various transactions and products, and is not allocated to specific individual contracts.

We manage our exposure to credit derivatives using a variety of risk mitigation strategies where we enter into offsetting hedge positions or transfer the economic risks, in part or in entirety, to investors through the issuance of structured credit products. We actively manage the credit and market risk exposure in the credit derivative portfolios on a net basis and, as such, retain no or a limited net sell protection position at any time. The following table summarizes our net credit derivative positions at December 31, 2016 and 2015:

	December 31, 2016		December 31, 2015	
	Carrying / Fair Value	Notional	Carrying / Fair Value	Notional
	(in millions)			
Sell-protection credit derivative positions .....	\$ (627)	\$ 58,329	\$ (2,621)	\$ 91,435
Buy-protection credit derivative positions .....	845	65,385	2,789	96,635
Net position <sup>(1)</sup> .....	<u>\$ 218</u>	<u>\$ 7,056</u>	<u>\$ 168</u>	<u>\$ 5,200</u>

<sup>(1)</sup> Positions are presented net in the table above to provide a complete analysis of our risk exposure and depict the way we manage our credit derivative portfolio. The offset of the sell-protection credit derivatives against the buy-protection credit derivatives may not be legally binding in the absence of master netting agreements with the same counterparty. Furthermore, the credit loss triggering events for individual sell protection credit derivatives may not be the same or occur in the same period as those of the buy protection credit derivatives thereby not providing an exact offset.

**Standby letters of credit** A standby letter of credit is issued to a third party for the benefit of a customer and is a guarantee that the customer will perform or satisfy certain obligations under a contract. It irrevocably obligates us to pay a specified amount to the third party beneficiary if the customer fails to perform the contractual obligation. We issue two types of standby letters of credit: performance and financial. A performance standby letter of credit is issued where the customer is required to perform some non-financial contractual obligation, such as the performance of a specific act, whereas a financial standby letter of credit is issued where the customer's contractual obligation is of a financial nature, such as the repayment of a loan or debt instrument. At December 31, 2016, the total amount of outstanding financial standby letters of credit (net of participations) and performance guarantees (net of participations) were \$5,423 million and \$2,969 million, respectively. At December 31, 2015, the total amount of outstanding financial standby letters of credit (net of participations) and performance guarantees (net of participations) were \$5,842 million and \$3,008 million, respectively.

The issuance of a standby letter of credit is subject to our credit approval process and collateral requirements. We charge fees for issuing letters of credit commensurate with the customer's credit evaluation and the nature of any collateral. Included in other liabilities are deferred fees on standby letters of credit amounting to \$49 million and \$54 million at December 31, 2016 and 2015, respectively. Also included in other liabilities is an allowance for credit losses on unfunded standby letters of credit of \$39 million and \$19 million at December 31, 2016 and 2015, respectively.

The following table summarizes the credit ratings related to guarantees including the ratings of counterparties against which we sold credit protection and financial standby letters of credit at December 31, 2016 as an indicative proxy of payment risk:

Notional/Contractual Amounts	Average Life (in years)	Credit Ratings of the Obligor or the Transactions		
		Investment Grade	Non-Investment Grade	Total
		(dollars are in millions)		
Sell-protection Credit Derivatives <sup>(1)</sup>				
Single name credit default swaps ("CDS") .....	2.3	\$ 31,030	\$ 13,415	\$ 44,445
Structured CDS .....	0.6	3,491	350	3,841
Index credit derivatives .....	3.6	3,487	3,461	6,948
Total return swaps .....	2.4	2,723	372	3,095
Subtotal .....		40,731	17,598	58,329
Standby Letters of Credit <sup>(2)</sup> .....	1.2	5,494	2,898	8,392
Total .....		<u>\$ 46,225</u>	<u>\$ 20,496</u>	<u>\$ 66,721</u>

<sup>(1)</sup> The credit ratings in the table represent external credit ratings for classification as investment grade and non-investment grade.

<sup>(2)</sup> External ratings for most of the obligors are not available. Presented above are the internal credit ratings which are developed using similar methodologies and rating scale equivalent to external credit ratings for purposes of classification as investment grade and non-investment grade.

Our internal credit ratings are determined based on HSBC's risk rating systems and processes which assign a credit grade based on a scale which ranks the risk of default of a customer. The credit grades are assigned and used for managing risk and determining level of credit exposure appetite based on the customer's operating performance, liquidity, capital structure and debt service ability. In addition, we also incorporate subjective judgments into the risk rating process concerning such things as industry trends, comparison of performance to industry peers and perceived quality of management. We compare our internal risk ratings to outside external rating agency benchmarks, where possible, at the time of formal review and regularly monitor whether our risk ratings are comparable to the external ratings benchmark data.

A non-investment grade rating of a referenced obligor has a negative impact to the fair value of the credit derivative and increases the likelihood that we will be required to perform under the credit derivative contract. We employ market-based parameters and, where possible, use the observable credit spreads of the referenced obligors as measurement inputs in determining the fair value of the credit derivatives. We believe that such market parameters are more indicative of the current status of payment/performance risk than external ratings by the rating agencies which may not be forward-looking in nature and, as a result, lag behind those market-based indicators.

### ***Non Credit-Risk Related Guarantees and Other Arrangements***

***Liquidity asset purchase agreements*** Prior to the third quarter of 2016, we provided liquidity facilities to Regency, a multi-seller ABCP conduit consolidated by an HSBC affiliate. Regency financed the purchase of individual assets by issuing commercial paper to third party investors. Each liquidity facility was transaction specific and had a maximum limit. Pursuant to the liquidity agreements, we were obligated, subject to certain limitations, to advance funds in an amount not to exceed the face value of the commercial paper in the event Regency was unable or unwilling to refinance its commercial paper. A liquidity asset purchase agreement is economically a conditional written put option issued to the conduit where the exercise price is the face value of the commercial paper. At December 31, 2015 we had issued \$3,362 million of liquidity facilities to provide liquidity support to Regency. During the third quarter of 2016, Regency was restructured and these liquidity facilities were terminated. See Note 24, "Variable Interest Entities," for further discussion.

***Visa covered litigation*** In 2008, we received Class B Shares as part of Visa's initial public offering ("IPO"). Pursuant to the IPO, we, along with all the other Class B shareholders, agreed to indemnify Visa for the claims and obligations arising from certain specific covered litigation. The Class B Shares are not eligible to be converted into publicly traded Class A Shares until settlement of the covered litigation as described in Note 27, "Litigation and Regulatory Matters." Accordingly, the Class B Shares are considered restricted and are only transferable under limited circumstances, which include transfers to other Class B shareholders. Visa used a portion of the IPO proceeds to establish an escrow account to fund future claims arising from those covered litigation. From 2009 to 2011, Visa exercised its rights to sell shares of existing Class B shareholders and deposited the proceeds in order to increase the escrow account. At December 31, 2016 and 2015, we estimated the shares held in the Visa escrow account were sufficient to cover any anticipated liabilities that may arise as a result of settlements or other resolutions of still-pending cases, therefore, no liability was recorded relating to this litigation.

In December 2016, we sold 638,219 Visa Class B Shares to a third party resulting in a net pre-tax gain of approximately \$71 million which was recorded as a component of other income (loss) in the consolidated statement of income. Under the terms of the sale agreement, we entered into a swap agreement with the purchaser to retain the litigation risk associated with the Class B Shares sold until the related litigation is settled and the Class B Shares can be converted into Class A Shares. This swap had a carrying value of \$14 million at December 31, 2016. The swap agreement we entered into with the purchaser requires us to (a) make periodic fixed payments, calculated by reference to the market price of Class A Shares and (b) make or receive payments based on subsequent changes in the conversion rate of Class B Shares into Class A Shares. The payments under the derivative will continue until the Class B Shares are able to be converted into Class A Shares. The fair value of the swap agreement is estimated using a discounted cash flow methodology and is dependent upon the final resolution of the related litigation. Changes in fair value between periods will be recognized in other income (loss). As of December 31, 2016, we continued to hold approximately 2.3 million Visa Class B Shares, which are recorded at their original cost basis of zero.

***Clearing houses and exchanges*** We are a member of various exchanges and clearing houses that trade and clear securities and/or derivatives contracts. Under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, members of a clearing house may be required to contribute to a guaranty fund to backstop members' obligations to the clearing house. As a member, we may be required to pay a proportionate share of the financial obligations of another member who defaults on its obligations to the exchange or the clearing house. Our guarantee obligations would arise only if the exchange or clearing house had exhausted its resources. Any potential contingent liability under these membership agreements cannot be estimated.

***Lease Obligations*** We are obligated under a number of noncancellable leases for premises and equipment. Certain leases contain renewal options and escalation clauses. Office space leases generally require us to pay certain operating expenses. Net rental expense under operating leases was \$140 million, \$143 million and \$147 million in 2016, 2015, and 2014, respectively.

We have lease obligations on certain office space which has been subleased through the end of the lease period. Under these agreements, the sublessee has assumed future rental obligations on the lease.

Future net minimum lease commitments under noncancellable operating lease arrangements were as follows:

Year Ending December 31,	Minimum Rental Payments	Minimum Sublease Income	Net
	(in millions)		
2017 .....	\$ 131	\$ (2)	\$ 129
2018 .....	120	(1)	119
2019 .....	103	(1)	102
2020 .....	66	(2)	64
2021 .....	42	(1)	41
Thereafter .....	119	(1)	118
Net minimum lease commitments .....	<u>\$ 581</u>	<u>\$ (8)</u>	<u>\$ 573</u>

*Mortgage Loan Repurchase Obligations* Historically, we originated and sold mortgage loans, primarily to government sponsored enterprises, and provided various representations and warranties related to, among other things, the ownership of the loans, the validity of the liens, the loan selection and origination process, and the compliance to the origination criteria established by the agencies. In the event of a breach of our representations and warranties, we may be obligated to repurchase the loans with identified defects or to indemnify the buyers. Our contractual obligation arises only when the breach of representations and warranties are discovered and repurchase is demanded. As a result of settlements with the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation ("FHLMC") during 2013 and 2014, the repurchase exposure associated with these sales has been substantially resolved. In addition, with the conversion of our mortgage processing and servicing operations to PHH Mortgage in 2013, new agency eligible originations are sold directly to PHH Mortgage and PHH Mortgage is responsible for origination representations and warranties for all loans purchased.

In estimating our repurchase liability arising from breaches of representations and warranties, we consider historical losses on residual risks not covered by settlement agreements adjusted for any risk factors not captured in the historical losses as well as the level of outstanding repurchase demands received. Outstanding repurchase demands received totaled \$6 million, \$5 million and \$3 million at December 31, 2016, 2015 and 2014, respectively.

The following table summarizes the change in our estimated repurchase liability during 2016, 2015 and 2014 for obligations arising from the breach of representations and warranties associated with mortgage loans sold:

Year Ended December 31,	2016	2015	2014
	(in millions)		
Balance at beginning of period .....	\$ 17	\$ 27	\$ 99
Decrease in liability recorded through earnings .....	(3)	(9)	(41)
Realized losses .....	(2)	(1)	(31)
Balance at end of period .....	<u>\$ 12</u>	<u>\$ 17</u>	<u>\$ 27</u>

During 2014, we entered into a settlement with the FHLMC for \$25 million, reflected in realized losses in the liability rollforward above, which settled our liability for substantially all loans sold to FHLMC from January 1, 2000 through 2013. As a result of the settlement and a re-assessment of the residual exposure, we released \$34 million in repurchase reserves. We continue to maintain repurchase reserves for exposure associated with residual risks not covered by the settlement agreements.

Our remaining repurchase liability of \$12 million at December 31, 2016 represents our best estimate of the loss that has been incurred, including interest, arising from breaches of representations and warranties associated with mortgage loans sold. Because the level of mortgage loan repurchase losses is dependent upon economic factors, investor demand strategies and other external risk factors such as housing market trends that may change, the level of the liability for mortgage loan repurchase losses requires significant judgment. We continue to evaluate our methods of determining the best estimate of loss based on recent trends. As these estimates are influenced by factors outside our control, there is uncertainty inherent in these estimates making it reasonably possible that they could change. The range of reasonably possible losses in excess of our recorded repurchase liability is between zero and \$25 million at December 31, 2016. This estimated range of reasonably possible losses was determined based upon modifying the assumptions utilized in our best estimate of probable losses to reflect what we believe to be reasonably possible adverse assumptions.

*Securitization Activity* In addition to the repurchase risk described above, we have also been involved as a sponsor/seller of loans used to facilitate whole loan securitizations underwritten by our affiliate, HSI. In this regard, we began acquiring residential mortgage loans in 2005 which were warehoused on our balance sheet with the intent of selling them to HSI to facilitate HSI's whole loan securitization program which was discontinued in 2007. During 2005-2007, we purchased and sold \$24 billion of such

loans to HSI which were subsequently securitized and sold by HSI to third parties. See "Mortgage Securitization Matters" in Note 27, "Litigation and Regulatory Matters," for additional discussion of related exposure.

### **Pledged Assets**

Pledged assets included in the consolidated balance sheet consisted of the following:

At December 31,	2016	2015
	(in millions)	
Interest bearing deposits with banks .....	\$ 3,034	\$ 676
Trading assets <sup>(1)</sup> .....	2,772	3,802
Securities available-for-sale <sup>(2)</sup> .....	7,503	11,092
Securities held-to-maturity .....	2,551	3,293
Loans <sup>(3)</sup> .....	18,260	17,880
Other assets <sup>(4)</sup> .....	1,958	1,765
Total.....	<u>\$ 36,078</u>	<u>\$ 38,508</u>

<sup>(1)</sup> Trading assets are primarily pledged against liabilities associated with repurchase agreements.

<sup>(2)</sup> Securities available-for-sale are primarily pledged against derivatives, public fund deposits, trust deposits and various short-term and long term borrowings, as well as providing capacity for potential secured borrowings from the Federal Home Loan Bank of New York ("FHLB") and the Federal Reserve Bank of New York.

<sup>(3)</sup> Loans are primarily residential mortgage loans pledged against current and potential borrowings from the FHLB and the Federal Reserve Bank of New York.

<sup>(4)</sup> Other assets represent cash on deposit with non-banks related to derivative collateral support agreements.

Debt securities pledged as collateral that can be sold or repledged by the secured party continue to be reported on the consolidated balance sheet. The fair value of securities available-for-sale that could be sold or repledged was \$892 million and \$1,000 million at December 31, 2016 and 2015, respectively. The fair value of trading assets that could be sold or repledged was \$2,772 million and \$3,797 million at December 31, 2016 and 2015, respectively.

The fair value of collateral we accepted under security resale agreements but not reported on the consolidated balance sheet was \$30,784 million and \$25,058 million at December 31, 2016 and 2015, respectively, discussed further below. Of this collateral, \$29,835 million and \$19,558 million could be sold or repledged at December 31, 2016 and 2015, respectively, of which \$769 million and \$3,400 million, respectively, had been sold or repledged as collateral under repurchase agreements or to cover short sales.

### **Repurchase Agreements**

We enter into purchases of securities under agreements to resell (resale agreements) and sales of securities under agreements to repurchase (repurchase agreements) identical or substantially the same securities. Resale and repurchase agreements are accounted for as secured lending and secured borrowing transactions, respectively.

Repurchase agreements may require us to deposit cash or other collateral with the lender. In connection with resale agreements, it is our policy to obtain possession of collateral, which may include the securities purchased, with market value in excess of the principal amount loaned. The market value of the collateral subject to the resale and repurchase agreements is regularly monitored, and additional collateral is obtained or provided when appropriate, to ensure appropriate collateral coverage of these secured financing transactions.

The following table provides information about resale and repurchase agreements that are subject to offset at December 31, 2016 and 2015:

	Gross Amounts Recognized	Gross Amounts Offset in the Balance Sheet <sup>(1)</sup>	Net Amounts Presented in the Balance Sheet	Gross Amounts Not Offset in the Balance Sheet		Net Amount <sup>(3)</sup>
				Financial Instruments <sup>(2)</sup>	Cash Collateral Received / Pledged	
(in millions)						
<b>At December 31, 2016:</b>						
Assets:						
Securities purchased under resale agreements .....	\$ 30,784	\$ 761	\$ 30,023	\$ 29,945	\$ —	\$ 78
Liabilities:						
Securities sold under repurchase agreements .....	\$ 4,433	\$ 761	\$ 3,672	\$ 3,661	\$ —	\$ 11
<b>At December 31, 2015:</b>						
Assets:						
Securities purchased under resale agreements .....	\$ 25,058	\$ 5,211	\$ 19,847	\$ 19,845	\$ —	\$ 2
Liabilities:						
Securities sold under repurchase agreements .....	\$ 8,197	\$ 5,211	\$ 2,986	\$ 2,954	\$ —	\$ 32

<sup>(1)</sup> Represents recognized amount of resale and repurchase agreements with counterparties subject to legally enforceable netting agreements that meet the applicable netting criteria as permitted by generally accepted accounting principles.

<sup>(2)</sup> Represents securities received or pledged to cover financing transaction exposures.

<sup>(3)</sup> Represents the amount of our exposure that is not collateralized / covered by pledged collateral.

The following table provides the class of collateral pledged and remaining contractual maturity of repurchase agreements accounted for as secured borrowings at December 31, 2016 and 2015:

	Overnight and Continuous	Up to 30 Days	31 to 90 Days	91 Days to One Year	Greater Than One Year	Total
	(in millions)					
<b>At December 31, 2016:</b>						
U.S. Treasury, U.S. Government agency and sponsored entity securities .....	\$ 761	\$ —	\$ —	\$ 1,272	\$ 2,400	\$ 4,433
<b>At December 31, 2015:</b>						
U.S. Treasury, U.S. Government agency and sponsored entity securities .....	\$ 1,764	\$ 3,457	\$ —	\$ —	\$ 2,976	\$ 8,197

## 26. Fair Value Measurements

Accounting principles related to fair value measurements provide a framework for measuring fair value that focuses on the exit price that would be received to sell an asset or paid to transfer a liability in the principal market (or in the absence of the principal market, the most advantageous market) accessible in an orderly transaction between willing market participants (the "Fair Value Framework"). Where required by the applicable accounting standards, assets and liabilities are measured at fair value using the "highest and best use" valuation premise. Fair value measurement guidance clarifies that financial instruments do not have alternative use and, as such, the fair value of financial instruments should be determined using an "in-exchange" valuation premise. However, the fair value measurement literature provides a valuation exception and permits an entity to measure the fair value of a group of financial assets and financial liabilities with offsetting credit risks and/or market risks based on the exit price it would receive or pay to transfer the net risk exposure of a group of assets or liabilities if certain conditions are met. We elected to apply the measurement exception to a group of derivative instruments with offsetting credit risks and market risks, which primarily relate to interest rate, foreign currency, debt and equity price risk, and commodity price risk as of the reporting date.

**Fair Value Adjustments** The best evidence of fair value is quoted market price in an actively traded market, where available. In the event listed price or market quotes are not available, valuation techniques that incorporate relevant transaction data and market parameters reflecting the attributes of the asset or liability under consideration are applied. Where applicable, fair value adjustments are made to ensure the financial instruments are appropriately recorded at fair value. The fair value adjustments reflect the risks associated with the products, contractual terms of the transactions, and the liquidity of the markets in which the transactions occur. The fair value adjustments are broadly categorized by the following major types:

*Credit risk adjustment* - The credit risk adjustment is an adjustment to a group of financial assets and financial liabilities, predominantly derivative assets and derivative liabilities, to reflect the credit quality of the parties to the transaction in arriving at fair value. A credit valuation adjustment to a financial asset is required to reflect the default risk of the counterparty. A debit valuation adjustment to a financial liability is recorded to reflect the default risk of HUSI. See "Valuation Techniques - Derivatives" below for additional details.

*Liquidity risk adjustment* - The liquidity risk adjustment (primarily in the form of bid-offer adjustment) reflects the cost that would be incurred to close out the market risks by hedging, disposing or unwinding the position. Valuation models generally produce mid-market values. The bid-offer adjustment is made in such a way that results in a measure that reflects the exit price that most represents the fair value of the financial asset or financial liability under consideration or, where applicable, the fair value of the net market risk exposure of a group of financial assets or financial liabilities. These adjustments relate primarily to Level 2 assets.

*Model valuation adjustment* - Where fair value measurements are determined using an internal valuation model based on observable and unobservable inputs, certain valuation inputs may be less readily determinable. There may be a range of possible valuation inputs that market participants may assume in determining the fair value measurement. The resultant fair value measurement has inherent measurement risk if one or more parameters are unobservable and must be estimated. An input valuation adjustment is necessary to reflect the likelihood that market participants may use different input parameters, and to mitigate the possibility of measurement error. In addition, the values derived from valuation techniques are affected by the choice of valuation model and model limitation. When different valuation techniques are available, the choice of valuation model can be subjective. Furthermore, the valuation model applied may have measurement limitations. In those cases, an additional valuation adjustment is also applied to mitigate the measurement risk. Model valuation adjustments are not material and relate primarily to Level 2 instruments.

We apply stress scenarios in determining appropriate liquidity risk and model risk adjustments for Level 3 fair values by reviewing the historical data for unobservable inputs (e.g., correlation, volatility). Some stress scenarios involve at least a 95 percent confidence interval (i.e., two standard deviations). We also utilize unobservable parameter adjustments when instruments are valued using internally developed models which reflects the uncertainty in the value estimates provided by the model.

**Funding Fair Value Adjustment ("FFVA")** - The FFVA reflects the estimated present value of the future market funding cost or benefit associated with funding uncollateralized derivative exposure at rates other than the Overnight Indexed Swap ("OIS") rate. See "Valuation Techniques - Derivatives" below for additional details.

**Fair Value Hierarchy** The Fair Value Framework establishes a three-tiered fair value hierarchy as follows:

**Level 1 quoted market price** - Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities.

**Level 2 valuation technique using observable inputs** - Level 2 inputs include quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are inactive, and measurements determined using valuation models where all significant inputs are observable, such as interest rates and yield curves that are observable at commonly quoted intervals.

Level 3 *valuation technique with significant unobservable inputs* - Level 3 inputs are unobservable inputs for the asset or liability and include situations where fair values are measured using valuation techniques based on one or more significant unobservable inputs.

Classification within the fair value hierarchy is based on whether the lowest hierarchical level input that is significant to the fair value measurement is observable. As such, the classification within the fair value hierarchy is dynamic and can be transferred to other hierarchy levels in each reporting period. Transfers between leveling categories are assessed, determined and recognized at the end of each reporting period.

**Valuation Control Framework** We have established a control framework which is designed to ensure that fair values are either determined or validated by a function independent of the risk-taker. To that end, the ultimate responsibility for the determination of fair values rests with Finance. Finance has established an independent price validation process to ensure that the assets and liabilities measured at fair value are properly stated.

A valuation committee, chaired by the Head of Product Control, meets monthly to review, monitor and discuss significant valuation matters arising from credit and market risks. The committee is responsible for reviewing and approving valuation policies and procedures including any valuation adjustments pertaining to, among other things, independent price verification, market liquidity, unobservable inputs, model uncertainty and counterparty credit risk. All valuation models are reviewed by the valuation committee in terms of model development, enhancements and performance. All models are independently reviewed by the Markets Independent Model Review function and applicable valuation model recommendations are reported to and discussed with the valuation committee. Significant valuation risks identified in business activities are corroborated and addressed by the committee members and, where applicable, are escalated to the Chief Financial Officer of HUSI and the Audit Committee of the Board of Directors.

Where fair value measurements are determined based on information obtained from independent pricing services or brokers, Finance applies appropriate validation procedures to substantiate fair value. For price validation purposes, quotations from at least two independent pricing sources are obtained for each financial instrument, where possible.

The following factors are considered in determining fair values:

- similarities between the asset or the liability under consideration and the asset or liability for which quotation is received;
- collaboration of pricing by referencing to other independent market data such as market transactions and relevant benchmark indices;
- consistency among different pricing sources;
- the valuation approach and the methodologies used by the independent pricing sources in determining fair value;
- the elapsed time between the date to which the market data relates and the measurement date;
- the source of the fair value information; and
- whether the security is traded in an active or inactive market.

Greater weight is given to quotations of instruments with recent market transactions, pricing quotes from dealers who stand ready to transact, quotations provided by market-makers who structured such instrument and market consensus pricing based on inputs from a large number of survey participants. Any significant discrepancies among the external quotations are reviewed and adjustments to fair values are recorded where appropriate. Where the transaction volume of a specific instrument has been reduced and the fair value measurement becomes less transparent, Finance will apply more detailed procedures to understand and challenge the appropriateness of the unobservable inputs and the valuation techniques used by the independent pricing service. Where applicable, Finance will develop a fair value estimate using its own pricing model inputs to test reasonableness. Where fair value measurements are determined using internal valuation models, Finance will validate the fair value measurement by either developing unobservable inputs based on the industry consensus pricing surveys in which we participate or back testing by observing the actual settlements occurring soon after the measurement date. Any significant valuation adjustments are reported to and discussed with the valuation committee.

**Fair Value of Financial Instruments** The fair value estimates, methods and assumptions set forth below for our financial instruments, including those financial instruments carried at cost, are made solely to comply with disclosures required by generally accepted accounting principles in the United States and should be read in conjunction with the financial statements and notes included in this report.

The following table summarizes the carrying value and estimated fair value of our financial instruments at December 31, 2016 and 2015:

December 31, 2016	Carrying Value	Fair Value	Level 1	Level 2	Level 3
(in millions)					
Financial assets:					
Short-term financial assets .....	\$ 21,500	\$ 21,500	\$ 1,235	\$ 20,238	\$ 27
Federal funds sold and securities purchased under agreements to resell .....	29,253	29,253	—	29,253	—
Federal funds sold and securities purchased under agreements to resell designated under fair value option .....	770	770	—	770	—
Non-derivative trading assets .....	12,439	12,439	3,560	5,811	3,068
Derivatives .....	5,004	5,004	12	4,961	31
Securities .....	49,719	49,748	25,145	24,498	105
Commercial loans, net of allowance for credit losses .....	53,286	54,938	—	—	54,938
Commercial loans designated under fair value option and held for sale .....	725	725	—	725	—
Commercial loans held for sale .....	119	119	—	119	—
Consumer loans, net of allowance for credit losses .....	19,572	18,833	—	—	18,833
Consumer loans held for sale:					
Residential mortgages and home equity mortgages .....	894	912	—	9	903
Other consumer .....	71	71	—	—	71
Financial liabilities:					
Short-term financial liabilities .....	\$ 2,456	\$ 2,489	\$ —	\$ 2,462	\$ 27
Deposits:					
Without fixed maturities .....	112,009	112,009	—	112,009	—
Fixed maturities .....	9,713	9,749	—	9,749	—
Deposits designated under fair value option .....	7,526	7,526	—	6,119	1,407
Non-derivative trading liabilities .....	1,122	1,122	1,060	62	—
Derivatives .....	4,535	4,535	8	4,511	16
Short-term borrowings designated under fair value option .....	2,672	2,672	—	2,672	—
Long-term debt .....	27,355	28,093	—	28,093	—
Long-term debt designated under fair value option .....	10,384	10,384	—	9,885	499

December 31, 2015	Carrying Value	Fair Value	Level 1	Level 2	Level 3
	(in millions)				
Financial assets:					
Short-term financial assets .....	\$ 8,494	\$ 8,494	\$ 968	\$ 7,478	\$ 48
Federal funds sold and securities purchased under agreements to resell .....	19,847	19,847	—	19,847	—
Non-derivative trading assets .....	11,935	11,935	3,088	5,756	3,091
Derivatives .....	5,614	5,614	5	5,579	30
Securities .....	49,797	49,938	21,924	28,014	—
Commercial loans, net of allowance for credit losses .....	61,674	62,417	—	—	62,417
Commercial loans designated under fair value option and held for sale .....	151	151	—	151	—
Commercial loans held for sale .....	1,944	1,958	—	55	1,903
Consumer loans, net of allowance for credit losses .....	20,331	19,185	—	—	19,185
Consumer loans held for sale:					
Residential mortgages .....	11	11	—	7	4
Other consumer .....	79	79	—	—	79
Financial liabilities:					
Short-term financial liabilities .....	\$ 3,082	\$ 3,124	\$ —	\$ 3,076	\$ 48
Deposits:					
Without fixed maturities .....	101,146	101,146	—	101,146	—
Fixed maturities .....	10,514	10,508	—	10,508	—
Deposits designated under fair value option .....	6,919	6,919	—	5,052	1,867
Non-derivative trading liabilities .....	1,049	1,049	363	686	—
Derivatives .....	6,993	6,993	9	6,957	27
Short-term borrowings designated under fair value option .....	1,976	1,976	—	1,976	—
Long-term debt .....	24,338	24,874	—	24,874	—
Long-term debt designated under fair value option .....	9,171	9,171	—	8,425	746

Loan values presented in the table above were determined using the Fair Value Framework for measuring fair value, which is based on our best estimate of the amount within a range of value we believe would be received in a sale as of the balance sheet date (i.e. exit price). The secondary market demand and estimated value for our residential mortgage loans has been heavily influenced by economic conditions, including house price depreciation, elevated unemployment, changes in consumer behavior, changes in discount rates and the lack of financing options available to support the purchase of loans. The increase in the relative fair value of our residential mortgage loans since 2015 reflects the conditions in the housing industry which have continued to show improvement in 2016 due to improvements in property values as well as lower required market yields and increased investor demand for these types of loans.

**Assets and Liabilities Recorded at Fair Value on a Recurring Basis** The following table presents information about our assets and liabilities measured at fair value on a recurring basis at December 31, 2016 and 2015, and indicates the fair value hierarchy of the valuation techniques utilized to determine such fair value:

December 31, 2016	Fair Value Measurements on a Recurring Basis					
	Level 1	Level 2	Level 3	Gross Balance	Netting <sup>(1)</sup>	Net Balance
	(in millions)					
Assets:						
Securities purchased under agreements to resell <sup>(2)</sup>	\$ —	\$ 770	\$ —	\$ 770	\$ —	\$ 770
Trading Securities, excluding derivatives:						
U.S. Treasury, U.S. Government agencies and sponsored enterprises	3,560	246	—	3,806	—	3,806
Collateralized debt obligations	—	—	184	184	—	184
Asset-backed securities:						
Residential mortgages	—	96	—	96	—	96
Student Loans	—	85	—	85	—	85
Corporate and other domestic debt securities	—	—	2,884	2,884	—	2,884
Debt Securities issued by foreign entities	—	3,597	—	3,597	—	3,597
Equity securities	—	15	—	15	—	15
Precious metals trading	—	1,772	—	1,772	—	1,772
Derivatives <sup>(3)</sup> :						
Interest rate contracts	36	32,163	1	32,200	—	32,200
Foreign exchange contracts	24	24,014	18	24,056	—	24,056
Equity contracts	—	2,171	159	2,330	—	2,330
Precious metals contracts	81	1,038	—	1,119	—	1,119
Credit contracts	—	1,342	208	1,550	—	1,550
Other contracts <sup>(4)</sup>	—	—	5	5	—	5
Derivatives netting	—	—	—	—	(56,256)	(56,256)
Total derivatives	141	60,728	391	61,260	(56,256)	5,004
Securities available-for-sale:						
U.S. Treasury, U.S. Government agencies and sponsored enterprises	25,145	10,924	—	36,069	—	36,069
Asset-backed securities:						
Home equity	—	61	—	61	—	61
Other	—	—	105	105	—	105
Debt Securities issued by foreign entities	—	521	—	521	—	521
Equity securities	—	154	—	154	—	154
Loans <sup>(5)</sup>	—	725	—	725	—	725
Total assets	\$ 28,846	\$ 79,694	\$ 3,564	\$ 112,104	\$ (56,256)	\$ 55,848
Liabilities:						
Domestic deposits <sup>(2)</sup>	\$ —	\$ 6,119	\$ 1,407	\$ 7,526	\$ —	\$ 7,526
Trading liabilities, excluding derivatives	1,060	62	—	1,122	—	1,122
Derivatives <sup>(3)</sup> :						
Interest rate contracts	84	32,568	—	32,652	—	32,652
Foreign exchange contracts	6	22,658	18	22,682	—	22,682
Equity contracts	—	1,714	161	1,875	—	1,875
Precious metals contracts	13	867	—	880	—	880
Credit contracts	—	1,354	15	1,369	—	1,369
Other contracts <sup>(4)</sup>	—	—	14	14	—	14
Derivatives netting	—	—	—	—	(54,937)	(54,937)
Total derivatives	103	59,161	208	59,472	(54,937)	4,535
Short-term borrowings <sup>(2)</sup>	—	2,672	—	2,672	—	2,672
Long-term debt <sup>(2)</sup>	—	9,885	499	10,384	—	10,384
Total liabilities	\$ 1,163	\$ 77,899	\$ 2,114	\$ 81,176	\$ (54,937)	\$ 26,239

December 31, 2015	Fair Value Measurements on a Recurring Basis					
	Level 1	Level 2	Level 3	Gross Balance	Netting <sup>(1)</sup>	Net Balance
	(in millions)					
Assets:						
Trading Securities, excluding derivatives:						
U.S. Treasury, U.S. Government agencies and sponsored enterprises....	\$ 3,088	\$ 167	\$ —	\$ 3,255	\$ —	\$ 3,255
Obligations of U. S. States and political subdivisions .....	—	559	—	559	—	559
Collateralized debt obligations .....	—	—	221	221	—	221
Asset-backed securities:						
Residential mortgages .....	—	114	—	114	—	114
Student loans .....	—	89	—	89	—	89
Corporate and other domestic debt securities.....	—	—	2,870	2,870	—	2,870
Debt Securities issued by foreign entities:						
Corporate .....	—	55	—	55	—	55
Government-backed .....	—	3,974	—	3,974	—	3,974
Equity securities .....	—	18	—	18	—	18
Precious metals trading .....	—	780	—	780	—	780
Derivatives <sup>(3)</sup> :						
Interest rate contracts.....	26	35,241	2	35,269	—	35,269
Foreign exchange contracts .....	—	24,161	16	24,177	—	24,177
Equity contracts .....	—	1,687	119	1,806	—	1,806
Precious metals contracts .....	38	891	—	929	—	929
Credit contracts.....	—	3,676	209	3,885	—	3,885
Derivatives netting .....	—	—	—	—	(60,452)	(60,452)
Total derivatives .....	64	65,656	346	66,066	(60,452)	5,614
Securities available-for-sale:						
U.S. Treasury, U.S. Government agencies and sponsored enterprises....	21,924	12,621	—	34,545	—	34,545
Obligations of U.S. states and political subdivisions .....	—	348	—	348	—	348
Asset-backed securities:						
Commercial mortgages.....	—	9	—	9	—	9
Home equity .....	—	75	—	75	—	75
Other .....	—	89	—	89	—	89
Debt Securities issued by foreign entities .....	—	546	—	546	—	546
Equity securities .....	—	161	—	161	—	161
Loans <sup>(5)</sup> .....	—	151	—	151	—	151
Mortgage servicing rights <sup>(6)</sup> .....	—	—	140	140	—	140
Total assets.....	\$ 25,076	\$ 85,412	\$ 3,577	\$ 114,065	\$ (60,452)	\$ 53,613
Liabilities:						
Domestic deposits <sup>(2)</sup> .....	\$ —	\$ 5,052	\$ 1,867	\$ 6,919	\$ —	\$ 6,919
Trading liabilities, excluding derivatives .....	363	686	—	1,049	—	1,049
Derivatives <sup>(3)</sup> :						
Interest rate contracts.....	28	35,432	1	35,461	—	35,461
Foreign exchange contracts .....	15	22,405	16	22,436	—	22,436
Equity contracts .....	—	1,560	202	1,762	—	1,762
Precious metals contracts .....	39	552	—	591	—	591
Credit contracts.....	—	3,753	30	3,783	—	3,783
Derivatives netting .....	—	—	—	—	(57,040)	(57,040)
Total derivatives .....	82	63,702	249	64,033	(57,040)	6,993
Short-term borrowings <sup>(2)</sup> .....	—	1,976	—	1,976	—	1,976
Long-term debt <sup>(2)</sup> .....	—	8,425	746	9,171	—	9,171
Total liabilities.....	\$ 445	\$ 79,841	\$ 2,862	\$ 83,148	\$ (57,040)	\$ 26,108

<sup>(1)</sup> Represents counterparty and cash collateral netting which allow the offsetting of amounts relating to certain contracts if certain conditions are met.

<sup>(2)</sup> See Note 15, "Fair Value Option," for additional information.

<sup>(3)</sup> Includes trading derivative assets of \$4,411 million and \$5,150 million and trading derivative liabilities of \$3,786 million and \$6,406 million at December 31, 2016 and 2015, respectively, as well as derivatives held for hedging and commitments accounted for as derivatives.

<sup>(4)</sup> Consists of swap agreements entered into in conjunction with the sale of certain Visa Class B Shares.

<sup>(5)</sup> Includes certain commercial loans held for sale which we have elected to apply the fair value option. See Note 7, "Loans Held for Sale," for further information.

<sup>(6)</sup> See Note 9, "Intangible Assets," for additional information.

Transfers between levels of the fair value hierarchy are recognized at the end of each reporting period.

*Transfers between Level 1 and Level 2 measurements* There were no transfers between Levels 1 and 2 during 2016 and 2015.

*Information on Level 3 assets and liabilities* The following table summarizes additional information about changes in the fair value of Level 3 assets and liabilities during 2016 and 2015. As a risk management practice, we may risk manage the Level 3 assets and liabilities, in whole or in part, using securities and derivative positions that are classified as Level 1 or Level 2 measurements within the fair value hierarchy. Since those Level 1 and Level 2 risk management positions are not included in the table below, the information provided does not reflect the effect of such risk management activities related to the Level 3 assets and liabilities.

	Jan. 1, 2016	Total Gains and (Losses) Included in <sup>(1)</sup>		Purch- ases	Issu- ances	Settle- ments	Transfers Into Level 3	Transfers Out of Level 3	Dec. 31, 2016	Current Period Unrealized Gains (Losses)
		Trading Revenue (Loss)	Other Revenue							
(in millions)										
Assets:										
Trading assets, excluding derivatives:										
Collateralized debt obligations.....	\$ 221	\$ 13	\$ —	\$ —	\$ —	\$ (50)	\$ —	\$ —	\$ 184	\$ —
Corporate and other domestic debt securities	2,870	—	—	14	—	—	—	—	2,884	—
Derivatives, net <sup>(2)</sup> :										
Interest rate contracts.....	1	—	—	—	—	—	—	—	1	—
Foreign exchange contracts .....	—	—	—	—	—	—	—	—	—	—
Equity contracts.....	(83)	63	—	—	—	13	1	4	(2)	37
Credit contracts.....	179	16	—	—	—	(2)	—	—	193	4
Other contracts <sup>(3)</sup> .....	—	—	—	—	—	(9)	—	—	(9)	—
Other asset-backed securities available-for-sale..	—	—	—	—	—	—	105	—	105	—
Mortgage servicing rights <sup>(4)</sup> ..	140	—	(27)	—	—	(17)	—	(96)	—	—
Total assets.....	<u>\$ 3,328</u>	<u>\$ 92</u>	<u>\$ (27)</u>	<u>\$ 14</u>	<u>\$ —</u>	<u>\$ (65)</u>	<u>\$ 106</u>	<u>\$ (92)</u>	<u>\$ 3,356</u>	<u>\$ 41</u>
Liabilities:										
Domestic deposits <sup>(5)</sup> .....	\$ (1,867)	\$ —	\$ (82)	\$ —	\$ (238)	\$ 623	\$ (55)	\$ 212	\$ (1,407)	\$ (44)
Long-term debt <sup>(5)</sup> .....	(746)	—	(34)	—	(263)	303	—	241	(499)	(29)
Total liabilities.....	<u>\$ (2,613)</u>	<u>\$ —</u>	<u>\$ (116)</u>	<u>\$ —</u>	<u>\$ (501)</u>	<u>\$ 926</u>	<u>\$ (55)</u>	<u>\$ 453</u>	<u>\$ (1,906)</u>	<u>\$ (73)</u>

	Total Gains and (Losses) Included in <sup>(1)</sup>							Transfers Into Level 3	Transfers Out of Level 3	Dec. 31, 2015	Current Period Unrealized Gains (Losses)
	Jan. 1, 2015	Trading Revenue (Loss)	Other Revenue	Purch- ases	Issu- ances	Settle- ments					
(in millions)											
Assets:											
Trading assets, excluding derivatives:											
Collateralized debt obligations.....	\$ 253	\$ 15	\$ —	\$ —	\$ —	\$ (47)	\$ —	\$ —	\$ 221	\$ 4	
Corporate and other domestic debt securities	2,840	—	—	30	—	—	—	—	2,870	—	
Derivatives, net <sup>(2)</sup> :											
Interest rate contracts.....	—	—	1	—	—	—	—	—	1	1	
Foreign exchange contracts.....	—	—	—	—	—	—	—	—	—	—	
Equity contracts.....	42	(55)	—	—	—	(69)	(2)	1	(83)	(82)	
Credit contracts.....	210	(19)	—	—	—	(12)	—	—	179	(53)	
Mortgage servicing rights <sup>(4)</sup> ..	159	—	1	—	—	(20)	—	—	140	1	
Total assets.....	<u>\$ 3,504</u>	<u>\$ (59)</u>	<u>\$ 2</u>	<u>\$ 30</u>	<u>\$ —</u>	<u>\$ (148)</u>	<u>\$ (2)</u>	<u>\$ 1</u>	<u>\$ 3,328</u>	<u>\$ (129)</u>	
Liabilities:											
Domestic deposits <sup>(5)</sup> .....	\$ (1,968)	\$ —	\$ (10)	\$ —	\$ (353)	\$ 360	\$ (162)	\$ 266	\$ (1,867)	\$ 10	
Long-term debt <sup>(5)</sup> .....	(647)	—	62	—	(522)	233	(3)	131	(746)	60	
Total liabilities.....	<u>\$ (2,615)</u>	<u>\$ —</u>	<u>\$ 52</u>	<u>\$ —</u>	<u>\$ (875)</u>	<u>\$ 593</u>	<u>\$ (165)</u>	<u>\$ 397</u>	<u>\$ (2,613)</u>	<u>\$ 70</u>	

<sup>(1)</sup> Includes realized and unrealized gains and losses.

<sup>(2)</sup> Level 3 net derivatives included derivative assets of \$391 million and derivative liabilities of \$208 million at December 31, 2016 and derivative assets of \$346 million and derivative liabilities of \$249 million at December 31, 2015.

<sup>(3)</sup> Consists of swap agreements entered into in conjunction with the sale of certain Visa Class B Shares.

<sup>(4)</sup> See Note 9, "Intangible Assets," for additional information.

<sup>(5)</sup> See Note 15, "Fair Value Option," for additional information.

The following table presents quantitative information about the unobservable inputs used to determine the recurring fair value measurement of assets and liabilities classified as Level 3 fair value measurements at December 31, 2016 and 2015:

## December 31, 2016

Financial Instrument Type	Fair Value (in millions)	Valuation Technique(s)	Significant Unobservable Inputs	Range of Inputs
Collateralized debt obligations .....	\$ 184	Broker quotes or consensus pricing and, where applicable, discounted cash flows	Prepayment rates	1% - 6%
			Conditional default rates	6% - 8%
			Loss severity rates	85%
Corporate and other domestic debt securities .....	\$ 2,884	Discounted cash flows	Spread volatility on collateral assets	3% - 4%
			Correlation between insurance claim shortfall and collateral value	80%
Interest rate derivative contracts .....	\$ 1	Market comparable adjusted for probability to fund	Probability to fund for rate lock commitments	38% - 100%
Foreign exchange derivative contracts <sup>(1)</sup> .....	\$ —	Option pricing model	Implied volatility of currency pairs	15% - 21%
Equity derivative contracts <sup>(1)</sup> .....	\$ (2)	Option pricing model	Equity / Equity Index volatility	11% - 49%
			Equity / Equity and Equity / Index correlation	45% - 57%
			Equity dividend yields	0% - 14%
Credit derivative contracts .....	\$ 193	Option pricing model and, where applicable, discounted cash flows	Issuer by issuer correlation of defaults	82% - 83%
			Credit default swap spreads	150bps - 173bps
Other derivative contracts .....	\$ (9)	Discounted cash flows	Conversion rate	1.6 times
			Expected duration	3 - 5 years
Other asset-backed securities available-for-sale .....	\$ 105	Discounted cash flows	Market assumptions related to yields for comparable instruments	1% - 4%
Domestic deposits (structured deposits) <sup>(1)(2)</sup> .....	\$ (1,407)	Option adjusted discounted cash flows	Implied volatility of currency pairs	15% - 21%
			Equity / Equity Index volatility	11% - 49%
			Equity / Equity and Equity / Index correlation	45% - 57%
Long-term debt (structured notes) <sup>(1)(2)</sup> .....	\$ (499)	Option adjusted discounted cash flows	Implied volatility of currency pairs	15% - 21%
			Equity / Equity Index volatility	11% - 49%
			Equity / Equity and Equity / Index correlation	45% - 57%

December 31, 2015

Financial Instrument Type	Fair Value (in millions)	Valuation Technique(s)	Significant Unobservable Inputs	Range of Inputs
Collateralized debt obligations .....	\$ 221	Broker quotes or consensus pricing and, where applicable, discounted cash flows	Prepayment rates  Conditional default rates Loss severity rates	1% - 6%  3% - 7% 90% - 99%
Corporate and other domestic debt securities .....	\$ 2,870	Discounted cash flows	Spread volatility on collateral assets  Correlation between insurance claim shortfall and collateral value	2% - 4%  80%
Interest rate derivative contracts .....	\$ 1	Market comparable adjusted for probability to fund	Probability to fund for rate lock commitments	18% - 100%
Foreign exchange derivative contracts <sup>(1)</sup> .....	\$ —	Option pricing model	Implied volatility of currency pairs	18% - 22%
Equity derivative contracts <sup>(1)</sup> .....	\$ (83)	Option pricing model	Equity / Equity Index volatility Equity / Equity and Equity / Index correlation Equity dividend yields	14% - 72% 48% - 59% 0% - 18%
Credit derivative contracts .....	\$ 179	Option pricing model	Correlation of defaults of a portfolio of reference credit names Issuer by issuer correlation of defaults	44% - 47% 82% - 83%
Mortgage servicing rights .....	\$ 140	Option adjusted discounted cash flows	Constant prepayment rates Option adjusted spread Estimated annualized costs to service	11% - 50% 8% - 14% \$87 - \$329 per account
Domestic deposits (structured deposits) <sup>(1)(2)</sup> .....	\$ (1,867)	Option adjusted discounted cash flows	Implied volatility of currency pairs Equity / Equity Index volatility Equity / Equity and Equity / Index correlation	18% - 22% 14% - 72% 48% - 59%
Long-term debt (structured notes) <sup>(1)(2)</sup> .....	\$ (746)	Option adjusted discounted cash flows	Implied volatility of currency pairs Equity / Equity Index volatility Equity / Equity and Equity / Index correlation	18% - 22% 14% - 72% 48% - 59%

(1) We are the client-facing entity and we enter into identical but opposite derivatives to transfer the resultant risks to our affiliates. With the exception of counterparty credit risks, we are market neutral. The corresponding intra-group derivatives are presented as equity derivatives and foreign exchange derivatives in the table.

(2) Structured deposits and structured notes contain embedded derivative features whose fair value measurements contain significant Level 3 inputs.

### Significant Unobservable Inputs for Recurring Fair Value Measurements

#### Collateralized Debt Obligations ("CDOs")

- *Prepayment rate* - The rate at which borrowers pay off the mortgage loans early. The prepayment rate is affected by a number of factors including the location of the mortgage collateral, the interest rate type of the mortgage loans, borrowers' credit and sensitivity to interest rate movement. The prepayment rate of our CDOs portfolio is close to the mid-point of the range.
- *Default rate* - Annualized percentage of default rate over a group of collateral such as residential or commercial mortgage loans. The default rate and loss severity rate are positively correlated. The default rate of our portfolio is tilted towards the low end of the range.
- *Loss severity rate* - Included in our Level 3 CDOs portfolio are trust preferred securities which had a loss severity rate of 85 percent at December 31, 2016.

#### Derivatives

- *Correlation of default* - The default correlation of a group of credit exposures measures the likelihood that the credit references within a group will default together. The default correlation is a significant input to structured credit products such as nth-to-default swaps. In addition, the correlation between the currency and the default risk of the reference credits is a critical input to a foreign currency denominated credit default swap where the correlation is not observable.

- *Implied volatility* - The implied volatility is a significant pricing input for freestanding or embedded options including equity, foreign currency and interest rate options. The level of volatility is a function of the nature of the underlying risk, the level of strike price and the years to maturity of the option. Depending on the underlying risk and tenure, we determine the implied volatility based on observable input where information is available. However, substantially all of the implied volatilities are derived based on historical information. The implied volatility for different foreign currency pairs is between 15 percent and 21 percent while the implied volatility for equity/equity or equity/equity index is between 11 percent and 49 percent, respectively, at December 31, 2016. Although implied foreign currency volatility and equity volatility appear to be widely distributed at the portfolio level, the deviation of implied volatility on a trade-by-trade basis is narrower. The average deviation of implied volatility for the foreign currency pair and at-the-money equity option are 2 percent and 5 percent, respectively, at December 31, 2016.
- *Correlations of a group of foreign currency or equity* - Correlation measures the relative change in values among two or more variables (i.e., equity or foreign currency pair). Variables can be positively or negatively correlated. Correlation is a key input in determining the fair value of a derivative referenced to a basket of variables such as equities or foreign currencies. A majority of the correlations are not observable, but are derived based on historical data. The correlation between equity/equity and equity/equity index was between 45 percent and 57 percent at December 31, 2016.

### ***Sensitivity of Level 3 Inputs to Fair Value Measurements***

*Collateralized debt obligations* - Probability of default, prepayment speed and loss severity rate are significant unobservable inputs. Significant increase (decrease) in these inputs will result in a lower (higher) fair value measurement of a collateralized debt obligation. A change in assumption for default probability is often accompanied by a directionally similar change in loss severity, and a directionally opposite change in prepayment speed.

*Corporate and domestic debt securities* - The fair value measurement of certain corporate debt securities is affected by the fair value of the underlying portfolios of investments used as collateral and the make-whole guarantee provided by third party guarantors. The probability that the collateral fair value declines below the collateral call threshold concurrent with the guarantors' failure to perform its make whole obligation is unobservable. The increase (decrease) in the probability the collateral value falls below the collateral call threshold is often accompanied by a directionally similar change in default probability of the guarantor.

*Credit derivatives* - Correlation of default among a basket of reference credit names is a significant unobservable input if the credit attributes of the portfolio are not within the parameters of relevant standardized CDS indices. Significant increase (decrease) in the default correlation will result in a lower (higher) fair value measurement of the credit derivative. A change in assumption for default correlation is often accompanied by a directionally similar change in default probability and loss rates of other credit names in the basket. For certain credit derivatives, the credit spreads of credit default swap contracts insuring asset backed securities is a significant unobservable input. Significant increase (decrease) in the credit spreads will result in a lower (higher) fair value measurement of the credit derivative.

*Equity and foreign exchange derivatives* - The fair value measurement of a structured equity or foreign exchange derivative is primarily affected by the implied volatility of the underlying equity price or exchange rate of the paired foreign currencies. The implied volatility is not observable. Significant increase (decrease) in the implied volatility will result in a higher (lower) fair value of a long position in the derivative contract.

*Other derivatives* - The fair value of the swap agreements we entered into in conjunction with the sale of certain Visa Class B Shares is dependent upon the final resolution of the related litigation. Significant unobservable inputs used in the fair value measurement include estimated changes in the conversion rate of Visa Class B Shares into Visa Class A Shares and the expected timing of the final resolution. An increase (decrease) in the loss estimate or timing in the resolution of the related litigation would result in a higher (lower) fair value measurement of the derivative.

*Other asset-backed securities available-for-sale* - The fair value measurement of certain asset-backed securities is primarily affected by estimated yields which are determined based on current market yields of comparable instruments adjusted for market liquidity. An increase (decrease) in the yields would result in a decrease (increase) in the fair value measurement of the securities.

***Significant Transfers Into and Out of Level 3 Measurements*** During 2016, we transferred \$212 million of domestic deposits and \$241 million of long-term debt, which we have elected to carry at fair value, from Level 3 to Level 2 as a result of the embedded derivative no longer being unobservable as the derivative option is closer to maturity and there is more observability in short term volatility. During 2016, we transferred \$96 million of mortgage servicing rights from Level 3 to Level 2 upon execution of the sale agreement with a third party. During 2016, we transferred \$55 million of domestic deposits, which we have elected to carry at fair value, from Level 2 to Level 3 as a result of a change in the observability of underlying instruments that resulted in the embedded derivative being unobservable. Additionally, during the fourth quarter of 2016, we transferred \$105 million of asset-backed securities available-for-sale from Level 2 to Level 3 due to the lack of availability of inputs in the market including independent pricing service valuations.

During 2015, we transferred \$266 million of domestic deposits and \$131 million of long-term debt, which we have elected to carry at fair value, from Level 3 to Level 2 as a result of the embedded derivative no longer being unobservable as the derivative option is closer in maturity and there is more observability in short term volatility. Additionally, during 2015, we transferred \$162 million of domestic deposits, which we have elected to carry at fair value, from Level 2 to Level 3 as a result of a change in the observability of underlying instruments that resulted in the embedded derivative being unobservable.

**Assets and Liabilities Recorded at Fair Value on a Non-recurring Basis** Certain financial and non-financial assets are measured at fair value on a non-recurring basis and therefore, are not included in the tables above. These assets include (a) mortgage and commercial loans classified as held for sale reported at the lower of amortized cost or fair value and (b) impaired loans or assets that are written down to fair value based on the valuation of underlying collateral during the period. These instruments are not measured at fair value on an ongoing basis but are subject to fair value adjustment in certain circumstances (e.g., impairment). The following table presents the fair value hierarchy level within which the fair value of the financial and non-financial assets has been recorded at December 31, 2016 and 2015. The gains (losses) during 2016 and 2015 are also included.

	Non-Recurring Fair Value Measurements at December 31, 2016				Total Gains (Losses) For the Year Ended December 31, 2016
	Level 1	Level 2	Level 3	Total	
	(in millions)				
Residential mortgage and home equity mortgage loans held for sale <sup>(1)</sup>	\$ —	\$ 6	\$ 769	\$ 775	\$ (68)
Consumer loans <sup>(2)</sup>	—	46	—	46	(22)
Commercial loans held for sale <sup>(3)</sup>	—	79	—	79	(35)
Impaired commercial loans <sup>(4)</sup>	—	—	278	278	(314)
Real estate owned <sup>(5)</sup>	—	17	—	17	6
Total assets at fair value on a non-recurring basis	\$ —	\$ 148	\$ 1,047	\$ 1,195	\$ (433)

	Non-Recurring Fair Value Measurements at December 31, 2015				Total Gains (Losses) For the Year Ended December 31, 2015
	Level 1	Level 2	Level 3	Total	
	(in millions)				
Residential mortgage loans held for sale <sup>(1)</sup>	\$ —	\$ 2	\$ 3	\$ 5	\$ —
Consumer loans <sup>(2)</sup>	—	133	—	133	(34)
Commercial loans held for sale <sup>(3)</sup>	—	55	—	55	(16)
Impaired commercial loans <sup>(4)</sup>	—	—	116	116	(79)
Real estate owned <sup>(5)</sup>	—	22	—	22	5
Total assets at fair value on a non-recurring basis	\$ —	\$ 212	\$ 119	\$ 331	\$ (124)

<sup>(1)</sup> At December 31, 2016 and 2015, the fair value of the loans held for sale was below cost. Certain residential mortgage and home equity mortgage loans held for sale have been classified as Level 3 fair value measurements within the fair value hierarchy, including certain residential mortgage and home equity mortgage loans which were transferred to held for sale during 2016 for which significant inputs in estimating fair value were unobservable and, to a lesser extent, certain residential mortgage loans held for sale for which the underlying real estate properties used to determine fair value are illiquid assets as a result of market conditions. Additionally, the fair value of these properties is affected by, among other things, the location, the payment history and the completeness of the loan documentation.

<sup>(2)</sup> Represents residential mortgage loans held for investment whose carrying amount was reduced during the periods presented based on the fair value of the underlying collateral. Total gains (losses) for 2016 include amounts recorded on loans that were subsequently transferred to held for sale.

<sup>(3)</sup> At December 31, 2016 and 2015, the fair value of the loans held for sale was below cost.

<sup>(4)</sup> Certain commercial loans have undergone troubled debt restructurings and are considered impaired. As a matter of practical expedient, we measure the credit impairment of a collateral-dependent loan based on the fair value of the collateral asset. The collateral often involves real estate properties that are illiquid due to market conditions. As a result, these loans are classified as a Level 3 fair value measurement within the fair value hierarchy.

<sup>(5)</sup> Real estate owned is required to be reported on the balance sheet net of transactions costs. The real estate owned amounts in the table above reflect the fair value unadjusted for transaction costs.

The following tables present quantitative information about non-recurring fair value measurements of assets and liabilities classified with Level 3 of the fair value hierarchy at December 31, 2016 and 2015:

**At December 31, 2016**

Financial Instrument Type	Fair Value (in millions)	Valuation Technique(s)	Significant Unobservable Inputs	Range of Inputs
Residential mortgage and home equity mortgage loans held for sale .....	\$ 769	Third party appraisal valuation based on estimated loss severities, including collateral values and market discount rate	Loss severity rates Market discount rate	0% - 100% 8% - 14%
Impaired commercial loans .....	278	Valuation of third party appraisal on underlying collateral	Loss severity rates	4% - 100%

**At December 31, 2015**

Financial Instrument Type	Fair Value (in millions)	Valuation Technique(s)	Significant Unobservable Inputs	Range of Inputs
Residential mortgage loans held for sale .....	\$ 3	Valuation of third party appraisal on underlying collateral	Loss severity rates	0% - 100%
Impaired commercial loans .....	116	Valuation of third party appraisal on underlying collateral	Loss severity rates	0% - 70%

**Significant Unobservable Inputs for Non-Recurring Fair Value Measurements**

Residential mortgage and home equity mortgage loans held for sale represent residential mortgage and home equity mortgage loans which were transferred to held for sale during 2016 and, to a lesser extent, subprime residential mortgage loans which were previously acquired with the intent of securitizing or selling them to third parties. The weighted average loss severity rate for residential mortgage and home equity mortgage loans held for sale was approximately 54 percent at December 31, 2016. These severity rates are primarily impacted by the value of the underlying collateral securing the loans.

Impaired loans represent commercial loans. The weighted average severity rate for these loans was approximately 41 percent at December 31, 2016. These severity rates are primarily impacted by the value of the underlying collateral securing the loans.

**Valuation Techniques** Following is a description of valuation methodologies used for assets and liabilities recorded at fair value and for estimating fair value for those financial instruments not recorded at fair value for which fair value disclosure is required.

**Short-term financial assets and liabilities** - The carrying amount of certain financial assets and liabilities recorded 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. These items include cash and due from banks, interest bearing deposits with banks, customer acceptance assets and liabilities, short-term borrowings and dividends payable.

**Federal funds sold and purchased and securities purchased and sold under resale and repurchase agreements** - We record certain securities purchased and sold under resale and repurchase agreements at fair value. The fair value of these resale and repurchase agreements is determined using market rates currently offered on comparable transactions with similar underlying collateral and maturities.

The remaining federal funds sold and purchased and securities purchased and sold under resale and repurchase agreements are recorded at cost. A majority of these transactions are short-term in nature and, as such, the recorded amounts approximate fair value. For transactions with long-dated maturities, fair value is based on dealer quotes for instruments with similar terms and collateral.

**Loans** - Except for certain commercial loans held for sale for which the fair value option has been elected, we do not record loans at fair value on a recurring basis. From time to time, we record impairments to loans. The write-downs can be based on observable market price of the loan, the underlying collateral value or a discounted cash flow analysis. In addition, fair value estimates are determined based on the product type, financial characteristics, pricing features and maturity.

- Consumer loans held for sale – Consumer loans held for sale are recorded at the lower of amortized cost or fair value. The fair value estimates of consumer loans held for sale are determined primarily using the discounted cash flow method using assumptions consistent with those which would be used by market participants in valuing such loans. Valuation inputs include estimates of prepayment rates, default rates, loss severities, collateral values and market rates of return. Where available, such inputs are derived from or corroborated by observable market data. We also may hold discussions on value directly with potential investors. Since some loan pools may have features which are unique, the fair value measurement processes use significant unobservable inputs which are specific to the performance characteristics of the various loan portfolios. Where

available, we measure residential mortgage whole loans held for sale based on transaction prices of loan portfolios of similar characteristics observed in the whole loan market. Adjustments are made to reflect differences in collateral location, loan-to-value ratio, FICO scores, vintage year, default rates, the completeness of the loan documentation and other risk characteristics.

- Commercial loans held for sale - Commercial loans held for sale (that are not designated under FVO as discussed below) are recorded at the lower of amortized cost or fair value. The fair value estimates of commercial loans held for sale are determined primarily using observable market consensus pricing obtained from independent sources, relevant broker quotes or observed market prices of instruments with similar characteristics. We also may hold discussions on value directly with potential investors.
- Commercial loans held for sale designated under FVO – We record certain commercial loans held for sale at fair value. Where available, fair value is based on observable market consensus pricing obtained from independent sources, relevant broker quotes or observed market prices of instruments with similar characteristics. Where observable market parameters are not available, fair value is determined based on contractual cash flows adjusted for estimates of prepayment rates, expected default rates and loss severity discounted at management's estimate of the expected rate of return required by market participants. We also consider loan specific risk mitigating factors such as collateral arrangements in determining the fair value estimate.
- Commercial loans – Commercial loans and commercial real estate loans are valued by discounting the contractual cash flows, adjusted for prepayments and the borrower's credit risk, using a discount rate that reflects the current rates offered to borrowers of similar credit standing for the remaining term to maturity and, when applicable, our own estimate of liquidity premium.
- Commercial impaired loans – Generally represents collateral dependent commercial loans with fair value determined based on pricing quotes obtained from an independent third party appraisal.
- Consumer loans – The estimated fair value of our consumer loans were determined by developing an approximate range of value from a mix of various sources as appropriate for the respective pool of assets. These sources included estimates from an HSBC affiliate which reflect over-the-counter trading activity; trading input from other market participants which includes observed primary and secondary trades; where appropriate, the impact of current estimated rating agency credit tranching levels with the associated benchmark credit spreads; general discussions held directly with potential investors; and, at December 31, 2015, forward looking discounted cash flow models using assumptions consistent with those which would be used by market participants in valuing such loans. Since some loan pools may have features which are unique, the fair value measurement processes use significant unobservable inputs which are specific to the performance characteristics of the various loan portfolios. For revolving products, the estimated fair value excludes future draws on the available credit line as well as other items and, therefore, does not include the fair value of the entire relationship.

We perform analytical reviews of fair value changes on a quarterly basis and periodically validate our valuation methodologies and assumptions based on the results of actual sales of loans with similar characteristics. In addition, from time to time, we may engage a third party valuation specialist to measure the fair value of a pool of loans. Portfolio risk management personnel provide further validation through discussions with third party brokers and other market participants.

*Lending-related commitments* - The fair value of commitments to extend credit, standby letters of credit and financial guarantees are not included in the table. The majority of the lending related commitments are not carried at fair value on a recurring basis nor are they actively traded. These instruments generate fees, which approximate those currently charged to originate similar commitments, which are recognized over the term of the commitment period. Deferred fees on commitments and standby letters of credit totaled \$49 million and \$54 million at December 31, 2016 and 2015, respectively.

*Precious metals trading* - Precious metals trading primarily includes physical inventory which is valued using spot prices.

*Securities* - Where available, debt and equity securities are valued based on quoted market prices. If a quoted market price for the identical security is not available, the security is valued based on quotes from similar securities, where possible. For certain securities, internally developed valuation models are used to determine fair values or validate quotes obtained from pricing services. The following summarizes the valuation methodology used for our major security classes:

- U.S. Treasury, U.S. Government agency issued or guaranteed and obligations of U.S. state and political subdivisions – As these securities transact in an active market, fair value measurements are based on quoted prices for the identical security or quoted prices for similar securities with adjustments as necessary made using observable inputs which are market corroborated.
- U.S. Government sponsored enterprises – For government sponsored mortgage-backed securities which transact in an active market, fair value measurements are based on quoted prices for the identical security or quoted prices for similar securities with adjustments as necessary made using observable inputs which are market corroborated. For government sponsored mortgage-backed securities which do not transact in an active market, fair value is determined primarily based on pricing information obtained from pricing services and is verified by internal review processes.
- Asset-backed securities, including collateralized debt obligations – Fair value is primarily determined based on pricing information obtained from independent pricing services adjusted for the characteristics and the performance of the underlying collateral.

- Other domestic debt and foreign debt securities (corporate and government) - For non-callable corporate securities, a credit spread scale is created for each issuer. These spreads are then added to the equivalent maturity U.S. Treasury yield to determine current pricing. Credit spreads are obtained from the new market, secondary trading levels and dealer quotes. For securities with early redemption features, an option adjusted spread model is incorporated to adjust the spreads determined above. Additionally, we survey the broker/dealer community to obtain relevant trade data including benchmark quotes and updated spreads.
- Equity securities – Fair value measurements are determined based on quoted prices for the identical security.

The following tables provide additional information relating to asset-backed securities as well as certain collateralized debt obligations held at December 31, 2016:

#### Trading asset-backed securities:

Rating of Securities: <sup>(1)</sup>	Collateral Type:	Level 2	Level 3	Total
		(in millions)		
AAA -A.....	Residential mortgages - Alt A.....	\$ 44	\$ —	\$ 44
	Residential mortgages - Subprime .....	38	—	38
	Student loans .....	85	—	85
	Total AAA -A.....	167	—	167
BBB -B .....	Collateralized debt obligations.....	—	184	184
CCC-Unrated .....	Residential mortgages - Subprime .....	14	—	14
		<u>\$ 181</u>	<u>\$ 184</u>	<u>\$ 365</u>

#### Available-for-sale securities backed by collateral:

Rating of Securities: <sup>(1)</sup>	Collateral Type:	Level 2	Level 3	Total
		(in millions)		
AAA -A	Home equity - Alt A.....	61	—	61
	Other .....	—	105	105
	Total AAA -A.....	<u>\$ 61</u>	<u>\$ 105</u>	<u>\$ 166</u>

<sup>(1)</sup> We utilize S&P as the primary source of credit ratings in the tables above. If S&P ratings are not available, ratings by Moody's and Fitch are used in that order. Ratings for collateralized debt obligations represent the ratings associated with the underlying collateral.

*Derivatives* – Derivatives are recorded at fair value. Asset and liability positions in individual derivatives that are covered by legally enforceable master netting agreements, including receivables (payables) for cash collateral posted (received), are offset and presented net in accordance with accounting principles which allow the offsetting of amounts.

Derivatives traded on an exchange are valued using quoted prices. OTC derivatives, which comprise a majority of derivative contract positions, are valued using valuation techniques. The fair value for the majority of our derivative instruments are determined based on internally developed models that utilize independently corroborated market parameters, including interest rate yield curves, option volatilities, and currency rates. For complex or long-dated derivative products where market data is not available, fair value may be affected by the underlying assumptions about, among other things, the timing of cash flows, expected exposure, probability of default and recovery rates. The fair values of certain structured derivative products are sensitive to unobservable inputs such as default correlations of the referenced credit and volatilities of embedded options. These estimates are susceptible to significant change in future periods as market conditions change.

We use the OIS curves as inputs to measure the fair value of collateralized derivatives. Historically, we valued uncollateralized derivatives by discounting expected future cash flows at a benchmark interest rate, typically LIBOR or its equivalent. In line with evolving industry practice, we changed this approach during 2014. We now view the OIS curve as the base discounting curve for all derivatives, both collateralized and uncollateralized, and have adopted a FFVA to reflect the estimated present value of the future market funding cost or benefit associated with funding uncollateralized derivative exposure at rates other than the OIS rate. This is an area in which a full industry consensus has not yet emerged. We will continue to monitor industry evolution and refine the calculation methodology as necessary.

Significant inputs related to derivative classes are broken down as follows:

- Credit Derivatives – Use credit default curves and recovery rates which are generally provided by broker quotes and various pricing services. Certain credit derivatives may also use correlation inputs in their model valuation. Correlation is derived using market quotes from brokers and various pricing services.
- Interest Rate Derivatives – Swaps use interest rate curves based on currency that are actively quoted by brokers and other pricing services. Options will also use volatility inputs which are also quoted in the broker market.
- Foreign Exchange ("FX") Derivatives – FX transactions, to the extent possible, use spot and forward FX rates which are quoted in the broker market. Where applicable, we also use implied volatility of currency pairs as inputs.
- Equity Derivatives – Use listed equity security pricing and implied volatilities from equity traded options position.
- Precious Metal Derivatives – Use spot and forward metal rates which are quoted in the broker market.

As discussed earlier, we make fair value adjustments to model valuations in order to ensure that those values represent appropriate estimates of fair value. These adjustments, which are applied consistently over time, are generally required to reflect factors such as bid-ask spreads and counterparty credit risk that can affect prices in arms-length transactions with unrelated third parties. Such adjustments are based on management judgment and may not be observable.

We estimate the counterparty credit risk for financial assets and own credit standing for financial liabilities (the "credit risk adjustments") in determining the fair value measurement. For derivative instruments, we calculate the credit risk adjustment by applying the probability of default of the counterparty to the expected exposure, and multiplying the result by the expected loss given default. We also take into consideration the risk mitigating factors including collateral agreements and master netting agreements in determining credit risk adjustments. We estimate the implied probability of default based on the credit spread of the specific counterparty observed in the credit default swap market. Where credit default spread of the counterparty is not available, we use the credit default spread of a specific proxy (e.g. the credit default swap spread of the counterparty's parent). Where specific proxy credit default swap is not available, we apply a blended approach based on a combination of credit default swaps referencing to credit names of similar credit standing and the historical rating-based probability of default.

*Real estate owned* - Fair value is determined based on third party appraisals obtained at the time we take title to the property and, if less than the carrying amount of the loan, the carrying amount of the loan is adjusted to the fair value. The carrying amount of the property is further reduced, if necessary, at least every 45 days to reflect observable local market data, including local area sales data.

*Mortgage servicing rights* - We elected to measure residential mortgage servicing rights at fair value and classified them as intangible assets at December 31, 2015. Fair value for the residential mortgage servicing rights was determined based on an option adjusted approach which involves discounting servicing cash flows under various interest rate projections at risk-adjusted rates. The valuation model also incorporated our best estimate of the prepayment speed of the mortgage loans, cost to service and discount rates which are unobservable. During the fourth quarter of 2016, we sold our remaining residential mortgage servicing rights portfolio to a third party.

*Structured notes and deposits* – Structured notes and deposits are hybrid instruments containing embedded derivatives and are elected to be measured at fair value in their entirety under fair value option accounting principles. The valuation of hybrid instruments is predominantly driven by the derivative features embedded within the instruments and own credit risk. The valuation of embedded derivatives may include significant unobservable inputs such as correlation of the referenced credit names or volatility of the embedded option. Cash flows of the funded notes and deposits in their entirety, including the embedded derivatives, are discounted at the relevant interest rates for the duration of the instrument adjusted for our own credit spreads. The credit spreads so applied are determined with reference to our own debt issuance rates observed in primary and secondary markets, internal funding rates, and the structured note rates in recent executions.

*Long-term debt* – We elected to apply fair value option to certain own debt issuances for which fair value hedge accounting otherwise would have been applied. These own debt issuances elected under FVO are traded in secondary markets and, as such, the fair value is determined based on observed prices for the specific instrument. The observed market price of these instruments reflects the effect of our own credit spreads. The credit spreads applied to these instruments were derived from the spreads at the measurement date.

For long-term debt recorded at cost, fair value is determined based on quoted market prices where available. If quoted market prices are not available, fair value is based on dealer quotes, quoted prices of similar instruments, or internally developed valuation models adjusted for own credit risks.

*Deposits* – For fair value disclosure purposes, the carrying amount of deposits with no stated maturity (e.g., demand, savings, and certain money market deposits), which represents the amount payable upon demand, is considered to generally approximate fair value. For deposits with stated maturities, fair value is estimated by discounting cash flows using market interest rates currently offered on deposits with similar characteristics and maturities.

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## 27. *Litigation and Regulatory Matters*

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In addition to the matters described below, in the ordinary course of business, we are routinely named as defendants in, or as parties to, various legal actions and proceedings relating to activities of our current and/or former operations. These legal actions and proceedings may include claims for substantial or indeterminate compensatory or punitive damages, or for injunctive relief. In the ordinary course of business, we also are subject to governmental and regulatory examinations, information-gathering requests, investigations and proceedings (both formal and informal), certain of which may result in adverse judgments, settlements, fines, penalties, injunctions or other relief. In connection with formal and informal inquiries by these regulators, we receive numerous requests, subpoenas and orders seeking documents, testimony and other information in connection with various aspects of our regulated activities.

In view of the inherent unpredictability of legal matters, including litigation, governmental and regulatory matters, particularly where the damages sought are substantial or indeterminate or when the proceedings or investigations are in the early stages, we cannot determine with any degree of certainty the timing or ultimate resolution of such matters or the eventual loss, fines, penalties or business impact, if any, that may result. We establish reserves for litigation, governmental and regulatory matters when those matters present loss contingencies that are both probable and can be reasonably estimated. Once established, reserves are adjusted from time to time, as appropriate, in light of additional information. The actual costs of resolving litigation and regulatory matters, however, may be substantially higher than the amounts reserved for those matters.

For the legal matters disclosed below, including litigation and governmental and regulatory matters, as to which a loss in excess of accrued liability is reasonably possible in future periods and for which there is sufficient currently available information on the basis of which management believes it can make a reliable estimate, we believe a reasonable estimate could be as much as \$390 million for HUSI. The legal matters underlying this estimate of possible loss will change from time to time and actual results may differ significantly from this current estimate.

Based on the facts currently known, in respect of each of the below investigations, it is not practicable at this time for us to determine the terms on which these ongoing investigations will be resolved or the timing of such resolution. As matters progress, it is possible that any fines and/or penalties could be significant.

Given the substantial or indeterminate amounts sought in certain of these matters, and the inherent unpredictability of such matters, an adverse outcome in certain of these matters could have a material adverse effect on our consolidated financial statements in any particular quarterly or annual period.

*Credit Card Litigation* Since June 2005, HSBC Bank USA, HSBC Finance, HSBC North America and HSBC, as well as other banks and Visa Inc. ("Visa") and MasterCard Incorporated ("MasterCard"), had been named as defendants in a number of consolidated merchant class actions and individual merchant actions had been filed against Visa and MasterCard, alleging that the imposition of a no-surcharge rule by the associations and/or the establishment of the interchange fee charged for credit card transactions causes the merchant discount fee paid by retailers to be set at supracompetitive levels in violation of the federal antitrust laws. *In re Payment Card Interchange Fee and Merchant Discount Antitrust Litigation*, MDL 1720, E.D.N.Y. ("MDL 1720"). In 2011, MasterCard, Visa, the other defendants, including HSBC Bank USA, and certain affiliates of the defendants entered into settlement and judgment sharing agreements (the "Sharing Agreements") that provide for the apportionment of certain defined costs and liabilities that the defendants, including HSBC Bank USA and our affiliates, may incur, jointly and/or severally, in the event of an adverse judgment or global settlement of one or all of these actions. The district court granted final approval of the class settlement in December 2013 and entered the Class Settlement Order and final judgment dismissing the class action shortly thereafter.

In June 2016, the U.S. Court of Appeals for the Second Circuit issued a decision vacating class certification and approval of the class settlement in *In re Payment Card Interchange Fee and Merchant Discount Antitrust Litigation*, MDL 1720 (E.D.N.Y.), concluding the class was inadequately represented by their counsel in violation the Federal Rule of Civil Procedure governing class actions as well as the Due Process Clause of the U.S. Constitution. Specifically, the Court held that there was a conflict between two different but overlapping settlement classes: (1) a so-called opt-out class, which permitted individual class members to forgo their share of the monetary relief and pursue individual claims; and (2) a non-opt-out class of merchants, including future merchants that do not currently exist, which provided injunctive relief mainly in the form of a rule change by Visa and MasterCard to allow merchants to surcharge card transactions until July 20, 2021. Plaintiffs filed a petition for writ of certiorari with the U.S. Supreme Court on November 23, 2016 seeking review of the Court of Appeals decision.

Numerous merchants objected and/or opted out of the settlement during the exclusion period. Various opt-out merchants have filed opt-out suits in either state or federal court, most of which have been transferred to the consolidated multidistrict litigation, MDL 1720. To date, certain groups of opt-out merchants have entered into settlement agreements with the defendants in those actions and certain HSBC entities that, pursuant to the MDL 1720 Sharing Agreements, are responsible for a *pro rata* portion of any judgment or settlement amount awarded in actions consolidated into MDL 1720.

*Salveson v. JPMorgan Chase et al.* (N.D.Cal. No. 13-CV-5816) was filed in December 2013, against HSBC Bank USA, HSBC North America, HSBC Finance, and HSBC, as well as other banks. This putative class action was filed in the U.S. District Court for the Northern District of California. The complaint asserts federal and California state antitrust claims on behalf of a putative class composed of all Visa and MasterCard cardholders in the United States. The substantive allegations regarding defendants' conduct parallel the merchant claims in MDL 1720. Unlike the merchant suits, however, the *Salveson* complaint alleges that cardholders pay the interchange fee charged for credit card transactions, not merchants, and that card holders were therefore injured by the alleged anticompetitive conduct. In June 2014, the Judicial Panel on Multidistrict Litigation transferred the case to the Eastern District of New York for consolidation with MDL 1720. In November 2014, the court granted defendants' motion to dismiss.

The U.S. Court of Appeals for the Second Circuit affirmed the district court's dismissal of the action in October 2016. Plaintiff has filed a motion for rehearing *en banc*.

*DeKalb County, et al. v. HSBC North America Holdings Inc., et al.* In October 2012, three of the five counties constituting the metropolitan area of Atlanta, Georgia, filed a lawsuit pursuant to the Fair Housing Act against HSBC North America and numerous subsidiaries, including HSBC Finance and HSBC Bank USA, in connection with residential mortgage lending, servicing and financing activities. In the action, captioned *DeKalb County, Fulton County, and Cobb County, Georgia v. HSBC North America Holdings Inc., et al.* (N.D. Ga. No. 12-CV-03640), the plaintiff counties assert that the defendants' allegedly discriminatory lending and servicing practices led to increased loan delinquencies, foreclosures and vacancies, which in turn caused the plaintiff counties to incur damages in the form of lost property tax revenues and increased municipal services costs, among other damages. In March 2015, the court denied the HSBC defendants' motion for summary judgment. In November 2015, the HSBC defendants' motion for reconsideration of that decision was granted in part, and the court reversed certain aspects of its March 2015 decision.

This matter has been stayed pending U.S. Supreme Court review of the U.S. Court of Appeals for the Eleventh Circuit decision reversing motions to dismiss two similar cases filed against other lenders in *City of Miami v Bank of America Corp. & Wells Fargo & Co.*

*County of Cook v HSBC North America Holdings Inc., et al.* (N.D. Ill. Case No. 1:14-cv-2031). In March 2014, Cook County, Illinois (the county in which the city of Chicago is located) filed an action pursuant to the Fair Housing Act against HSBC North America and certain subsidiaries that is substantially similar to the lawsuit filed by the counties of DeKalb, Fulton and Cobb in Georgia. In this action, as in *DeKalb County, et al. v. HSBC North America Holdings Inc., et al.*, the plaintiff asserts that the defendants' allegedly discriminatory lending and servicing practices led to increased loan delinquencies, foreclosures and vacancies, which in turn caused the plaintiff to incur damages in the form of lost property tax revenues and increased municipal services costs, among other damages. An amended complaint was filed in March 2014. In September 2015, the court denied the HSBC defendants' motion to dismiss the amended complaint.

This matter has been stayed pending U.S. Supreme Court review of the U.S. Court of Appeals for the Eleventh Circuit decision reversing motions to dismiss two similar cases filed against other lenders in *City of Miami v Bank of America Corp. & Wells Fargo & Co.*

#### *Credit Default Swap Matters*

HSBC Bank USA, and HSBC Bank plc have been named as defendants, among others, in numerous putative class actions relating to credit default swaps. These actions allege that the defendants, which include the International Swaps and Derivatives Association, Inc., Markit Group Ltd. and several financial institutions, conspired to restrain trade in violation of the federal antitrust laws by, among other things, restricting access to credit default swap pricing exchanges and blocking new entrants into the exchange market, with the purpose and effect of artificially inflating the bid/ask spread paid to buy and sell credit default swaps in the United States. In October 2013, the Judicial Panel on Multi-district Litigation ordered that all cases be consolidated in the Southern District of New York as *In re Credit Default Swaps Antitrust Litigation*, MDL No. 2476. In September 2015, the HSBC defendants settled the action for a total payment of \$25 million. HSBC Bank USA's portion of the settlement is \$12.5 million. The court granted final approval of the settlement in April 2016.

#### *Interest Rate Swaps Litigation*

HSBC Bank USA, HSI, and HSBC Bank plc have been named as defendants, among others, in a putative class action brought in the U.S. District Court for the Southern District of New York relating to interest rate swaps. The action alleges that the defendants conspired to restrain trade in violation of the federal anti-trust laws by, among other things, restricting access to interest rate swap pricing exchanges and blocking new entrants into the exchange market, with the purpose and effect of artificially inflating the bid/ask spread paid to buy and sell interest rate swaps in the United States.

In June 2016, the Judicial Panel on Multi-district Litigation ordered the cases be consolidated as *In re Interest Rate Swaps Antitrust Litigation* in the U.S. District Court for the Southern District of New York. In January 2017, the dealer defendants, including HSBC, moved to dismiss the complaint.

### *Foreign Exchange ("FX") Matters*

*U.S. Litigation* Since December 2013 HSBC, HSBC Bank plc, HSBC North America and HSBC Bank USA have been named as defendants, among others, in several putative class actions filed in the U.S. District Court for the Southern District of New York. In March 2014, plaintiffs filed an amended consolidated complaint naming HSBC, HSBC Bank plc, HSBC North America and HSBC Bank USA, among others, as defendants. The amended consolidated complaint alleges, among other things, that defendants conspired to manipulate the WM/Reuters foreign currency rates by sharing customers' confidential order flow information, thereby injuring plaintiffs and others by forcing them to pay artificial and non-competitive prices for products based off these foreign currency rates (the "Consolidated Action").

The HSBC defendants settled the Consolidated Action in September 2015 for a total payment of \$285 million. HSBC Bank USA's portion of the settlement is \$14.25 million and was settled within reserves. The court granted preliminary approval of the settlement in December 2015. The final settlement approval hearing is scheduled for October 2017.

In addition to the above actions, a putative class action was filed in the New York District Court making similar allegations on behalf of ERISA plan participants, and another one was filed on behalf of retail customers in California District Court. In September 2016, a new lawsuit alleging federal and state antitrust claims was filed in the U.S. District Court for the Southern District of New York by "indirect" FX purchasers who invested in funds that engaged in FX-related transactions. The action purports to assert claims for New York and California sub-classes under state law and has been assigned to the judge overseeing the pending FX class action settlement. These actions are in early stages.

*Canada Litigation* In September 2015, two putative class action complaints were filed in the Superior Courts of Justice, provinces of Ontario and Quebec, Canada, against, among others, HSBC, HSBC Bank plc, HSBC North America, HSBC Bank USA and HSBC Bank Canada. The complaints allege, among other things, that defendants conspired to fix the supply and rates of currency in the foreign currency market by sharing confidential customer information and coordinating trading to control or manipulate key rates. These actions are in early stages.

HSBC and certain of its affiliates, including HSBC Bank USA, along with a number of other firms, are being investigated by several law enforcement and/or regulatory agencies in various countries in relation to trading on the foreign exchange market. We are cooperating with the investigations. In May 2015, the DOJ resolved its ongoing investigations against five non-HSBC financial institutions, resulting in four pleading guilty to a criminal charge for collusive efforts to influence foreign exchange benchmark rates and agreeing to pay criminal fines of more than \$2.5 billion. Additional penalties were imposed by the FRB at the same time. HSBC Bank USA was not a party to these resolutions. In November 2014, HSBC reached settlements with the U.K. Financial Conduct Authority ("FCA") and the U.S. Commodity Futures Trading Commission. HSBC Bank USA was not parties to those settlements. The investigations involving HSBC Bank USA continue.

### *Precious Metals Fix Matters*

*In re Commodity Exchange Inc., Gold Futures and Options Trading Litigation (Gold Fix Litigation)* Since March 2014, numerous putative class actions have been filed in the Southern District of New York and the Northern District of California naming as defendants HSBC USA, HSI, HSBC and HSBC Bank plc, in addition to other members of the London Gold Fix. The complaints allege that from around January 1, 2004 to the present, defendants conspired to manipulate the price of gold and gold derivatives during the afternoon London Gold Fix in order to reap profits on proprietary trades. The actions have been transferred to and centralized in the U.S. District Court for the Southern District of New York. An amended and consolidated complaint was filed in December 2014, and defendants filed their consolidated response thereto in February 2015. Plaintiffs filed a second consolidated amended complaint in March 2015.

Defendants filed a motion to dismiss the second amended consolidated complaint in April 2015, and the motion was granted in part and denied in part in October 2016. Plaintiffs have filed a motion for leave to file a third amended and consolidated complaint, which motion is pending.

*In re London Silver Fixing, Ltd. Antitrust Litigation (Silver Fix Litigation)* In July 2014, putative class actions were filed in the U.S. District Court for the Southern and Eastern Districts of New York naming HSBC, HSBC Bank plc, HSBC Bank USA and the other members of The London Silver Market Fixing Ltd as defendants. The complaints allege that, from January 1999 to the present, defendants conspired to manipulate the price of physical silver and silver derivatives for their collective benefit in violation of the U.S. Commodity Exchange Act and U.S. antitrust laws. The actions have been transferred to and centralized in the U.S. District Court for the Southern District of New York. Plaintiffs filed a consolidated amended complaint in January 2015, which defendants moved to dismiss in March 2015. In response thereto, plaintiffs filed a second amended consolidated complaint in April 2015.

Defendants filed a motion to dismiss the second amended consolidated complaint in May 2015, and the motion was granted in part and denied in part in October 2016. Plaintiffs have filed a motion for leave to file a third amended and consolidated complaint, which motion is pending.

*Platinum and Palladium Fix Litigation* Since November 2014, several putative class actions have been filed in the U.S. District Court for the Southern District of New York naming as defendants members of The London Platinum and Palladium Fixing Company (the "Platinum Group Metals or PGM Fixing"), including HSBC Bank USA, BASF Metals Limited, Goldman Sachs International and Standard Bank, plc. The complaints allege that, from January 2008 to the present, defendants conspired to manipulate the benchmark prices for physical Platinum Group Metals ("PGM") and PGM-based financial products. Plaintiffs filed a second amended consolidated complaint in August 2015. Defendants' motion to dismiss the second amended consolidated complaint was filed in September 2015. That motion is fully briefed.

*Canada Litigation* In December 2015 a putative class action was filed in the Superior Court of Justice, Ontario Province, Canada, against, among others, HSBC, HSBC Bank plc, HSBC USA, HSBC Securities, HSBC Bank Canada and HSBC Securities Canada. The claim alleges, among other things, that defendants conspired to manipulate the price of gold and gold derivatives during the London Gold Fix. The action is at an early stage.

In April 2016 two putative class actions were filed in the Superior Courts in the Provinces of Ontario and Quebec, Canada, against, among others, HSBC, HSBC Bank plc, HSBC USA, HSI, HSBC Bank Canada and HSBC Securities Canada. The claims allege, among other things, that defendants conspired to manipulate the price of silver and silver derivatives during the London Silver Fix. The Ontario action is at an early stage. The Quebec action has been temporarily stayed.

*Precious Metals Investigation* HSBC and certain of its affiliates, including HSBC Bank USA, along with a number of other firms, are being investigated by several law enforcement and/or regulatory agencies in various countries in relation to precious metals trading. In November 2014, the DOJ issued a document request to HSBC seeking a voluntary production of documents relating to a criminal investigation the DOJ is conducting in relation to potential anti-competitive and manipulative conduct in precious metals trading. In January 2016, the DOJ Antitrust Division informed the Bank that it was closing its investigation but the Fraud Section's investigation remains ongoing. We are cooperating with the investigations.

#### *Madoff Litigation*

In December 2008, Bernard L. Madoff ("Madoff") was arrested and ultimately pleaded guilty to running a Ponzi scheme and a trustee was appointed for the liquidation of his firm, Bernard L. Madoff Investment Securities LLC ("Madoff Securities"), an SEC-registered broker-dealer and investment adviser. Various non-U.S. HSBC companies provided custodial, administration and similar services to a number of funds incorporated outside the United States whose assets were invested with Madoff Securities. Plaintiffs (including funds, funds investors and the Madoff Securities trustee, as described below) have commenced Madoff-related proceedings against numerous defendants arising out of Madoff Securities' fraud.

In December 2010, the Madoff Securities trustee commenced suits against various HSBC companies in the U.S. Bankruptcy Court and in the English High Court. The Madoff Securities trustee filed a suit in the U.S. captioned *Picard v. HSBC et al* (Bankr S.D.N.Y. No. 09-01364), which also names certain funds, investment managers, and other entities and individuals, against HSBC Bank USA and certain of our foreign affiliates. The trustee's claims seek recovery of prepetition transfers pursuant to U.S. bankruptcy law. The amount of these claims has not been pleaded or determined as against HSBC. In November 2016, the U.S. Bankruptcy Court granted the motion to dismiss with respect to certain of the trustee's claims filed by numerous defendants, including a number of foreign affiliates of HSBC Bank USA. In December 2016, the U.S. Bankruptcy Court entered an order dismissing the cross-claims of Alpha Prime Fund Limited and Senator Fund SPC. The time to appeal the dismissal has now passed.

The trustee's English action, which names HSBC Bank USA and other HSBC entities as defendants, seeks recovery of unspecified transfers of money from Madoff Securities to or through HSBC. The trustee's deadline for serving the claims has been extended through September 2017 for the U.K.-based defendants and November 2017 for all other defendants.

A few actions were filed against HSBC Bank USA and other HSBC entities beginning in December 2014, asserting common law claims by direct investors in Madoff or entities related to Madoff. *Stephen and Leyla Hill, et al. v. HSBC Bank plc, et al.* (Case No. 14-CV-9745(LTS)) was dismissed by the U.S. District Court for the Southern District of New York on the HSBC defendants' motion to dismiss in September 2016, and plaintiffs did not appeal the decision.

SPV Optimal SUS Ltd. ("SPV Optimal"), the purported assignee of Madoff Securities-invested Optimal Strategic U.S. Equity Ltd. filed an action in December 2014 in New York state court asserting common law claims for aiding and abetting breach of fiduciary duty, aiding and abetting conversion, aiding and abetting fraud and knowing participation in a breach of trust and seeks to recover damages lost to Madoff's fraud. (*SPV OSUS Ltd. v. HSBC Bank plc, et al.*, Case No. 162259/2014).

In May 2015, two investors in the Hermes International Fund Limited filed an action in U.S. District Court for the Southern District of New York against HSBC entities, including HSBC Bank USA. Plaintiffs assert claims against several HSBC entities for (i) breach of fiduciary duty; (ii) aiding and abetting breach of fiduciary duty; (iii) aiding and abetting embezzlement; (iv) aiding and abetting fraud; (v) negligent misrepresentations; and (vi) unjust enrichment and seek damages of not less than \$8 million. (*Hau Yin To v. HSBC Bank plc, et al.* (15-cv-3590)). Defendants filed a motion to dismiss in January 2016, and the motion is fully briefed.

Beginning in October 2009, Fairfield Sentry Limited, Fairfield Sigma Limited and Fairfield Lambda Limited ("Fairfield"), funds whose assets were directly or indirectly invested with Madoff Securities, commenced multiple suits in the British Virgin Islands

("BVI") and the United States against numerous fund shareholders, including various HSBC companies that acted as nominees for clients of HSBC's private banking business and other clients who invested in the Fairfield funds, seeking restitution of payments made in connection with share redemptions. In March 2016, the BVI court denied a motion filed by other defendants challenging the Fairfield liquidators' authorization to pursue claims in the United States. The Fairfield liquidators voluntarily discontinued their actions against the HSBC defendants in BVI. In October 2016, the Fairfield liquidators filed a motion seeking leave to amend their complaints in the U.S. Bankruptcy Court. In January 2017, defendants filed a consolidated motion to dismiss and opposition to the Fairfield liquidators' motion seeking leave to amend.

There are many factors that may affect the range of possible outcomes, and the resulting financial impact, of the various Madoff-related proceedings including, but not limited to, the circumstances of the fraud, the multiple jurisdictions in which proceedings have been brought and the number of different plaintiffs and defendants in such proceedings. The timing and resolution of these matters remains uncertain. It is possible that any liabilities that may arise as a result could be significant. In any event, we consider that we have good defenses to these claims and will continue to defend them vigorously.

#### *Benchmark Rate Litigation*

HSBC USA and/or HSBC Bank USA are among several defendants in lawsuits filed by the following plaintiffs seeking unspecified damages arising from the alleged artificial suppression of U.S. dollar LIBOR rates: (1) the Federal Home Loan Mortgage Corporation; (2) two mutual funds managed by Prudential Investment Portfolios; (3) the FDIC, in its role as receiver for several failed banks; and (4) the National Credit Union Administration Board, in its capacity as liquidator for several failed credit unions. The other defendants are members of the U.S. dollar LIBOR panel of banks and their affiliates. These actions are part of the U.S. dollar LIBOR Multi-District Litigation proceeding pending in the U.S. District Court for the Southern District of New York (*In re LIBOR-Based Financial Instruments Antitrust Litigation*). HSBC and HSBC Bank plc are defendants in that proceeding as well. The stay previously imposed by the court on the individual actions was lifted in 2014. Plaintiffs subsequently filed amended complaints. Defendants moved to dismiss the amended complaints in November 2014, and a hearing on the motion was held in February 2015. In December 2016, the court issued a ruling in which it (i) dismissed all anti-trust claims against foreign defendant banks for lack of personal jurisdiction; (ii) dismissed the class action brought on behalf of purchasers of corporate bonds not issued by a defendant bank but which paid interest linked to LIBOR ("Bondholder claim") for lack of efficient enforcer status; and (iii) sustained portions of all remaining anti-trust claims. The decision also contemplates further additional motions to dismiss the individual actions, including the actions against HSBC USA and HSBC Bank USA.

In September and October 2014, HSBC Bank plc and other panel banks were named as defendants in a number of putative class actions that were filed and consolidated in the New York District Court on behalf of persons who transacted in interest rate derivative transactions or purchased or sold financial instruments that were either tied to U.S. dollar International Swaps and Derivatives Association fix ("ISDAfix") rates or were executed shortly before, during, or after the time of the daily ISDAfix setting window. The complaint alleges, among other things, misconduct related to these activities in violation of federal antitrust laws, the Commodity Exchange Act and state law. In October 2014, the plaintiffs filed a consolidated amended complaint, and in February 2015 filed a second consolidated amended complaint substituting HSBC Bank USA for HSBC Bank plc as the only named HSBC Group defendant.

In March 2016, defendants' motion to dismiss the second consolidated complaint was denied.

HSBC Bank USA, HSBC, HSBC USA, HSBC North America and the Hongkong and Shanghai Banking Corporation Limited have been named as defendants, among others, in a putative class action brought in the U.S. District Court for the Southern District of New York on behalf of persons who transacted in products tied to the Singapore Interbank Offering Rate ("SIBOR") or Singapore Swap Offer Rate ("SOR") between January 1, 2007 and December 31, 2011. The complaint, captioned *Frontpoint Asian Event Driven Fund, L.P., et al. v Citibank, N.A., et al.* (Case No. 15-cv-05263), alleges that the defendant banks colluded to rig SIBOR and SOR by collusively making false SIBOR submissions and entering into collusive transactions directly in the swaps market, thereby fixing the prices of SIBOR and SOR based derivatives for their collective financial benefits. The defendants are accused of illegal restraint of trade in violation of the Sherman Act, violation of the Racketeer Influenced and Corrupt Organizations Act ("RICO"), and unjust enrichment. This matter is at a very early stage.

#### *Mortgage Securitization Matters*

In addition to the repurchase risk described in Note 25, "Guarantee Arrangements, Pledged Assets and Repurchase Agreements," HSBC Bank USA has also been involved as a sponsor/seller of loans used to facilitate whole loan securitizations underwritten by HSI. During 2005-2007, HSBC Bank USA purchased and sold \$24 billion of whole loans to HSI which were subsequently securitized and sold by HSI to third parties. The outstanding principal balance on these loans was approximately \$4.6 billion and \$5.2 billion at December 31, 2016 and 2015, respectively.

Participants in the U.S. mortgage securitization market that purchased and repackaged whole loans have been the subject of lawsuits and governmental and regulatory investigations and inquiries, which have been directed at groups within the U.S. mortgage market, such as servicers, originators, underwriters, trustees or sponsors of securitizations, and at particular participants within these groups. We expect activity in this area to continue. As a result, we may be subject to additional claims, litigation and governmental and

regulatory scrutiny related to our participation in the U.S. mortgage securitization market, either individually or as a member of a group. As the industry's residential mortgage foreclosure issues continue, HSBC Bank USA has taken title to a number of foreclosed homes as trustee on behalf of various securitization trusts. As nominal record owner of these properties, HSBC Bank USA has been sued by municipalities and tenants alleging various violations of law, including laws regarding property upkeep and tenants' rights. While we believe and continue to maintain that the obligations at issue and any related liability are properly those of the servicer of each trust, we continue to receive significant and adverse publicity in connection with these and similar matters, including foreclosures that are serviced by others in the name of "HSBC, as trustee."

HSBC Bank USA and certain of our affiliates have been named as defendants in a number of actions in connection with residential mortgage-backed securities ("RMBS") offerings, which generally allege that the offering documents for securities issued by securitization trusts contained material misstatements and omissions, including statements regarding the underwriting standards governing the underlying mortgage loans.

In November 2013, Deutsche Bank National Trust Company ("DBNTC"), as Trustee of HASCO 2007-NC1, served a complaint that followed a summons with notice previously filed in New York County Supreme Court, State of New York, naming HSBC Bank USA as the sole defendant. The complaint alleges that DBNTC brought the action at the direction of certificateholders of the Trust, seeking specific performance and/or damages of at least \$508 million arising out of the alleged breach of various representations and warranties made by HSBC Bank USA in the applicable pooling and servicing agreement regarding certain characteristics of the mortgage loans contained in the Trust. In October 2014, the court granted HSBC Bank USA's motion to dismiss, without prejudice, and with leave to replead. Plaintiff filed an amended complaint which HSBC Bank USA moved to dismiss, and that motion was denied in November 2015. HSBC Bank USA appealed the decision.

Since 2010, various HSBC entities have received subpoenas and requests for information from the DOJ and the Massachusetts state Attorney General seeking the production of documents and information regarding HSBC's involvement in certain RMBS transactions as an issuer, sponsor, underwriter, depositor, trustee, custodian or servicer. In November 2014, HSBC North America, on behalf of itself and various subsidiaries including, but not limited to, HSBC Bank USA, HSI Asset Securitization Corp., HSI, HSBC Mortgage Corporation (USA), HSBC Finance and Decision One Mortgage Company LLC, received a subpoena from the U.S. Attorney's Office for the District of Colorado, pursuant to the Financial Industry Reform, Recovery and Enforcement Act ("FIRREA"), concerning the origination, financing, purchase, securitization and servicing of subprime and non-subprime residential mortgages.

We continue to cooperate with the DOJ's investigation, which is at or nearing completion. In December 2016, we had an initial discussion with the DOJ, wherein the DOJ stated its preliminary view that we are subject to liability under FIRREA in connection with certain securitizations from 2005 to 2007 with respect to which HSBC Bank USA served as sponsor or seller of loans and HSI served as underwriter. We disagree with the DOJ's preliminary view, and the DOJ has offered us an opportunity to respond. There can be no assurance as to how or when this matter will be resolved, or whether this matter will be resolved prior to the institution of formal legal proceedings by the DOJ. Moreover, it is possible that any such resolution could result in significant penalties and other costs. To date, at least one bank has been sued by the DOJ and at least eight other banks have reported settlements of mortgage-backed securities-related matters pursuant to FIRREA. The prior DOJ settlements provide no clear guidance as to how those individual settlement amounts were calculated, and due to the high degree of uncertainty involved, it is not practicable to estimate any possible financial effect of this matter, which could be significant. However, we note that the scale of our mortgage securitization activities was more limited in relation to a number of other banks in the industry.

We expect the focus on mortgage securitizations to continue and may be subject to additional claims, litigation and governmental or regulatory scrutiny relating to its participation in the U.S. mortgage securitization market.

*Residential Funding Litigation* In December 2013, Residential Funding Company, LLC ("RFC") filed an action against HSBC Mortgage in Minnesota state court relating to alleged losses RFC suffered as a result of its purchase of approximately 8,800 mortgage loans from HSBC Mortgage between 1986 and 2007. The action subsequently was removed and transferred to the U.S. District Court for the Southern District of New York ("S.D.N.Y.") and then referred to the Bankruptcy Court for the S.D.N.Y. for disposition in connection with RFC's pending bankruptcy action. *Residential Funding Co. v. HSBC Mortg. Corp. (USA)*, Adv. Proc. No. 14-01915(MG). An amended complaint was subsequently filed with Rescap Liquidating Trust, as successor to RFC f/ k/a Residential Funding Corporation as the named plaintiff. RFC alleges claims for breach of contract for alleged breach of representations and warranties concerning the quality and characteristics of the mortgage loans and contractual indemnification for alleged losses incurred by RFC arising out of purported defects in loans that RFC purchased from HSBC Mortgage and subsequently sold to third parties. In February 2015, the court granted in part and denied in part HSBC Mortgage's motion to dismiss. The court dismissed breach of contract claims relating to loans purchased before May 14, 2006 on statute of limitations grounds but allowed other claims to proceed. Discovery is proceeding.

*Mortgage Securitization Trust Litigation* Since June 2014, Plaintiff-Investors in 280 RMBS trusts (the "Trusts") have sued HSBC Bank USA, as mortgage securitization trustee, in eight separate cases: BlackRock et al., Royal Park Investments SA/NV ("RPI"), Phoenix Light SF Limited ("Phoenix Light"), the National Credit Union Administration Board, as Liquidating Agent ("NCUA"),

Commerzbank AG, Triaxx, IKB Bank AG ("IKB"), and the Western and Southern Life Insurance Company ("Western & Southern"). The first six cases have been deemed related and are assigned to the same judge in the U.S. District Court for the Southern District of New York ("SDNY"). The Western & Southern case was filed in March 2015 in state court in Hamilton County, Ohio. The IKB complaint was filed in Supreme Court, New York County, New York State Court. The lawsuits were brought derivatively on behalf of the Trusts, but some also seek class relief. The complaints allege generally that the Trusts have collectively sustained losses in collateral value of approximately \$38 billion and seek to recover unspecified damages as a result of alleged breach of contract; breach of the federal Trust Indenture Act and New York's Streit Act; tort claims such as negligence, negligent misrepresentation, conflict of interest and breach of fiduciary duty. Similar lawsuits were filed simultaneously against other non-HSBC financial institutions that similarly served as mortgage securitization trustees. HSBC filed a motion to dismiss the cases consolidated in the SDNY which the court granted in part and denied in part. HSBC also filed a motion to dismiss the Western & Southern complaint, which the court denied. HSBC has moved to dismiss the IKB complaint. These matters are in early stages. The Federal Home Loan Bank of Topeka ("FHLB Topeka") filed a Summons with Notice against HSBC in June 2014 in New York State Supreme Court for New York County, which was stayed indefinitely until FHLB Topeka voluntarily dismissed the case with prejudice in March 2016.

#### *Foreclosure Practices*

In 2011, HSBC Bank USA entered into a consent cease and desist order with the OCC (the "OCC Servicing Consent Order") and our affiliate, HSBC Finance, and our common indirect parent, HSBC North America, entered into a similar consent order with the FRB (together with the OCC Servicing Consent Order, the "Servicing Consent Orders") following completion of a broad horizontal review of industry foreclosure practices. The OCC Servicing Consent Order required HSBC Bank USA to take prescribed actions to address the foreclosure practice deficiencies noted in the joint examination and described in the consent order.

The Servicing Consent Orders also required an independent review of foreclosures (the "Independent Foreclosure Review" or "IFR") pending or completed between January 2009 and December 2010 to determine if any borrower was financially injured as a result of an error in the foreclosure process. As required by the Servicing Consent Orders, an independent consultant was retained to conduct that review. In 2013, HSBC Bank USA entered into an agreement with the OCC, and HSBC Finance and HSBC North America entered into an agreement with the FRB (together the "IFR Settlement Agreements") to amend the Servicing Consent Orders, pursuant to which the Independent Foreclosure Review ceased and was replaced by a broader framework under which we and twelve other participating servicers provided, in the aggregate, in excess of \$9.3 billion in cash payments and other assistance to help eligible borrowers. Pursuant to the IFR Settlement Agreements, HSBC North America made a cash payment of \$96 million into a fund used to make payments to borrowers that were in active foreclosure during 2009 and 2010 and agreed to provide other assistance (e.g., loan modifications) to help eligible borrowers. As a result, in 2012, we recorded expenses of \$19 million reflecting the portion of HSBC North America's total expense that we believe is allocable to us. As of December 31, 2016, Rust Consulting, Inc., the paying agent, has issued virtually all checks to eligible borrowers. Borrowers who receive compensation will not be required to execute a release or waiver of rights and will not be precluded from pursuing litigation concerning foreclosure or other mortgage servicing practices. For participating servicers, including HSBC Bank USA and HSBC Finance, fulfillment of the terms of the IFR Settlement Agreements will satisfy the Independent Foreclosure Review requirements of the Servicing Consent Orders, including the wind down of the Independent Foreclosure Review.

In June 2015, HSBC Bank USA consented to the OCC's issuance of an amended OCC Servicing Consent Order (the "2015 Amended Consent Order") setting forth the OCC's conclusion that we were not yet in compliance with all requirements of the OCC Servicing Consent Order and that failure to satisfy all requirements of the OCC Servicing Consent Order could subject HSBC Bank USA to a variety of regulatory consequences, including the imposition of civil money penalties. The 2015 Amended Consent Order also included business restrictions, which did not materially impact our business operations.

On January 6, 2017, the OCC terminated the OCC Servicing Consent Order, together with the 2013 and 2015 amendments thereto, after determining that HSBC Bank USA had satisfied the requirements thereunder. The OCC also assessed a \$32.5 million civil money penalty against HSBC Bank USA finding that HSBC Bank USA failed to correct deficiencies identified under the OCC Servicing Consent Order in a timely fashion. The OCC also found HSBC Bank USA failed to file payment change notices in compliance with applicable bankruptcy rules on about 1,700 mortgage loans, which resulted in approximately \$3.5 million in remediation to borrowers. An additional charge to income in the amount of \$27.5 million was taken by HSBC Bank USA in the fourth quarter of 2016 related to this matter.

The issuance of the Servicing Consent Orders, as well as the termination of the OCC Servicing Consent Order, do not preclude additional enforcement actions against HSBC Bank USA or our affiliates by bank regulatory, governmental or law enforcement agencies, such as the DOJ or state Attorneys General, which could include the imposition of civil money penalties and other sanctions relating to the activities that are the subject of the Servicing Consent Orders. In addition, the IFR Settlement Agreements do not preclude future private litigation concerning these practices.

Separate from the Servicing Consent Orders and the settlement related to the Independent Foreclosure Review discussed above, in February 2012, the DOJ, the U.S. Department of Housing and Urban Development and state Attorneys General of 49 states

announced a national mortgage settlement with the five largest U.S. mortgage servicers with respect to foreclosure and other mortgage servicing practices. Following the February 2012 settlement, these government agencies initiated discussions with other mortgage industry servicers including us. We recorded an accrual of \$38 million in the fourth quarter of 2011 (which was reduced by \$6 million in the second quarter of 2013) reflecting the portion of the HSBC North America accrual that we believed to be allocable to HSBC Bank USA. In February 2016, HSBC Bank USA, HSBC Finance, HSBC Mortgage Services Inc. and HSBC North America entered into an agreement with the DOJ, the U.S. Department of Housing and Urban Development, the Consumer Financial Protection Bureau, other federal agencies ("Federal Parties") and the Attorneys General of 49 states and the District of Columbia ("State Parties") to resolve civil claims related to past residential mortgage loan origination and servicing practices. The settlement is similar to prior national mortgage settlements reached with other U.S. mortgage servicers and includes the following terms: \$100 million to be allocated among participating Federal and State Parties, and \$370 million in consumer relief. \$32 million of the settlement is allocable to us and was within the amount reserved for the matter. In addition, the settlement agreement sets forth national mortgage servicing standards to which we and our U.S. affiliates will adhere. The cash payment required by the settlement was paid during 2016.

The national mortgage settlement may not, however, completely preclude other enforcement actions by state or federal agencies, regulators or law enforcement agencies related to foreclosure and other mortgage servicing practices, including, but not limited to, matters relating to the securitization of mortgages for investors, including the imposition of civil money penalties, criminal fines or other sanctions. In addition, these practices have in the past resulted in private litigation and such a settlement would not preclude further private litigation concerning foreclosure and other mortgage servicing practices.

#### *Anti-Money Laundering, Bank Secrecy Act and Office of Foreign Assets Control Matters*

In October 2010, HSBC Bank USA entered into a consent cease and desist order with the OCC, and our parent, HSBC North America, entered into a consent cease and desist order with the FRB (together, the "AML/BSA Consent Orders"). These orders require improvements to establish an effective compliance risk management program across our U.S. businesses, including risk management related to Bank Secrecy Act ("BSA") and Anti-Money Laundering ("AML") compliance. Steps continue to be taken to address the requirements of the AML/BSA Consent Orders.

In December 2012, HSBC, HSBC North America and HSBC Bank USA entered into agreements with U.S. and United Kingdom ("U.K.") government agencies regarding past inadequate compliance with AML/BSA and sanctions laws. Among those agreements, HSBC and HSBC Bank USA entered into a five-year deferred prosecution agreement with the DOJ, the United States Attorney's Office for the Eastern District of New York, and the United States Attorney's Office for the Northern District of West Virginia (the "U.S. DPA"), and HSBC consented to a cease and desist order and HSBC and HSBC North America consented to a civil money penalty order with the FRB. HSBC also entered into an agreement with the Office of Foreign Assets Control ("OFAC") regarding historical transactions involving parties subject to OFAC sanctions, as well as an undertaking with the FCA Authority to comply with certain forward-looking obligations with respect to AML and sanctions-related obligations. In addition, HSBC Bank USA entered into a civil money penalty order with the U.S. Department of Treasury's Financial Crimes Enforcement Network and a separate monetary penalty order with the OCC.

Under these agreements, HSBC and HSBC Bank USA made payments totaling \$1.921 billion to U.S. authorities, of which \$1.381 billion was attributed to and paid by HSBC Bank USA. In July 2013, the United States District Court for the Eastern District of New York approved the U.S. DPA and retained authority to oversee the implementation of the U.S. DPA while the case is in abeyance. An independent compliance monitor (the "Monitor") was appointed in 2013 under the agreements with the DOJ and the FCA to produce annual assessments of the effectiveness of HSBC Group's AML and sanctions compliance program. Additionally, the Monitor is also serving as HSBC's independent consultant under the consent order of the FRB.

In February 2017, the Monitor delivered his third annual follow-up review report based on various thematic and country reviews he had conducted over the course of 2016. In his report, the Monitor concluded that, in 2016, HSBC Group continued to make progress in enhancing its financial crime compliance controls, including improvements to our global AML policies and procedures. However, the Monitor also expressed significant concerns about the pace of that progress, instances of potential financial crime that the DOJ and HSBC are reviewing further and on-going systems and control deficiencies that in his view raised questions as to whether HSBC is adhering to its obligations under the U.S. DPA, a matter that would be determined by the DOJ in its sole discretion. The Monitor also found that there remain substantial challenges for HSBC to meet its goal of developing a reasonably effective and sustainable AML and sanctions compliance program. In addition, the Monitor did not certify as to HSBC Group's implementation of and adherence to remedial measures specified in the U.S. DPA.

HSBC Bank USA is not currently in full compliance with the 2010 OCC consent cease and desist order. Steps are being taken to address the requirements of that and a similar order with the FRB to establish an effective compliance risk management program across HSBC's U.S. businesses, including risk management related to the Bank Secrecy Act and Anti-Money Laundering compliance.

Under the terms of the U.S. DPA, HSBC and HSBC Bank USA undertook various obligations, including, among others, to continue to cooperate fully with the DOJ in any and all investigations, not to commit any crime under US federal law subsequent to the

signing of the agreement, and to retain the Monitor. Additionally, as discussed elsewhere in this Note 27, we are the subject of other ongoing investigations and reviews by the DOJ.

Potential consequences of breaching the U.S. DPA could include the imposition of additional terms and conditions on HSBC or HSBC Bank USA, an extension of the U.S. DPA, including its monitorship, or the criminal prosecution of HSBC or HSBC Bank USA, which could, in turn, entail further financial penalties and other collateral consequences. Under the terms of the U.S. DPA, upon notice and opportunity to be heard, the DOJ has sole discretion to determine whether HSBC or HSBC Bank USA has breached the U.S. DPA. Breach of the U.S. DPA or related agreements and consent orders could have a material adverse effect on our business, prospects, financial condition and results of operations, including potential restrictions on our ability to operate in the United States or to perform dollar-clearing functions through HSBC Bank USA, loss of business, revocation of licenses, withdrawal of funding and harm to our reputation. Even if we are not determined to have breached these agreements, but the agreements are amended or their terms extended, our business, reputation and brand could suffer materially. Moreover, these consent orders do not preclude additional enforcement actions by bank regulatory, governmental or law enforcement agencies or private litigation.

HSBC Bank USA also entered into a separate consent order with the OCC requiring it to correct the circumstances and conditions as noted in the OCC's then most recent report of examination, imposing certain restrictions on HSBC Bank USA directly or indirectly acquiring control of, or holding an interest in, any new financial subsidiary, or commencing a new activity in its existing financial subsidiary, unless it receives prior approval from the OCC. HSBC Bank USA also entered into a separate consent order with the OCC requiring it to adopt an enterprise-wide compliance program.

The settlements with the U.S. and U.K. government agencies have led to private litigation and do not preclude further private litigation relating to HSBC Group's compliance with applicable AML/BSA and sanctions laws or other regulatory or law enforcement action for AML/BSA or sanctions or other matters not covered by the various agreements.

The Financial Industry Regulatory Authority closed its review of the AML/BSA compliance program of our affiliate, HSI, without taking any action.

*Shareholder Derivative Action* In May 2014 a shareholder of HSBC (who is not a shareholder of HSBC Bank USA, HNAH or HSBC USA) filed a shareholder derivative action, captioned *Michael Mason-Mahon v. Douglas J. Flint, et al.* (New York State Supreme Court, Nassau County, Index No. 602052/2014), purportedly on behalf of HSBC, HSBC Bank USA, HNAH and HSBC USA in New York State Supreme Court against the directors, certain officers and certain former directors of those HSBC companies alleging that those directors and officers breached their fiduciary duties to the companies and caused a waste of corporate assets by allegedly permitting and/or causing the conduct underlying the U.S. DPA. In October 2014, the nominal corporate defendants moved to dismiss the action. Individual defendants who have been served also responded to the complaint. Plaintiffs filed an amended complaint in February 2015. Defendants filed a motion to dismiss the amended complaint in March 2015. The individual defendants who had been served also responded. In November 2015, the court granted the nominal corporate defendants' motion to dismiss. Plaintiffs have appealed this decision.

*Charlotte Freeman, et al. v. HSBC Holdings plc, et al.* In November 2014, a complaint was filed in the U.S. District Court for the Eastern District of New York on behalf of representatives of U.S. persons killed and/or injured in Iraq between April 2004 and November 2011. The complaint was filed against HSBC, HSBC Bank USA, HSBC Bank plc and HSBC Bank Middle East, as well as other non-HSBC banks and the Islamic Republic of Iran (together the 'Defendants'), and alleges that the Defendants conspired to violate the federal Anti-Terrorism Act., (18 U.S.C. §2331 et seq.) ("ATA"), by altering or falsifying payment messages involving Iran, Iranian parties and Iranian banks for transactions processed through the U.S. Defendants filed a motion to dismiss in March 2015. Plaintiffs filed amended complaints thereafter.

Defendants moved to dismiss plaintiffs' second amended complaint in September 2016, and the motion is fully briefed.

*Jeffrey Siegel, et al. v. HSBC Holdings plc, et al.* In November, 2015, an action was filed against HSBC, HNAH, HSBC Bank USA, HUSI, HSI, HBIO and HSBC Bank Middle East Limited, as well as unaffiliated Al Rajhi Bank, in the U.S. District Court for the Northern District of Illinois. Plaintiffs, four U.S. nationals injured or killed in a 2005 terrorist attack on a hotel in Amman, Jordan and their families and heirs, allege violations of the ATA. The complaint includes one count against the HSBC defendants for violation of the ATA's civil provision, alleging a failure to enforce due diligence methods to prevent its financial services from being used to support the terrorist attack.

The HSBC defendants' motion to transfer the case to the U.S. District Court for the Southern District of New York and dismiss certain entities was filed in December 2016.

*Ramiro Giron, et al. v. Hong Kong and Shanghai Bank Company, Ltd., et al.* In November 2015 a putative class action was filed in the U.S. District Court for the Central District of California against Hong Kong and Shanghai Bank Company, Ltd. and HSBC Bank USA by investors in a Ponzi scheme allegedly orchestrated by Phil Ming Xu and companies he controlled, including World Capital Markets and WCM777 entities. Plaintiffs allege violations of RICO, 18 U.S.C. §1961, et seq., common claims of aiding and abetting fraud and breach of fiduciary duty and California state statutory claims based on Hong Kong and Shanghai Banking Company's claimed acceptance of U.S. wire transfers to WCM777 from investors after U.S. federal and state authorities had shut

down WCM777 in the U.S. in 2014. HSBC Bank USA is alleged to have acted as Hong Kong and Shanghai Banking Company's correspondent bank for certain wire transfers. Transfers to Hong Kong and Shanghai Banking Company are alleged to have totaled at least \$37 million. Plaintiffs also seek a trebling of damages under RICO and punitive damages under California law.

In June 2016, the court granted in part and denied in part HSBC Bank USA's motion to dismiss, and in October 2016, granted the Hong Kong and Shanghai Banking Company's motion to dismiss. In November 2016, Plaintiffs' moved to amend their Complaint for a fourth time.

*Mary Zapata, et al. v. HSBC* In February 2016, a group of plaintiffs claiming to be survivors and heirs of American nationals alleged to have been killed or injured in Mexico by Mexican drug cartels, filed a complaint in the U.S. District Court for the Southern District of Texas, Brownsville Division naming HSBC Holdings plc, HSBC Bank USA, HSBC México S.A., Institución de Banca Múltiple, Grupo Financiero HSBC and Grupo Financiero HSBC, S.A. de C.V. as defendants. Plaintiffs allege that the HSBC entities violated the ATA by providing financial services to individuals and entities associated with the drug cartels. Plaintiffs seek unspecified, treble damages. In June 2016, the HSBC defendants filed motions to transfer the case to the U.S. District Court for the Southern District of New York and to dismiss the action based on lack of personal jurisdiction as to certain defendants, and we await a decision on the motions.

*Saul Martinez, et al. v. Deutsche Bank AG, et al.* In November 2016, a complaint was filed in the U.S. District Court for the Southern District of Illinois on behalf of representatives of U.S. persons killed and/or injured in Iraq between 2004 and 2011. The complaint was filed against HSBC, HSBC Bank USA, HSBC Bank plc and HSBC Bank Middle East, as well as other non-HSBC banks (together, the 'Defendants'), and alleges that the Defendants conspired to violate the federal Anti-Terrorism Act (18 U.S.C. §2331, et seq.) by altering or falsifying payment messages involving Iran, Iranian parties and Iranian banks for transactions processed through the U.S. The Defendants filed a motion to transfer the action to the U.S. District Court for the Southern District of New York in January 2017. Plaintiffs filed an amended complaint in January 2017.

#### *Telephone Consumer Protection Act Litigation*

In October 2015, a putative class action entitled *Saber Ahmed v. HSBC Bank USA, National Association* (Case 5:15-cv-02057) was filed in the United States District Court for the Central District of California against HSBC Bank USA. The action alleges that HSBC Bank USA contacted plaintiff, or the members of the class he seeks to represent, on their cellular telephones using an automatic telephone dialing system or an artificial or prerecorded voice, without prior express consent, in violation of the Telephone Consumer Protection Act, 47 U.S.C. §227 et seq. Plaintiff seeks statutory damages of up to \$1,500 for each violation.

In April 2016, a putative class action entitled *Monteleone v. HSBC Finance Corporation, et al.* was filed in the United States District Court for the Northern District of Illinois against HSBC Finance, HSBC Mortgage Corporation, HSBC Mortgage Services Inc., HSBC Bank USA and HTSU. The action alleges that the HSBC defendants contacted plaintiff, or the members of the class he seeks to represent, on their cellular telephones using an automatic telephone dialing system or an artificial or prerecorded voice, without prior express consent, in violation of the Telephone Consumer Protection Act, 47 U.S.C. §227 et seq. Plaintiff seeks statutory damages of at least \$500 for each violation.

The HSBC defendants responded to the complaints in both actions in July 2016.

#### *Other Regulatory and Law Enforcement Investigations*

We continue to cooperate in ongoing investigations by the DOJ and the Internal Revenue Service regarding whether certain HSBC Group companies and employees acted appropriately in relation to certain customers who had U.S. tax reporting requirements.

In November 2014, the Argentine tax authority filed a complaint against several individuals, including some current and former HSBC employees, alleging tax evasion and an unlawful tax association between HSBC Private Bank Suisse SA, HSBC Bank Argentina and HSBC Bank USA and certain HSBC officers, which allegedly enabled HSBC customers to evade Argentine tax obligations. The Argentine Congress convened a special committee to investigate the matter and issues related to allegations of evasion of Argentine income taxes broadly, which issued its final report in December 2015.

We and certain other HSBC entities have received requests for information from various regulatory or law enforcement authorities around the world concerning persons and entities believed to be linked to Mossack Fonseca & Co, a service provider of personal investment companies. HSBC is cooperating with the relevant authorities.

Based on the facts currently known, in respect of each of the above investigations, it is not practicable at this time for us to determine the terms on which these ongoing investigations will be resolved or the timing of such resolution or for us to estimate reliably the amounts, or range of possible amounts, of any fines and/or penalties. As matters progress, it is possible that any fines and/or penalties could be significant.

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**28. Financial Statements of HSBC USA Inc. (Parent)**


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Condensed parent company financial statements follow:

<b>Balance Sheet At December 31,</b>	<b>2016</b>	<b>2015</b>
	<b>(in millions)</b>	
<b>Assets:</b>		
Securities available-for-sale .....	\$ —	\$ 251
Securities held-to-maturity (fair value of \$3 million and \$4 million at December 31, 2016 and 2015, respectively) .....	3	4
Receivables and balances due from subsidiaries .....	17,356	16,836
Receivables from other HSBC affiliates .....	3,863	4,733
<b>Investment in subsidiaries:</b>		
Banking .....	23,626	23,828
Other .....	3	22
Other assets .....	267	189
<b>Total assets</b> .....	<b>\$ 45,118</b>	<b>\$ 45,863</b>
<b>Liabilities:</b>		
Interest, taxes and other liabilities .....	\$ 106	\$ 155
Payables due to subsidiaries .....	1	2
Payables due to other HSBC affiliates .....	27	15
Short-term borrowings .....	1,251	1,978
Long-term debt <sup>(1)</sup> .....	22,542	21,358
Long-term debt due to other HSBC affiliates <sup>(1)</sup> .....	836	1,830
<b>Total liabilities</b> .....	<b>24,763</b>	<b>25,338</b>
<b>Total equity</b> .....	<b>20,355</b>	<b>20,525</b>
<b>Total liabilities and equity</b> .....	<b>\$ 45,118</b>	<b>\$ 45,863</b>

<sup>(1)</sup> Contractual scheduled maturities for the debt over the next five years are as follows: 2017 – \$3.5 billion; 2018 – \$6.5 billion; 2019 – \$3.5 billion; 2020 – \$5.1 billion; 2021 – \$1.4 billion; and thereafter – \$3.4 billion.

Statement of Income Year Ended December 31,	2016	2015	2014
	(in millions)		
Income:			
Dividends from banking subsidiaries .....	\$ 136	\$ 104	\$ —
Dividends from other subsidiaries .....	17	1	1
Interest from subsidiaries .....	268	97	66
Interest from other HSBC affiliates .....	115	121	117
Other interest income .....	2	14	22
Other securities gains, net .....	7	1	—
Other income (loss) from subsidiaries .....	1	(2)	(1)
Other income (loss) from other HSBC Affiliates .....	418	(79)	395
Other income (loss) .....	(321)	121	(347)
Total income .....	<u>643</u>	<u>378</u>	<u>253</u>
Expenses:			
Interest to subsidiaries .....	—	23	45
Interest to other HSBC Affiliates .....	43	28	49
Other interest expense .....	475	375	266
Provision for credit losses .....	—	—	(3)
Other expenses with subsidiaries .....	27	—	23
Other expenses .....	3	6	182
Total expenses .....	<u>548</u>	<u>432</u>	<u>562</u>
Income (loss) before taxes and equity in undistributed income of subsidiaries .....	<u>95</u>	<u>(54)</u>	<u>(309)</u>
Income tax benefit .....	27	76	107
Income (loss) before equity in undistributed income of subsidiaries .....	<u>122</u>	<u>22</u>	<u>(202)</u>
Equity in undistributed income of subsidiaries .....	7	308	556
Net income .....	<u>\$ 129</u>	<u>\$ 330</u>	<u>\$ 354</u>

Statement of Comprehensive Income (Loss) Year Ended December 31,	2016	2015	2014
	(in millions)		
<b>Net income</b> .....	<b>\$ 129</b>	<b>\$ 330</b>	<b>\$ 354</b>
Net change in unrealized gains (losses), net of tax:			
Investment securities .....	(227)	(392)	176
Other-than-temporarily impaired debt securities held-to-maturity .....	—	—	60
Derivatives designated as cash flow hedges .....	13	(14)	(73)
Pension and post-retirement benefit plans .....	3	—	(5)
<b>Total other comprehensive income (loss)</b> .....	<b>(211)</b>	<b>(406)</b>	<b>158</b>
<b>Comprehensive income (loss)</b> .....	<b>\$ (82)</b>	<b>\$ (76)</b>	<b>\$ 512</b>

Statement of Cash Flows Year Ended December 31,	2016	2015	2014
	(in millions)		
<b>Cash flows from operating activities:</b>			
Net income.....	\$ 129	\$ 330	\$ 354
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization.....	14	25	4
Net change in other assets and liabilities.....	274	517	(460)
Undistributed gain of subsidiaries.....	(7)	(308)	(556)
Net change in trading assets and liabilities.....	—	—	624
Other, net.....	(4)	(31)	(36)
Cash provided by (used in) operating activities.....	<u>406</u>	<u>533</u>	<u>(70)</u>
<b>Cash flows from investing activities:</b>			
Purchases of securities.....	—	(56)	—
Sales and maturities of securities.....	254	298	21
Net change in loans.....	—	—	26
Net change in investments in and receivables due from subsidiaries.....	(496)	(4,489)	(6,003)
Net change in receivables from other HSBC affiliates.....	887	835	(764)
Other, net.....	(27)	(38)	—
Cash provided by (used in) investing activities.....	<u>618</u>	<u>(3,450)</u>	<u>(6,720)</u>
<b>Cash flows from financing activities:</b>			
Net change in payables to other HSBC affiliates.....	19	—	—
Net change in short-term borrowings.....	(727)	(2,794)	1,393
Issuance of long-term debt.....	3,587	11,946	8,013
Repayment of long-term debt.....	(3,815)	(9,870)	(2,554)
Preferred stock issuance.....	1,265	—	—
Preferred stock redemption.....	(1,265)	(300)	—
Capital contribution from parent.....	—	4,000	—
Other increases (decreases) in capital surplus.....	(21)	(1)	4
Dividends paid.....	(67)	(65)	(73)
Cash provided by (used in) financing activities.....	<u>(1,024)</u>	<u>2,916</u>	<u>6,783</u>
Net change in cash and due from banks.....	—	(1)	(7)
Cash and due from banks at beginning of year.....	—	1	8
<b>Cash and due from banks at end of year.....</b>	<b><u>\$ —</u></b>	<b><u>\$ —</u></b>	<b><u>\$ 1</u></b>
Cash paid for:			
Interest.....	<u>\$ 517</u>	<u>\$ 406</u>	<u>\$ 363</u>

HSBC Bank USA is subject to legal restrictions on certain transactions with its non-bank affiliates in addition to the restrictions on the payment of dividends to us. See Note 23, "Retained Earnings and Regulatory Capital Requirements," for further discussion.

**SELECTED QUARTERLY FINANCIAL DATA (UNAUDITED)**

The following table presents a quarterly summary of selected financial information for HUSI:

	2016				2015			
	Fourth	Third	Second	First	Fourth	Third	Second	First
	(in millions)							
Net interest income.....	\$ 588	\$ 604	\$ 638	\$ 654	\$ 621	\$ 617	\$ 626	\$ 606
Provision for credit losses .....	19	62	134	157	267	47	(6)	53
Net interest income after provision for credit losses.....	569	542	504	497	354	570	632	553
Other revenues.....	257	320	293	462	274	531	403	464
Operating expenses.....	874	803	823	726	808	786	850	777
Income (loss) before income tax .....	(48)	59	(26)	233	(180)	315	185	240
Income tax expense (benefit).....	(11)	26	(5)	79	(55)	111	98	76
Net income (loss).....	\$ (37)	\$ 33	\$ (21)	\$ 154	\$ (125)	\$ 204	\$ 87	\$ 164

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**Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure**

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In February 2015, PricewaterhouseCoopers LLP ("PwC") was appointed as our independent registered public accounting firm. During the years ended December 31, 2016 and 2015, there were no disagreements on accounting and financial disclosure matters between us and PwC on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which, if not resolved to the satisfaction of PwC, would have caused PwC to make reference to the matter in its reports on our financial statements.

KPMG LLP ("KPMG") was dismissed as our independent auditors by the Audit Committee effective February 23, 2015, after the issuance of its report on the consolidated financial statements as of and for the year ended December 31, 2014 included in the filing of our Form 10-K with the Securities and Exchange Commission. The reports of KPMG issued on our consolidated financial statements as of December 31, 2014 did not contain an adverse opinion or a disclaimer of opinion, and were not qualified or modified as to uncertainty, audit scope or accounting principles.

During the years ended December 31, 2014 and through February 23, 2015, there were no disagreements between us and KPMG on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which, if not resolved to the satisfaction of KPMG, would have caused KPMG to make reference to the matter in its reports on our financial statements. During this time, there have been no reportable events of the type described in Item 304(a)(1)(v) of Regulation S-K.

We have agreed to indemnify and hold KPMG harmless from and against any and all legal costs and expenses incurred by KPMG in successful defense of any legal action or proceeding that arises as a result of KPMG's consent to the inclusion (or incorporation by reference) of its audit report on our past financial statements included in this annual report on Form 10-K.

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**Item 9A. Controls and Procedures**

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***Evaluation of Disclosure Controls and Procedures*** We maintain a system of internal and disclosure controls and procedures designed to ensure that information required to be disclosed by HSBC USA in the reports we file or submit under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), is recorded, processed, summarized and reported on a timely basis. Our Board of Directors, operating through its Audit Committee, which is composed entirely of independent non-executive directors, provides oversight to our financial reporting process.

We conducted an evaluation, with the participation of the Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures as of the end of the period covered by this report. Based upon that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of the end of the period covered by this report so as to alert them in a timely fashion to material information required to be disclosed in reports we file under the Exchange Act.

***Changes in Internal Control over Financial Reporting*** There has been no change in our internal control over financial reporting that occurred during the quarter ended December 31, 2016 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

***Management's Assessment of Internal Control over Financial Reporting*** Management is responsible for establishing and maintaining an adequate internal control structure and procedures over financial reporting as defined in Rule 13a-15(f) of the Exchange Act, and has completed an assessment of the effectiveness of HSBC USA's internal control over financial reporting as of December 31, 2016. In making this assessment, management used the criteria related to internal control over financial reporting established by the Committee of Sponsoring Organizations of the Treadway Commission in "Internal Control-Integrated Framework (2013)."

Based on the assessment performed, management concluded that as of December 31, 2016, HSBC USA's internal control over financial reporting was effective.

## Item 9B. Other Information

**Disclosures pursuant to Section 13(r) of the Securities Exchange Act** Section 13(r) of the Securities Exchange Act requires each issuer registered with the SEC to disclose in its annual or quarterly reports whether it or any of its affiliates have knowingly engaged in specified activities or transactions with persons or entities targeted by U.S. sanctions programs relating to Iran, terrorism, or the proliferation of weapons of mass destruction, even if those activities are not prohibited by U.S. law and are conducted outside the U.S. by non-U.S. affiliates in compliance with local laws and regulations.

To comply with this requirement, HSBC has requested relevant information from its affiliates globally. During the period covered by this Form 10-K, HSBC USA Inc. did not engage in any activities or transactions requiring disclosure pursuant to Section 13(r) other than those activities related to frozen accounts and transactions permitted under relevant U.S. sanction programs described under “Frozen Accounts and Transactions” below. The following activities conducted by our affiliates are disclosed in response to Section 13(r):

**Loans in repayment** Between 2001 and 2005, the Project and Export Finance division of the HSBC Group arranged or participated in a portfolio of loans to Iranian energy companies and banks. All of these loans were guaranteed by European and Asian export credit agencies and have varied maturity dates with final maturity in 2018. For those loans that remain outstanding, the HSBC Group continues to seek repayment in accordance with its obligations to the supporting export credit agencies. Details of these loans follow.

At December 31, 2016, the HSBC Group had five loans outstanding to an Iranian petrochemical company. These loans are supported by the official export credit agencies of the following countries: the United Kingdom, South Korea and Japan. The HSBC Group continues to seek repayments from the Iranian company under the outstanding loans in accordance with their original maturity profiles. Two repayments were made under each loan in 2016.

Five loans to the same Iranian petrochemical company matured in 2016. Bank Melli acted as a sub-participant in two of these loans, although a number of the payments due to Bank Melli in 2016 are yet to be remitted by the HSBC Group.

Estimated gross revenue to the HSBC Group generated by the loans in repayment for 2016, which includes interest and fees, was approximately \$464,000, and net estimated profit was approximately \$432,000. While the HSBC Group intends to continue to seek repayment under the existing loans, all of which were entered into before the petrochemical sector of Iran became a target of U.S. sanctions, it does not currently intend to extend any new loans.

**Legacy contractual obligations related to guarantees** Between 1996 and 2007, the HSBC Group provided guarantees to a number of its non-Iranian customers in Europe and the Middle East for various business activities in Iran. In a number of cases, the HSBC Group issued counter indemnities in support of guarantees issued by Iranian banks as the Iranian beneficiaries of the guarantees required that they be backed directly by Iranian banks. The Iranian banks to which the HSBC Group provided counter indemnities included Bank Tejarat, Bank Melli, and the Bank of Industry and Mine.

There was no measurable gross revenue in 2016 under those guarantees and counter indemnities. The HSBC Group does not allocate direct costs to fees and commissions and, therefore, has not disclosed a separate net profit measure. The HSBC Group is seeking to cancel all relevant guarantees and counter indemnities and does not currently intend to provide any new guarantees or counter indemnities involving Iran. One was cancelled during the fourth quarter of 2016 and approximately 19 remain outstanding.

**Other relationships with Iranian banks** Activity related to U.S.-sanctioned Iranian banks not covered elsewhere in this disclosure includes the following:

- The HSBC Group maintains several accounts in the United Kingdom for an Iranian-owned, U.K.-regulated financial institution. Prior to Implementation Day of the Joint Comprehensive Plan of Action, these accounts were frozen and transactions relating to these accounts were carried out under U.K. government license. These accounts are generally no longer restricted under U.K. law, though HSBC maintains restrictions on the accounts as a matter of policy. Estimated gross revenue in 2016 on these accounts, which includes fees and/or commissions, was approximately \$154,100.
- The HSBC Group acts as the trustee and administrator for a pension scheme involving five employees of a U.S.-sanctioned Iranian bank in Hong Kong, two of whom resigned from the scheme during the third and fourth quarters of 2016. Under the rules of this scheme, the HSBC Group accepts contributions from the Iranian bank each month and allocates the funds into the pension accounts of the Iranian bank’s employees. The HSBC Group runs and operates this pension scheme in accordance with Hong Kong laws and regulations. Estimated gross revenue, which includes fees and/or commissions, generated by this pension scheme in 2016 was approximately \$3,790. Three checks amounting to \$705 were issued to the Iranian bank employer during the second quarter of 2016, as a result of the employer’s overpayment of contributions.

For the Iranian bank related-activity discussed above, the HSBC Group does not allocate direct costs to fees and commissions and, therefore, has not disclosed a separate net profit measure.

The HSBC Group has been holding a safe custody box for the Central Bank of Iran. For a number of years, the box has not been accessed by the Central Bank of Iran and no fees have been charged to the Central Bank of Iran.

The HSBC Group currently intends to continue to wind down the activity discussed in this section, to the extent legally permissible, and not enter into any new such activity.

**Activity related to U.S. Executive Order 13224** The HSBC Group maintained a frozen personal account for an individual customer who was sanctioned under U.S. Executive Order 13224. The HSBC Group issued a check to the customer and processed the check deposit to close the account. The HSBC Group exited the customer relationship in the first quarter of 2016.

The HSBC Group maintained a credit card account for an individual who was sanctioned under U.S. Executive Order 13224 during the first quarter of 2016. The account was frozen during the first quarter of 2016. During the third quarter, the credit card was used for one minor debit transaction, and the HSBC Group received a payment relative to the credit card, which has now been cancelled.

The HSBC Group maintains accounts for a corporate customer that was sanctioned under U.S. Executive Order 13224 during the first quarter of 2016. The accounts were frozen during the first quarter of 2016.

The HSBC Group maintains an account for a corporate customer that was sanctioned under U.S. Executive Order 13224 during the first quarter of 2016. The account was frozen during the first quarter of 2016.

The HSBC Group maintains frozen personal accounts for an individual customer who was sanctioned under U.S. Executive Order 13224 during the second quarter of 2016. The accounts were frozen during the second quarter of 2016.

The HSBC Group maintains a jointly owned safekeeping box during 2016 for an individual customer who was sanctioned under U.S. Executive Order 13224 in 2014. During the first quarter of 2016, the safekeeping box was accessed by the other joint owner (who is not a sanctioned individual).

For activity related to U.S. Executive Order 13224, there was no measurable gross revenue or net profit generated to the HSBC Group in 2016.

**Other activity** The HSBC Group maintained an account for a customer that received and deposited a check issued by the Iranian embassy in Brunei for payment of monthly rental property fees in the first quarter of 2016. The relationship was exited in the third quarter of 2016.

The HSBC Group held a lease of branch premises in London which it entered into in 2005 and was due to expire in 2020. The landlord of the premises is owned by the Iranian government. The HSBC Group exercised the break clause in the lease and exited the property during 2015. During the third quarter of 2016, the HSBC Group paid all outstanding rent and service charges to the landlord, and also made a payment to a third party company that dealt with refurbishment to the property.

The HSBC Group maintains an account for a corporate customer in Germany for whom it received funds during the second quarter of 2016 from an account at a European bank that is named on the List of Persons Identified as Blocked Solely Pursuant to Executive Order 13599, in relation to the purchase of software.

For the activity in this section, there was no measurable gross revenue or net profit to the HSBC Group in 2016.

**Frozen accounts and transactions** The HSBC Group and HSBC Bank USA (a subsidiary of HUSI) maintain several accounts that are frozen under relevant sanctions programs and on which no activity, except as licensed or otherwise authorized, took place during 2016. There was no measurable gross revenue or net profit to the HSBC Group and HSBC Bank USA in 2016 relating to these frozen accounts.

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**PART III****Item 10. Directors, Executive Officers and Corporate Governance**

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Omitted.

**Item 11. Executive Compensation**

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Omitted.

**Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters**

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Omitted.

**Item 13. Certain Relationships and Related Transactions, and Director Independence**

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Omitted.

**Item 14. Principal Accounting Fees and Services**

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**Audit Fees** The aggregate amount billed by our principal accountant, PricewaterhouseCoopers LLP ("PwC"), for audit services performed during the fiscal years ended December 31, 2016 and 2015 was \$4,200,343 and \$3,743,535, respectively. The aggregate amount billed by our former accountant, KPMG LLP ("KPMG"), for audit services performed during the fiscal years ended December 31, 2016 and 2015 was nil and nil, respectively. Audit services include the auditing of financial statements, quarterly reviews, statutory audits, and the preparation of comfort letters, consents and review of registration statements.

**Audit Related Fees** The aggregate amount billed by PwC in connection with audit related services performed during the fiscal years ended December 31, 2016 and 2015 was \$2,504,463 and \$1,816,000, respectively. The aggregate amount billed by KPMG in connection with audit related services performed during the fiscal years ended December 31, 2016 and 2015 was \$360,750 and \$370,972, respectively. Audit related services include employee benefit plan audits, and audit or attestation services not required by statute or regulation.

**Tax Fees** The aggregate amount billed by PwC for tax related services performed during the fiscal years ended December 31, 2016 and 2015 was \$63,000 and \$54,345, respectively. The aggregate amount billed by KPMG for tax related services for the fiscal years ended December 31, 2016 and 2015 was \$73,147 and \$122,490, respectively. These services include tax related research, general tax services in connection with transactions and legislation and tax services for review of Federal tax accounts in relation to the computation of associated interest.

**All Other Fees** The aggregate amount billed by PwC for other services performed during the fiscal years ended December 31, 2016 and 2015 was nil and nil, respectively. The aggregate amount billed by KPMG for other services performed during the fiscal years ended December 31, 2016 and 2015 was nil and nil, respectively.

All of the fees described above were approved by HSBC USA's Audit Committee.

The Audit Committee has a written policy that requires pre-approval of all services to be provided by PwC, including audit, audit-related, tax and all other services. Pursuant to the policy, the Audit Committee annually pre-approves the audit fee and terms of the audit services engagement. The Audit Committee also approves a specified list of audit, audit-related, tax and permissible non-audit services deemed to be routine and recurring services. Any service not included on this list must be submitted to the Audit Committee for pre-approval. On an interim basis, any proposed engagement that does not fit within the definition of a pre-approved service may be presented to the Chair of the Audit Committee for approval and to the full Audit Committee at its next regular meeting.

**PART VI****Item 15. Exhibits and Financial Statement Schedules**

## (a)(1) Financial Statements

The consolidated financial statements listed below, together with an opinion of PWC dated February 21, 2017 with respect thereto, are included in this Form 10-K pursuant to Item 8. Financial Statements and Supplementary Data of this Form 10-K.

**HSBC USA Inc. and Subsidiaries:**

Report of Independent Registered Public Accounting Firm  
 Consolidated Statement of Income  
 Consolidated Statement of Comprehensive Income (Loss)  
 Consolidated Balance Sheet  
 Consolidated Statement of Changes in Equity  
 Consolidated Statement of Cash Flows  
 Notes to Financial Statements  
 Selected Quarterly Financial Data (Unaudited)

(a)(2) Not applicable.

## (a)(3) Exhibits

- 3(i) Articles of Incorporation and amendments and supplements thereto (incorporated by reference to Exhibit 3 (a) to HSBC USA Inc.'s Annual Report on Form 10-K for the year ended December 31, 1999, Exhibit 3 to HSBC USA Inc.'s Quarterly Report on Form 10-Q for the quarter ended September 30, 2000, Exhibits 3.2 and 3.3 to HSBC USA Inc.'s Current Report on Form 8-K filed April 4, 2005; Exhibit 3.2 to HSBC USA Inc.'s Current Report on Form 8-K filed October 14, 2005, Exhibit 3.2 to HSBC USA Inc.'s Current Report on Form 8-K filed May 22, 2006 and Exhibit 3.2 to HSBC USA Inc.'s Current Report on Form 8-K filed on May 31, 2016).
- 3(ii) Bylaws of HSBC USA Inc., as Amended and Restated effective April 28, 2016 (incorporated by reference to Exhibit 3.2 to HSBC USA Inc.'s Current Report on Form 8-K filed May 2, 2016).
- 4.1 Senior Indenture, dated as of March 31, 2009, by and between HSBC USA Inc. and Wells Fargo Bank, National Association, as trustee, as amended and supplemented (incorporated by reference to Exhibit 4.1 to HSBC USA Inc.'s Registration Statement on Form S-3, Registration No. 333-158358 and Exhibit 4.2 to HSBC USA Inc.'s Registration Statement on Form S-3, Registration No. 333-180289).
- 4.2 Subordinated Indenture, dated as of October 24, 1996, by and between HSBC USA Inc. and Deutsche Bank Trust Companies Americas (as successor in interest to Bankers Trust Company), as trustee, as amended and supplemented (incorporated by reference to Exhibits 4.3, 4.4, 4.5 and 4.6 to Post-Effective Amendment No. 1 to HSBC USA Inc.'s Registration Statement on Form S-3, Registration No. 333-42421, and Exhibit 4.1 to HSBC USA Inc.'s Current Report on Form 8-K filed September 27, 2010).
- 4.3 Other instruments defining the rights of holders of long-term debt of HSBC USA Inc. and its consolidated subsidiaries are not being filed herewith since the total amount of securities authorized under each such instrument does not exceed 10 percent of the total assets of HSBC USA Inc. and its subsidiaries on a consolidated basis. HSBC USA Inc. agrees that it will furnish a copy of any such instrument to the Securities and Exchange Commission upon request.
- 10.1 Deferred Prosecution Agreement dated December 11, 2012, between HSBC Holdings plc, HSBC Bank USA, N.A., HSBC North America Holdings, Inc., the United States Department of Justice, the United States Attorney's Office for the Eastern District of New York and the United States Attorney's Office for the Northern District of West Virginia (incorporated by reference to Exhibit 10.1 to HSBC USA Inc.'s Current Report on Form 8-K filed December 12, 2012).
- 10.2 Consent Order dated December 11, 2012, of the Comptroller of the Currency of the United States in the Matter of HSBC Bank USA, N.A. (incorporated by reference to Exhibit 10.2 to HSBC USA Inc.'s Current Report on Form 8-K filed December 12, 2012).
- 10.3 Consent Order for the Assessment of a Civil Money Penalty dated December 11, 2012, of the Comptroller of the Currency of the United States in the Matter of HSBC Bank USA, N.A. (incorporated by reference to Exhibit 10.3 to HSBC USA Inc.'s Current Report on Form 8-K filed December 12, 2012).

- 10.4 Agreement by and between HSBC Bank USA, N.A. McLean, Virginia and the Office of the Comptroller of the Currency dated December 11, 2012 (incorporated by reference to Exhibit 10.4 to HSBC USA Inc.'s Current Report on Form 8-K filed December 12, 2012).
- 10.5 Consent to the Assessment of a Civil Money Penalty dated December 11, 2012, of the United States Department of Treasury Financial Crimes Enforcement Network in the Matter of HSBC Bank USA, N.A. (incorporated by reference to Exhibit 10.5 to HSBC USA Inc.'s Current Report on Form 8-K filed December 12, 2012).
- 12 Computation of Ratio of Earnings to Fixed Charges
- 14 Code of Ethics for Senior Financial Officers (incorporated by reference to Exhibit 14 to HSBC USA Inc.'s Annual Report on Form 10-K for the year ended December 31, 2006).
- 16 Letter from KPMG LLP, dated February 23, 2015 (incorporated by reference to Exhibit 16.1 to HSBC USA Inc.'s Current Report on Form 8-K filed February 23, 2015).
- 23.1 Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm.
- 23.2 Consent of KPMG LLP, Independent Registered Public Accounting Firm.
- 24 Power of Attorney (included on the signature page of this Form 10-K).
- 31 Certification of Chief Executive Officer and Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 32 Certification of Chief Executive Officer and Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 101.INS XBRL Instance Document<sup>(1)</sup>
- 101.SCH XBRL Taxonomy Extension Schema Document<sup>(1)</sup>
- 101.CAL XBRL Taxonomy Extension Calculation Linkbase Document<sup>(1)</sup>
- 101.DEF XBRL Taxonomy Extension Definition Linkbase Document<sup>(1)</sup>
- 101.LAB XBRL Taxonomy Extension Label Linkbase Document<sup>(1)</sup>
- 101.PRE XBRL Taxonomy Extension Presentation Linkbase Document<sup>(1)</sup>

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<sup>(1)</sup> Pursuant to Rule 405 of Regulation S-T, includes the following financial information included in our Annual Report on Form 10-K for the year ended December 31, 2016, formatted in eXtensible Business Reporting Language ("XBRL") interactive data files: (i) the Consolidated Statement of Income for the years ended December 31, 2016, 2015 and 2014, (ii) the Consolidated Statement of Comprehensive Income (Loss) for the years ended December 31, 2016, 2015 and 2014, (iii) the Consolidated Balance Sheet at December 31, 2016 and 2015, (iv) the Consolidated Statement of Changes in Equity for the years ended December 31, 2016, 2015 and 2014, (v) the Consolidated Statement of Cash Flows for the years ended December 31, 2016, 2015 and 2014, and (vi) the Notes to Consolidated Financial Statements.

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## Item 16. Form 10-K Summary

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Omitted.

## Index

- 2016 Economic Environment 43
- Accounting:
  - new pronouncements 135
  - policies (critical) 48
  - policies (significant) 135
- Assets:
  - by business segment 195
  - consolidated average balances 123
  - fair value measurements 207
  - nonperforming 84, 155, 160, 162
  - trading 57, 145
- Asset-backed commercial paper conduits 199
- Asset-backed securities 100, 146, 221
- Audit committee 18, 237
- Auditors' report:
  - financial statement opinion 125
- Balance sheet:
  - consolidated 129
  - consolidated average balances 123
  - review 54
- Basel II 9
- Basel III 9, 33, 93, 110, 197
- Basis of reporting 43, 45
- Business:
  - consolidated performance review 44
  - operations 4
  - organization history 4
- Capital:
  - 2017 funding strategy 95
  - common equity movements 92
  - consolidated statement of changes 131
  - regulatory capital 197
  - selected capital ratios 93, 197
  - Cash flow (consolidated) 132
- Cautionary statement regarding forward-looking statements 41
- Collateral — pledged assets 205
- Collateralized debt obligations 100, 211, 215
- Commercial banking segment results (Group Reporting Basis) 71, 195
- Committees 101
- Competition 7
- Compliance risk 102, 116
- Contingent liabilities 54
- Controls and procedures 237
- Corporate governance and controls 18
- Customers 7
- Credit card fees 63, 127
- Credit quality 76
- Credit risk:
  - accounting policy 48
  - adjustment 51, 91, 207
  - component of fair value option 178
  - concentration 85, 162
  - critical accounting policy 48
  - exposure 88
  - management 103
  - related contingent features 177
  - related arrangements 201
- Critical accounting policies and estimates 48, 135
- Deferred tax assets 53, 181
- Deposits 58, 92, 168
- Derivatives:
  - accounting policy 140
  - cash flow hedges 174
  - critical accounting policy 53
  - fair value hedges 173
  - notional value 177
  - trading and other 175
- Employees:
  - compensation and benefits 66
  - number of 7
- Equity:
  - consolidated statement of changes 131
  - ratios 40, 93, 197
- Equity securities available-for-sale 146
- Estimates and assumptions 48
- Executive overview 43
- Fair value measurements:
  - assets and liabilities recorded at fair value on a recurring basis 211
  - assets and liabilities recorded at fair value on a non-recurring basis 218
  - control over valuation process 98, 208
  - financial instruments 209
  - hierarchy 98, 207
  - transfers into/out of level one and two 99, 217
  - transfers into/out of level two and three 99, 217
  - valuation techniques 219
- Fiduciary risk 102, 117
- Financial assets:
  - designated at fair value 178
  - reclassification under Group Reporting Basis 195
- Financial highlights metrics 39
- Financial liabilities:
  - designated at fair value 178
  - fair value of financial liabilities 98, 209
- Forward looking statements 41
- Funding 6, 95
- Future prospects 45
- Gain on instruments designated at fair value and related derivatives 180
- Gains less losses from securities 150

- Global Banking and Markets:
  - balance sheet data (Group Reporting Basis) 195
  - loans and securities reclassified (Group Reporting Basis) 195
  - segment results (Group Reporting Basis) 68, 195
- Geographic concentration of receivables 87
- Goodwill :
  - accounting policy 139
  - critical accounting policy 49
- Guarantee arrangements 201
- Impairment:
  - available-for-sale securities 149
  - credit losses 48, 61, 76, 163, 193
  - nonperforming loans 84, 155
  - impaired loans 85, 156
- Income (loss) from financial instruments designated at fair value, net 180
- Income statement 127
- Intangible assets 166
- Income taxes:
  - accounting policy 141
  - critical accounting policy — deferred taxes 53
  - expense 181
- Internal control 237
- Interest rate risk 102, 107
- Key performance indicators 39
- Legal proceedings 36
- Leveraged finance transactions 180
- Liabilities:
  - commitments, lines of credit 95, 202
  - deposits 58, 168
  - financial liabilities designated at fair value 209
  - long-term debt 170
  - short-term borrowings 169
  - trading 145
- Lease commitments 203
- Liquidity and capital resources 91
- Litigation and regulatory matters 223
- Loans:
  - by category 55, 152
  - by charge-off (net) 83, 163
  - by delinquency 81, 161
  - criticized assets 85, 160
  - geographic concentration 87
  - held for sale 56, 139, 165
  - impaired 85, 156
  - nonperforming 84, 155, 160
  - overall review 54
  - purchases from HSBC Finance 190
  - risk concentration 29, 85
  - troubled debt restructures 136, 156
- Loan impairment charges — *see Provision for credit losses*
- Loan-to-deposits ratio 40
- Loan-to-Value ratio 56
- Market risk 102, 110
- Market turmoil:
  - current environment 43
  - exposures 43
  - impact on liquidity risk 102
  - structured investment vehicles 200
  - variable interest entities 198
- Monoline insurers 91, 149
- Mortgage lending products 55, 152
- Mortgage servicing rights 44, 121, 166
- Net interest income 59
- New accounting pronouncement adopted 135
- Off balance sheet arrangements 96
- Operating expenses 66
- Operational risk 102, 114
- Other revenue 63
- Other segment results (Group Reporting Basis) 75, 195
- Pension and other postretirement benefits:
  - accounting policy 141
- Performance, developments and trends 44
- Pledged assets 205
- Private banking segment results (Group Reporting Basis) 74, 195
- Profit (loss) before tax:
  - by segment — Group Reporting Basis 195
  - consolidated 127
- Properties 166
- Property, plant and equipment:
  - accounting policy 139
- Provision for credit losses 61, 78, 127, 163
- Ratios:
  - capital 93, 197
  - charge-off (net) 40, 77, 83
  - credit loss reserve related 77
  - delinquency 40, 81
  - earnings to fixed charges — Exhibit 12
  - efficiency 40, 66
  - financial 40
  - loans-to-deposits 40
- Real estate owned 133, 218
- Reconciliation of U.S. GAAP results to Group Reporting Basis 46
- Regulation 7
- Related party transactions 188
- Reputational risk 102, 118
- Residential mortgage banking revenue 65
- Results of operations 59
- Retail banking and wealth management segment results (Group Reporting Basis) 69, 195

Risks and uncertainties 19

Risk elements in the loan portfolio 85, 161

Risk factors 19

Risk management:

- credit 102, 103
- compliance 102, 116
- fiduciary 102, 117
- interest rate 102, 107
- liquidity 102, 104
- market 102, 110
- model 102, 119
- operational 102, 114
- pension 102, 120
- reputational 102, 118
- security & fraud 102, 118
- strategic 102, 118

Securities:

- amortized cost 146, 209
- fair value 146, 209
- impairment 149
- maturity analysis 151

Segment results — Group Reporting Basis:

- retail banking and wealth management 69, 195
- commercial banking 71, 195
- global banking and markets 68, 195
- private banking 74, 195
- other 75, 195
- overall summary 195

Selected financial data 39

Sensitivity:

- projected net interest income 109

Share-based payments:

- accounting policy 141

Statement of changes in equity 131

Statement of changes in comprehensive income 128

Statement of income (loss) 127

Strategic risk 102, 118

Stress testing 10, 94

Table of contents 2

Tax expense 127, 181

Trading:

- assets 57, 145
- derivatives 57, 145
- liabilities 57, 145
- portfolios 57, 145

Trading revenue (net) 64

Troubled debt restructures 136, 156

Value at risk 110

Variable interest entities 195

Unresolved staff comments 36

**Signatures**

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, HSBC USA Inc. has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on this the 21st day of February 2017.

HSBC USA INC.

By: /s/ PATRICK J. BURKE

Patrick J. Burke

President and Chief Executive Officer

Each person whose signature appears below constitutes and appoints K. P. Pisarczyk as his/her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him/her in his/her name, place and stead, in any and all capacities, to sign and file, with the Securities and Exchange Commission, this Form 10-K and any and all amendments and exhibits thereto, and all documents in connection therewith, granting unto each such attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as he/she might or could do in person, hereby ratifying and confirming all that such attorneys-in-fact and agents or their substitutes may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of HSBC USA Inc. and in the capacities indicated on this the 21st day of February 2017.

Signature	Title
<u>/s/ P. J. BURKE</u> (P. J. Burke)	President, Chief Executive Officer, Chairman and Director (as Principal Executive Officer)
<u>/s/ P. D. AMEEN</u> (P. D. Ameen)	Director
<u>/s/ K. M. BLAKELY</u> (K. M. Blakely)	Director
<u>/s/ R. H. COX</u> (R. H. Cox)	Executive Director
<u>/s/ B. F. KROEGER</u> (B. F. Kroeger)	Director
<u>/s/ N. G. MISTRETTA</u> (N. G. Mistretta)	Director
<u>/s/ J. C. SHERBURNE</u> (J. C. Sherburne)	Director
<u>/s/ T. K. WHITFORD</u> (T. K. Whitford)	Director
<u>/s/ M. A. ZAESKE</u> (M. A. Zaeske)	Senior Executive Vice President and Chief Financial Officer (as Principal Financial Officer)
<u>/s/ W. TABAKA</u> (W. Tabaka)	Executive Vice President and Chief Accounting Officer (as Principal Accounting Officer)

## Exhibit Index

- 3(i) Articles of Incorporation and amendments and supplements thereto (incorporated by reference to Exhibit 3(a) to HSBC USA Inc.'s Annual Report on Form 10-K for the year ended December 31, 1999, Exhibit 3 to HSBC USA Inc.'s Quarterly Report on Form 10-Q for the quarter ended September 30, 2000, Exhibits 3.2 and 3.3 to HSBC USA Inc.'s Current Report on Form 8-K filed April 4, 2005; Exhibit 3.2 to HSBC USA Inc.'s Current Report on Form 8-K filed October 14, 2005, Exhibit 3.2 to HSBC USA Inc.'s Current Report on Form 8-K filed May 22, 2006 and Exhibit 3.2 to HSBC USA Inc.'s Current Report on Form 8-K filed on May 31, 2016).
- 3(ii) Bylaws of HSBC USA Inc., as Amended and Restated effective April 28, 2016 (incorporated by reference to Exhibit 3.2 to HSBC USA Inc.'s Current Report on Form 8-K filed May 2, 2016).
- 4.1 Senior Indenture, dated as of March 31, 2009, by and between HSBC USA Inc. and Wells Fargo Bank, National Association, as trustee, as amended and supplemented (incorporated by reference to Exhibit 4.1 to HSBC USA Inc.'s Registration Statement on Form S-3, Registration No. 333-158358 and Exhibit 4.2 to HSBC USA Inc.'s Registration Statement on Form S-3, Registration No. 333-180289).
- 4.2 Subordinated Indenture, dated as of October 24, 1996, by and between HSBC USA Inc. and Deutsche Bank Trust Companies Americas (as successor in interest to Bankers Trust Company), as trustee, as amended and supplemented (incorporated by reference to Exhibits 4.3, 4.4, 4.5 and 4.6 to Post-Effective Amendment No. 1 to HSBC USA Inc.'s Registration Statement on Form S-3, Registration No. 333-42421, and Exhibit 4.1 to HSBC USA Inc.'s Current Report on Form 8-K filed September 27, 2010).
- 4.3 Other instruments defining the rights of holders of long-term debt of HSBC USA Inc. and its consolidated subsidiaries are not being filed herewith since the total amount of securities authorized under each such instrument does not exceed 10 percent of the total assets of HSBC USA Inc. and its subsidiaries on a consolidated basis. HSBC USA Inc. agrees that it will furnish a copy of any such instrument to the Securities and Exchange Commission upon request.
- 10.1 Deferred Prosecution Agreement dated December 11, 2012, between HSBC Holdings plc, HSBC Bank USA, N.A., HSBC North America Holdings, Inc., the United States Department of Justice, the United States Attorney's Office for the Eastern District of New York and the United States Attorney's Office for the Northern District of West Virginia (incorporated by reference to Exhibit 10.1 to HSBC USA Inc.'s Current Report on Form 8-K filed December 12, 2012).
- 10.2 Consent Order dated December 11, 2012, of the Comptroller of the Currency of the United States in the Matter of HSBC Bank USA, N.A. (incorporated by reference to Exhibit 10.2 to HSBC USA Inc.'s Current Report on Form 8-K filed December 12, 2012).
- 10.3 Consent Order for the Assessment of a Civil Money Penalty dated December 11, 2012, of the Comptroller of the Currency of the United States in the Matter of HSBC Bank USA, N.A. (incorporated by reference to Exhibit 10.3 to HSBC USA Inc.'s Current Report on Form 8-K filed December 12, 2012).
- 10.4 Agreement by and between HSBC Bank USA, N.A. McLean, Virginia and the Office of the Comptroller of the Currency dated December 11, 2012 (incorporated by reference to Exhibit 10.4 to HSBC USA Inc.'s Current Report on Form 8-K filed December 12, 2012).
- 10.5 Consent to the Assessment of a Civil Money Penalty dated December 11, 2012, of the United States Department of Treasury Financial Crimes Enforcement Network in the Matter of HSBC Bank USA, N.A. (incorporated by reference to Exhibit 10.5 to HSBC USA Inc.'s Current Report on Form 8-K filed December 12, 2012).
- 12 Computation of Ratio of Earnings to Fixed Charges
- 14 Code of Ethics for Senior Financial Officers (incorporated by reference to Exhibit 14 to HSBC USA Inc.'s Annual Report on Form 10-K for the year ended December 31, 2006).
- 16 Letter from KPMG LLP, dated February 23, 2015 (incorporated by reference to Exhibit 16.1 to HSBC USA Inc.'s Current Report on Form 8-K filed February 23, 2015).
- 23.1 Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm.
- 23.2 Consent of KPMG LLP, Independent Registered Public Accounting Firm.
- 24 Power of Attorney (included on the signature page of this Form 10-K).
- 31 Certification of Chief Executive Officer and Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 32 Certification of Chief Executive Officer and Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

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101.INS	XBRL Instance Document <sup>(1)</sup>
101.SCH	XBRL Taxonomy Extension Schema Document <sup>(1)</sup>
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document <sup>(1)</sup>
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document <sup>(1)</sup>
101.LAB	XBRL Taxonomy Extension Label Linkbase Document <sup>(1)</sup>
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document <sup>(1)</sup>

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<sup>(1)</sup> Pursuant to Rule 405 of Regulation S-T, includes the following financial information included in our Annual Report on Form 10-K for the year ended December 31, 2016, formatted in eXtensible Business Reporting Language ("XBRL") interactive data files: (i) the Consolidated Statement of Income for the years ended December 31, 2016, 2015 and 2014, (ii) the Consolidated Statement of Comprehensive Income (Loss) for the years ended December 31, 2016, 2015 and 2014, (iii) the Consolidated Balance Sheet at December 31, 2016 and 2015, (iv) the Consolidated Statement of Changes in Equity for the years ended December 31, 2016, 2015 and 2014, (v) the Consolidated Statement of Cash Flows for the years ended December 31, 2016, 2015 and 2014, and (vi) the Notes to Consolidated Financial Statements.

**HSBC USA INC.**  
**COMPUTATION OF RATIO OF EARNINGS TO FIXED CHARGES**

	Year Ended December 31,				
	2016	2015	2014	2013	2012
	(dollars are in millions)				
<b>Ratios excluding interest on deposits:</b>					
Income from continuing operations .....	\$ 129	\$ 330	\$ 354	\$ (338)	\$ (1,248)
Income tax expense (benefit) .....	89	230	(56)	156	422
Fixed charges:					
Interest on:					
Short-term borrowings .....	79	46	36	27	28
Long-term debt .....	864	709	650	661	671
Others <sup>(1)</sup> .....	15	16	(88)	66	33
One third of rents, net of income from subleases .....	27	28	31	33	31
Total fixed charges, excluding interest on deposits .....	<u>985</u>	<u>799</u>	<u>629</u>	<u>787</u>	<u>763</u>
Earnings from continuing operations before taxes and fixed charges, excluding interest on deposits .....	<u>\$ 1,203</u>	<u>\$ 1,359</u>	<u>\$ 927</u>	<u>\$ 605</u>	<u>\$ (63)</u>
Ratio of earnings to fixed charges, excluding interest on deposits ..	<u>1.22</u>	<u>1.70</u>	<u>1.47</u>	<u>.77</u>	<u>(.08)</u>
<b>Ratios including interest on deposits:</b>					
Total fixed charges, excluding interest on deposits .....	\$ 985	\$ 799	\$ 629	\$ 787	\$ 763
Add: Interest on deposits .....	468	260	145	184	316
Total fixed charges, including interest on deposits .....	<u>1,453</u>	<u>1,059</u>	<u>774</u>	<u>971</u>	<u>1,079</u>
Earnings from continuing operations before taxes and fixed charges, excluding interest on deposits .....	1,203	1,359	927	605	(63)
Add: Interest on deposits .....	468	260	145	184	316
Earnings from continuing operations before taxes and fixed charges, including interest on deposits .....	<u>\$ 1,671</u>	<u>\$ 1,619</u>	<u>\$ 1,072</u>	<u>\$ 789</u>	<u>\$ 253</u>
Ratio of earnings to fixed charges, including interest on deposits ..	<u>1.15</u>	<u>1.53</u>	<u>1.39</u>	<u>.81</u>	<u>.23</u>

<sup>(1)</sup> During 2014, we concluded certain state and local tax audits resulting in the settlement of significant uncertain tax positions covering a number of years. As a result, we released tax reserves previously maintained in relation to the periods and issues under review. In addition, we released our accrued interest associated with the tax reserves released which resulted in a \$120 million benefit to interest expense in 2014.

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We hereby consent to the incorporation by reference in the Registration Statement on Form S-3 ASR (No. 333-202524) of HSBC USA Inc. of our report dated February 21, 2017 relating to the consolidated financial statements, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP  
New York, New York  
February 21, 2017

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

The Board of Directors and Shareholder  
HSBC USA Inc.:

We consent to the incorporation by reference in the Registration Statement No. 333-202524 on Form S-3 ASR of HSBC USA Inc. of our report dated February 23, 2015, with respect to the consolidated statements of income, comprehensive income (loss), changes in equity, and cash flows of HSBC USA Inc. and subsidiaries for the year ended December 31, 2014, which report appears in the December 31, 2016 annual report on Form 10-K of HSBC USA Inc.

/s/ KPMG LLP  
New York, New York  
February 21, 2017

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER  
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

**Certification of Chief Executive Officer**

I, Patrick J. Burke, certify that:

1. I have reviewed this report on Form 10-K of HSBC USA Inc.;
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 registrant as of, and for, the periods presented in this report;
4. The registrant'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 Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant 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 registrant, 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 registrant'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 registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant'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 registrant'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 registrant's internal control over financial reporting.

Date: February 21, 2017

/s/ PATRICK J. BURKE

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Patrick J. Burke

Chairman of the Board, President  
and Chief Executive Officer

## Certification of Chief Financial Officer

I, Mark A. Zaeske, certify that:

1. I have reviewed this report on Form 10-K of HSBC USA Inc.;
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 registrant as of, and for, the periods presented in this report;
4. The registrant'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 Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant 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 registrant, 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 registrant'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 registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant'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 registrant'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 registrant's internal control over financial reporting.

Date: February 21, 2017

/s/ MARK A. ZAESKE

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Mark A. Zaeske  
Senior Executive Vice President and  
Chief Financial Officer

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER  
PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

**Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to  
Section 906 of the Sarbanes-Oxley Act of 2002**

The certification set forth below is being submitted in connection with the HSBC USA Inc. (the “Company”) Annual Report on Form 10-K for the period ending December 31, 2016 as filed with the Securities and Exchange Commission on the date hereof (the “Report”) for the purpose of complying with Rule 13a-14(b) or Rule 15d-14(b) of the Securities Exchange Act of 1934 (the “Exchange Act”) and Section 1350 of Chapter 63 of Title 18 of the United States Code.

I, Patrick J. Burke, certify that:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and
2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of HSBC USA Inc.

Date: February 21, 2017

/s/ PATRICK J. BURKE

Patrick J. Burke

Chairman of the Board, President  
and Chief Executive Officer

This certification accompanies each Report pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 and shall not, except to the extent required by the Sarbanes-Oxley Act of 2002, be deemed filed by HSBC USA Inc. for purposes of Section 18 of the Securities Exchange Act of 1934, as amended.

The signed original of this written statement required by Section 906 of the Sarbanes-Oxley Act of 2002 has been provided to HSBC USA Inc. and will be retained by HSBC USA Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

**Certification pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to  
Section 906 of the Sarbanes-Oxley Act of 2002**

The certification set forth below is being submitted in connection with the HSBC USA Inc. (the "Company") Annual Report on Form 10-K for the period ending December 31, 2016 as filed with the Securities and Exchange Commission on the date hereof (the "Report") for the purpose of complying with Rule 13a-14(b) or Rule 15d-14(b) of the Securities Exchange Act of 1934 (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code.

I, Mark A. Zaeske, certify that:

1. the Report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and
2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of HSBC USA Inc.

Date: February 21, 2017

/s/ MARK A. ZAESKE

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Mark A. Zaeske

Senior Executive Vice President and  
Chief Financial Officer

This certification accompanies each Report pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 and shall not, except to the extent required by the Sarbanes-Oxley Act of 2002, be deemed filed by HSBC USA Inc. for purposes of Section 18 of the Securities Exchange Act of 1934, as amended.

The signed original of this written statement required by Section 906 of the Sarbanes-Oxley Act of 2002 has been provided to HSBC USA Inc. and will be retained by HSBC USA Inc. and furnished to the Securities and Exchange Commission or its staff upon request.